

1. All information contained in the remedial investigation report pursuant to N.J.A.C. 7:26E-4.8 or a summary of the report; and

2. The remedial investigation report section entitled "Findings/Recommendations," shall be renamed "Findings/Remedial Action Report" and shall include a description of how each area of concern was addressed.

(c) The Findings/Remedial Action report section shall state for each area of concern either "no remediation was conducted for this area of concern" or "remedial actions were completed for this area of concern." Where remedial actions were completed, the following shall be included:

1. A summary by area of concern of all remedial actions completed;

2. A list of the remediation standards applied to the remedial actions;

3. Tables and figures pursuant to N.J.A.C. 7:26E-4.8 (remedial investigation report) containing all pre- and post-remedial data keyed appropriately so that completion of the remedial action is documented. The figures shall clearly indicate the volume of contaminated soil or sediment which was remediated:

4. A detailed description of site restoration activities pursuant to N.J.A.C. 7:26E-6.4 (Post-Remedial Action Requirements);

5. A detailed description of source and quality of fill pursuant to N.J.A.C. 7:26E-6.4;

6. A detailed report of actual costs;

7. "As-built" diagrams for any permanent structures including, without limitation, caps, slurry walls, treatment units, or other remedial structures which will remain in place after completion of the remedial action;

8. Fully executed manifests documenting any offsite transport of waste material;

9. A copy of the Department approved deed notice signed and recorded by the office of each county recording officer responsible for recording deeds for the municipality(s) in which the site is located;

10. In addition to a the paper copy of the deed notice, an electronic copy shall be submitted with the following information submitted by means of computer disk, except as provided in (c)11 below:

i. The site name and site number according to the Department's list of Known Contaminated Sites in New Jersey;

ii. The street address of the site;

iii. The date the notice was filed;

iv. The date the remedial action work plan was approved;

v. The name of the lead Department program handling the site;

vi. A contact name, mailing address (if different from the deed noticed property), and phone number of person responsible for monitoring and maintenance of the institutional and/or engineering control(s), and

vii. Exhibits A, B and D of the Deed Notice (Appendix E), in a format compatible with the Department's Geographic Information System (see N.J.A.C. 7:1 Appendix A. For additional guidance, see the version of the Department's Guidance for the Submission and Use of Data in GIS Compatible Formats most recent to the time of submission. This guidance document may be found at www.state.nj.us/dep/srp/regs/techrule/techgis2.htm).

11. Areas of concern that consist of an underground storage tank storing heating oil for on-site consumption in a one to four family residential building, where there has been no ground water impact, are exempt from the reporting requirements of (c)10 above.

(d) For active ground water remedial actions, the remedial action report shall also include:

1. Figures representative of flow conditions immediately preceding initiation of the remedial action and flow conditions representative of pumping conditions; and

2. Graphs depicting changes in contaminant concentration over time for all contaminated non-pumping monitoring wells and all downgradient delineation monitoring wells.

(e) If applicable, the remedial action report shall include a plan for the maintenance and monitoring of engineering and institutional controls pursuant to N.J.A.C. 7:26E-6.4(g).

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).

See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).

In (b)1 and (c)3, amended N.J.A.C. references; in (c)3, substituted "contaminated soil or sediment" for "contaminated media"; and added (d).

Amended by R.1997 d.499, effective November 17, 1997.

See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).

Inserted (b)3; rewrote (d)9; and added (e).

Amended by R.1999 d.241, effective August 2, 1999.

See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).

In (b), deleted a former 3; in (c), deleted N.J.A.C. reference in 6, rewrote 9, and added 10 and 11; and rewrote (e).

7:26E-6.7 Removal or modification of the declaration of environmental restrictions and deed notices

(a) Any person that wishes to conduct additional remediation or other activities which may compromise the integrity of an engineering control shall obtain the Department's approval of the additional remediation or shall notify the Department of the implementation of activities other than remediation prior to implementation of those activities.

1. The person planning to conduct additional remediation shall submit to the Department a memorandum of agreement application, pursuant to N.J.A.C. 7:26C-3, for the Department's oversight of the additional remediation, if the person is not already subject to an oversight document for the property in question.

2. Subsequent to implementation of the Department approved additional remediation or other activities, the person shall submit to the Department for approval a remedial action report for the additional remediation or a report for the other activities and a request, pursuant to (b) through (c) below, to remove or modify, as appropriate, the declaration of environmental restrictions or deed notice.

(b) A person who owns property which is subject to a declaration of environmental restrictions or a deed notice shall submit a written request to the Department, along with the memorandum of agreement application, pursuant to (a) above, as applicable, at the address provided at N.J.A.C. 7:26C-1.6, to remove or modify the declaration of environmental restrictions or deed notice recorded pursuant to this subchapter. The written request shall include a copy of the existing declaration of environmental restrictions stamped "filed" or the recorded deed notice and the reason for the removal or modification, including, but not limited to:

1. The existing declaration of environmental restrictions or deed notice should be modified or is no longer required due to the following:

i. The performance of subsequent remediation necessitates the modification or removal of the declaration of environmental restrictions or deed notice;

ii. A change in conditions at the site warrants the removal or modification of the declaration of environmental restrictions or deed notice; or

iii. The adoption of revised remediation standards warrants the removal or modification of the declaration of environmental restrictions or deed notice; and

2. Any additional information or documentation that supports the person's request for removal or modification of the declaration of environmental restrictions or deed notice.

(c) The Department shall evaluate the request submitted pursuant to (b) above and within 90 calendar days after the Department's receipt of the written request either:

1. Approve the request and send written notification requiring the property owner to:

i. Record with the office of each county recording officer a notice executed by the Department that the use of the property is no longer restricted or that the restriction has been changed and that the declaration of environmental restrictions or deed notice is therefore either terminated or modified. Any Department-approved modified declaration of environmental restrictions or deed notice delineating the new restrictions shall be recorded pursuant to N.J.A.C. 7:26E-6.4(e);

ii. Provide written notice to each municipality in which the property is located, with a copy to the Department sent to the address provided at N.J.A.C. 7:26C-1.6, of the removal or change of the restrictive use conditions;

iii. Provide an electronic copy of all information required in N.J.A.C. 7:26E-6.6(c)10, to the Department for the approved modified declaration of environmental restrictions or deed notice, except as provided N.J.A.C. 7:26E-6.6(c)11; or

2. Issue a written notification of intent to deny the request.

(d) Within 30 calendar days after receipt of the Department's written notification of intent to deny, the property owner may respond by submitting new or additional information to support the request. Within 60 calendar days after receipt of the property owner's response the Department shall issue its written decision which may be considered final agency action.

New Rule, R.1997 d.499, effective November 17, 1997.

See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).

Amended by R.1999 d.241, effective August 2, 1999.

See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).

Inserted references to deed notices throughout; in (b), inserted a reference to recorded deed notices in the introductory paragraph; and rewrote (c)1.

SUBCHAPTER 7. PERMIT IDENTIFICATION AND APPLICATION SCHEDULE

7:26E-7.1 Permit identification

(a) Any person conducting a remedial action shall identify all relevant Federal, State and local permits or permit modifications or certifications needed to implement the selected remedial action including but not limited to:

1. Soil Erosion and Sediment Control Plan Certification for Land Disturbance Control (N.J.A.C. 2:90);

2. Permit to Construct/Install/Alter Air Quality Control Apparatus/Equipment (N.J.A.C. 7:27-8);

3. Certificate to Operate Air Quality Control Apparatus/Equipment (N.J.A.C. 7:27-8);

4. Coastal Area Facility Review Act (CAFRA) Permit (N.J.S.A. 13:19-1 et seq.);

5. Waterfront Development/Upland Waterfront Permit (N.J.S.A. 12:5-3);

6. Wetlands Permit (N.J.S.A. 13:9A-1 et seq.);

7. Freshwater Wetlands/Open Water Fill Permit (N.J.S.A. 13:98-1 et seq.);

8. Stream Encroachment Permit (Construction Within a Flood Plain) (N.J.S.A. 58:16A-50 et seq.; N.J.A.C. 7:8-3.15);

9. State Water Quality Certificate (N.J.S.A. 58:10A-1 to 13; 33 U.S.C. 1251, § 401);

10. Dewatering Permit and/or Water Diversion Permit (N.J.S.A. 23:5-29);

11. U.S. Army Corps of Engineers Dredge and Fill Permit;

- 12. Delaware River Basin Commission Docket Approval (N.J.S.A. 32:20-1 et seq.);
- 13. Hackensack Meadowlands Development Commission—Zoning Certificate (N.J.S.A. 13:17-1 et seq.);
- 14. New Jersey Pinelands—Letter of Approval (N.J.S.A. 13:18A-1 et seq.);
- 15. Discharge Prevention and Discharge Cleanup and Removal Plans (Pertaining to Storage and Transfer of Petroleum and other Hazardous Substances) (N.J.S.A. 58:10-23.11 et seq.; N.J.A.C. 7:1E);
- 16. Registration of Underground Storage Tank; UST Installation Permit and Closure Approval (N.J.S.A. 58:10A-21 et seq.);
- 17. Water Quality Management Plan Consistency Determination (N.J.S.A. 58:11A-1 et seq.; N.J.A.C. 7:15);
- 18. New Jersey Pollutant Discharge Elimination System (NJPDDES) (N.J.S.A. 58:10A-1 et seq.; N.J.A.C. 7:14A);
 - i. NJPDDES—Discharge to Surface Water (DSW)—Industrial (N.J.S.A. 58:10A-1 et seq.; N.J.A.C. 7:14A);
 - ii. NJPDDES—Significant Indirect User (SIU) (N.J.S.A. 58:10A-1 et seq.; N.J.A.C. 7:14A); and
 - iii. NJPDDES—Discharge to Ground Water (DGW) (N.J.S.A. 58:10A-1 et seq.; N.J.A.C. 7:14A);
- 19. Treatment Works Approval (TWA) (N.J.S.A. 58:12A-1 et seq.; N.J.A.C. 7:10-11);
- 20. Sewer Connection Permit (N.J.S.A. 58:10A-1 et seq.; N.J.A.C. 7:14A);
- 21. Employer License (Asbestos) (N.J.A.C. 8:60-4), (N.J.A.C. 12:120-4);
- 22. Asbestos Worker or Asbestos Supervisor Permit Certification of Training Agencies (Asbestos) Asbestos Work Notification Requirements (N.J.A.C. 8:60-6), (N.J.A.C. 12:120-6);
- 23. National Emission Standards for Hazardous Air Pollutants (NESHAPs) Written Notification Requirements;
- 24. Landfill Disruption/Closure Approval (N.J.S.A. 13:1E-1 et seq.; N.J.A.C. 7:26-2.7);
- 25. Hazardous Waste Facility Registration (N.J.S.A. 13:1E-1 et seq.; N.J.A.C. 7:26);
- 26. Short Term Water Use Report;
- 27. Well Drilling Permit, and Well Certification Forms A & B; (N.J.S.A. 58:4A-14; N.J.A.C. 7:8-3.11);
- 28. Well Abandonment Form;
- 29. Exemption of Waste Flow Rule (Soil Reuse);

- 30. Hazardous Waste Generator Identification Number (N.J.A.C. 7:26);
- 31. RCRA TSD Facility Permit, except that hazardous waste treatment, storage, or disposal facility permits pursuant to the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Hazardous Waste Permitting regulations at N.J.A.C. 7:26, shall not be required for any remediation conducted on site pursuant to any of the following:
 - i. An administrative consent order pursuant to N.J.A.C. 7:26C; or
 - ii. A memorandum of agreement expressly executed for the implementation of a Department approved remedial action pursuant to a Department approved schedule; provided, however, that if the remedial action is not implemented pursuant to the approved schedule, then this provision does not apply and the otherwise applicable hazardous waste permits shall be required;
 - iii. Approvals under authority of ISRA and UST; or
 - iv. Approvals under any State publicly funded projects; and
- 32. Any other Federal, State or local approvals that may be required.

(b) Any person conducting a remedial action shall apply for and obtain all required permits prior to initiating the remedial action.

(c) Any person conducting a remedial action pursuant to an oversight document or the ISRA or UST programs, shall develop a permit application schedule to identify the timeframes for application and issuance/approval pursuant to N.J.A.C. 7:26E-6.5(a)6.

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
 See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
 In (a)31iii and (c), substituted "ISRA" for "ECRA".

APPENDIX A

Laboratory Data Deliverables Formats

I. Full Laboratory Data Deliverables—USEPA/CLP Methods

Full laboratory data deliverables for USEPA/CLP analyses may be requested when the following Statements of Work are employed:

“USEPA Contract Laboratory Program Statement of Work for:

- A) Organics Analysis, Multi-Media, Multi-Concentration”

B) Inorganics Analysis, Multi-Media, Multi-Concentration”

C) Organics Analysis, Multi-Media, High-Concentration”

D) Inorganics Analysis, Multi-Media, High-Concentration”

E) Low Concentration Water for Organic Analysis”

F) Low Concentration Water for Volatile Organic Analysis”

G) Low Concentration Water for Inorganic Analytes”

H) Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans”

The Full laboratory data deliverables required for USEPA/CLP analyses are listed in the versions of the above noted Statements of Work in effect as of the date of sample analysis by the laboratory. Additionally, mass spectral negative proofs¹ are required where applicable, “clean” soil method blanks² for nonaqueous samples are not permitted, and laboratory internal chain of custody documentation is required.

II. Full Laboratory Data Deliverables—Non-USEPA/CLP Methods

These deliverables shall be the “Regulatory Format” data deliverables listed in the version of the Professional Laboratory Analytical Services contract issued by the N.J. Department of Treasury, Division of Purchase and Property in effect as of the date of sample analysis by the laboratory.

III. Reduced Laboratory Data Deliverables—USEPA/CLP Methods

Reduced laboratory data deliverables for USEPA/CLP analyses may be required when the “USEPA Contract Laboratory Program Statement of Work for Organic Analyses, Multi-Media, Multi-Concentration”; the “USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, Multi-Media, Multi-Concentration”; “USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, High Concentration”; and/or the “USEPA Contract Laboratory Program Statement of Work for Inorganics Analysis, Multi-Media, High Concentration are employed. Data generated via the other above noted Statements of Work may NOT be delivered in the reduced format.

A. Organics

All laboratory data deliverables required for USEPA CLP analyses for organics via the appropriate Statement of Work are the same as those listed above in the **Full Laboratory Data Deliverables—USEPA/CLP** requirements and must be submitted with the following exceptions:

1. Chromatograms of standards (calibrations) are not required.

2. Chromatograms and spectra for matrix spikes and matrix spike duplicates are not required.

B. Inorganics

The Reduced laboratory data deliverables required for USEPA/CLP analyses for inorganics are all the Inorganics Data Reporting Forms as specified in the version of the above noted Statement of Work for Inorganics in effect as of the date of sample analysis by the laboratory.

IV. Reduced Laboratory Data Deliverables—Non-USEPA/CLP Methods

This attachment presents reduced laboratory data deliverables requirements for Non-USEPA/CLP Methods. The deliverable package is divided into six (6) sections:

1. General Requirements
2. GC/MS Requirements
3. GC Requirements
4. Metals Requirements
5. General Chemistry Requirements
6. Petroleum Hydrocarbons Requirements

1. General Requirements

A. The data deliverable package shall be bound and paginated with margins, bindings and of reproduction quality such that all pages are legible.

B. Title/Cover Page

The format for QA/QC documentation shall be simplified as much as possible for ease of review and reference. The report shall begin with a cover page that includes the laboratory certification number, if applicable, facility name, address and date of report preparation.

The report shall include a summary table that cross-references the field identification number to the laboratory identification number for each sample. This table is needed to locate laboratory information for specific field samples. Sample numbers used in the field are always different than those used in the laboratory and therefore shall be reconciled before submitting the results to Department.

C. Chain of Custody

The Chain of Custody (COC) shall ensure the secure and appropriate handling of samples from the site to the laboratory as well as the movement of the sample within the laboratory until analysis is completed. The COC remains with the samples at all times and bears the name of the person assuming responsibility of the samples and the date. The COC is acceptable when there are no lapses in sample custody.

D. Methodology Review

The Methodology Review shall list method numbers, with a detailed discussion of any method modification.

E. Laboratory Chronicle

The laboratory chronicle shall detail actual sample holding times and specify the sample condition upon receipt at the laboratory (including sample temperature and pH when pH adjustment is required). Holding time begins at the time of sample collection.

F. Conformance/Non-Conformance Summary

A non-conformance summary shall be completed and signed by the laboratory. This summary states that the laboratory has reviewed the quality assurance and quality control measures for sample analysis. It identifies any deviations from the accepted practices or results.

2. GC/MS Requirements

A. Analytical Results Summary—An analytical results summary form shall be submitted for each sample and for each GC/MS analytical fraction (i.e., volatiles and semi-volatiles). Each form shall contain the following information: date sample received, date sample extracted, date sample analyzed, sample weight/volume, sample moisture content, dilution factor, GC column used, list of analytes, method detection limit, practical quantitation level and detected analyte concentrations. In addition a separate form for tentatively identified compounds (TICs) shall be submitted for each sample and for each GC/MS analytical fraction. Each TIC shall be identified by compound name or class (if it can be determined) and CAS number along with its retention time and estimated concentration.

B. Tuning Results Summary—Tuning results for all initial and continuing calibrations that are associated with all samples shall be submitted for each GC/MS analytical fraction. Each form shall contain the following information: laboratory file ID, instrument ID, injection date and time, the m/e (mass to ion charge) listing for the key ions, the reported ion relative abundance, the ion abundance criteria and a listing of all standards, blanks, QC samples and field samples (including date and time of analysis) associated with the tune.

C. Method Blank Results Summary—An analytical results form shall be submitted for all method blanks associated with all field samples for all analytical fractions. Each form shall contain the information listed in

Section 2A above, as well as a listing of all field and QC samples associated with each method blank. In addition, a separate form for TICs shall be submitted which contains the information listed in Section 2A above.

D. Calibration Summary—A summary of all initial and continuing calibrations that are associated with all samples and blanks shall be submitted for each GC/MS analytical fraction. The following information shall be provided for each initial calibration: instrument ID, calibration date and time, listing of standard concentrations used, laboratory file ID for each calibration standard, listing of all associated field samples, QC samples and blanks, retention times for each target analyte and surrogate compound, listing of the relative response factor (RRF) for each target analyte and surrogate compound, the average RRF for each target analyte and surrogate compound, and percent relative standard deviation for each target analyte and surrogate compound. The following information shall be provided for each continuing calibration: instrument ID, calibration date and time, date and time of the associated initial calibration, the standard concentration used, the laboratory file ID for the calibration standard, listing of all associated field samples, QC samples and blanks, retention times for each target analyte and surrogate compound, the average RRF for each target analyte and surrogate compound from the associated initial calibration, the RRF for each target analyte and surrogate compound from the continuing calibration and the percent difference for each target analyte and surrogate compound.

E. Surrogate Compound Recovery Results Summary—If required by the analytical method, a summary form shall be submitted which contains the following information for all field samples, method blanks and QC samples for each GC/MS analytical fraction: sample identification number, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries and QC limits for each surrogate compound.

F. Matrix Spike/Matrix Spike Duplicate Results Summary—If required by the analytical method, a summary form shall be submitted for each sample matrix and each GC/MS analytical fraction which contains the following: sample identification number for the sample selected for spiking, list of compounds being spiked, concentration of each spiked compound, matrix spike concentration, matrix spike percent recovery, matrix spike duplicate concentration, matrix spike duplicate percent recovery, relative percent difference and QC limits for percent recovery and relative percent difference.

G. Internal Standard Summary—A summary form shall be submitted which contains the following information for all standards, field samples, method blanks and QC samples for each analytical fraction: sample ID number, ID of laboratory calibration standard, internal standard compound names, concentration of internal

standards compounds, retention times of each internal standard, area of each internal standard, and QC criteria (where applicable) for internal standard areas and retention times.

H. Chromatograms—The total ion chromatograms for all field samples and method blanks. All peaks on the chromatograms shall be identified as either an internal standard, surrogate compound, target compound or non-target compound. All peaks on a chromatogram shall also be associated with retention times, either directly on the chromatogram or identified and cross-referenced in tabular form.

3. GC Requirements

A. Analytical Results Summary—An analytical results form shall be submitted for each sample. Each form shall contain the information contained in Section 2A above.

B. Method Blank Results Summary—An analytical results form shall be submitted for all method blanks as well as a listing of all field and QC samples associated with each method blank. Each form shall contain the information contained in Section 2A above.

C. Standards Summary—A summary form containing GC standards information for all associated samples shall be submitted for both primary and confirmation (if applicable) analyses. This summary shall contain the following information: instrument ID number, GC column used and notation if primary or confirmation analysis, date and time of standard(s) analysis, listing of all associated field, QC and method blank samples, listing of target compounds, retention time windows of each target compound and calibration factor for each target compound.

D. Surrogate Compound Recovery Results Summary—If required by the analytical method, a summary form shall be submitted which contains the following information for all field samples, method blanks, and QC samples: sample identification number, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries and QC limits for each surrogate compound.

E. Matrix Spike/Matrix Spike Duplicate Results Summary—If required by the analytical method, a summary form shall be submitted for each sample matrix which contains the information contained in Section 2F above.

F. Retention Time Shift Summary—If required by the analytical method, a summary form containing retention time shift results shall be submitted for both the primary and confirmation (if applicable) analyses. The form shall contain the following information: instrument ID number, GC column used and notation if primary or confirmation column analysis, name of retention time shift marker compound, list of all field samples, method blanks and QC samples, date and time of analysis of all field samples, method blanks and QC samples, percent **difference of the retention time shift** and QC limits for the retention time shift.

G. Chromatograms—The primary analysis chromatograms and confirmation analysis chromatogram (when applicable) for all field samples and method blanks shall be submitted. All peaks on the chromatogram attributable to target and surrogate compounds shall be identified as such along with the retention time for each peak. The reference standard chromatogram for all multi-peak target compounds (e.g., toxaphene, PCBs) for both the primary and the confirmation analysis (when applicable) shall also be submitted.

4. Metals Requirements

A. Analytical Results Summary—An analytical results form shall be submitted for each sample. Each form shall contain the following information: sample identification number (laboratory and/or field ID), sample matrix, date sample received, date sample analyzed, sample moisture content, dilution factor (if any), list of target analytes and detected analyte concentrations and method detection limits.

B. Blank Results Summary—A blank results form shall be submitted for all instrument calibration blanks and reagent blanks associated with all field and QC samples. Each form shall contain the following information: list of all target analytes, matrix of the reagent blank, concentration units of the reagent blank, reported concentration of all target analytes found in all calibration and reagent blanks and method detection limits.

C. Calibration Summary—A calibration summary shall be submitted for all initial calibration standards and check standards associated with field samples, blanks and QC samples. Each form shall contain the following information: list of all target analytes, the true concentration for the initial calibration standards, the reported (or found) concentrations for the initial calibration standards and check standards, the percent recovery for each initial calibration standard and check standard and the percent recovery QC limits for each target analyte. In addition, this form shall also list the method detection limit and instrument detection limit for each target analyte.

D. ICP Interference Check Sample Results Summary—If metals analysis is being conducted by ICP methodology, results of the interference check samples analysis shall be reported. The following information shall be reported: list of all target analytes in the interference check sample, the true concentration of analytes in the interference check sample, the reported concentrations of analytes found in the interference check sample for both the initial and final check samples analyses, the percent recovery of the target analytes found in the initial and final check samples analyses and the QC control limits for percent recovery values.

E. Spike Sample Results Summary—A summary of the spike sample analysis shall be submitted. The following information shall be reported: ID number of the sample chosen for spiking, sample matrix, the concentration of each spiked target analyte, the results of the unspiked sample analysis, the results of the spiked sample analysis, the percent recovery for each spiked analyte and the QC limit for percent recovery for each spiked analyte.

F. Duplicate Sample Results Summary—A summary of the duplicate sample analysis shall be submitted. The following information shall be reported: ID number of the original sample and the duplicate samples, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference of each target analyte for the original duplicate sample analyses and the QC limit for relative percent difference for each target analyte.

G. Laboratory Control Sample Results Summary—When specified by the analytical method, the results of the laboratory control (quality control) sample shall be submitted. The following information shall be reported: control sample matrix, list of all target analytes, the true concentration for each analyte in the control sample, the reported concentration for each target analyte in the control sample, the percent recovery for each target analyte and the QC limit for percent recovery for each target analyte.

H. Serial Dilution Summary—If required by the analytical method, a summary of the serial dilution results shall be submitted. The following information shall be reported: ID number of the original sample and the serial dilution samples, sample matrix, results of the original sample analysis, results of the serial dilution sample analysis, the percent difference of each target analyte compared to the original analytes' results and the QC limit for percent difference for each target analyte.

5. General Chemistry Requirements

A. Analytical Results Summary—An analytical results form shall be submitted for each sample. Each form shall contain the following information: sample identification number (laboratory and/or field ID), sample matrix, date sample received, date sample analyzed, sample moisture content, dilution factor (if any), list of target analytes and detected analyte concentrations and method detection limits.

B. Blank Results Summary—A blank results form shall be submitted for all method blank samples associated with all field and QC samples. Each form shall contain the following information: list of all target analytes, matrix of the method blank, concentration units of the method blank, reported concentration of all target analytes found in all method blanks.

C. Spike Sample Results Summary—A summary of the spike sample analysis shall be submitted. The follow-

ing information shall be reported: ID number of the sample chosen for spiking, sample matrix, the concentration of each spiked target analyte, the results of the unspiked sample analysis, the results of the spiked sample analysis, the percent recovery for each spiked analyte and the QC limit for percent recovery for each spiked analyte.

D. Duplicate Sample Results Summary—A summary of the duplicate sample analysis shall be submitted. The following information shall be reported: ID number of the original sample and the duplicate samples, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference of each target analyte for the original duplicate sample analyses and the QC limit for relative percent difference for each target analyte.

6. Petroleum Hydrocarbon Requirements

A. Analytical Results Summary—An analytical results form shall be submitted for each sample. Each form shall contain the information contained in Section 2A above. In addition, the identification of the GC instrument employed and the volume of extract injected shall be included.

B. Method Blank Summary—An analytical results form shall be submitted for all method blanks as well as a listing of all field and QC samples associated with each method blank. Each form shall contain the information in Section 6A above.

C. Standards Summary—A summary form containing GC standards information for all associated samples shall be submitted for all analyses. This summary shall contain the following information: instrument ID number, GC column used, date and time of standard(s) analysis, volume injected, listing of all associated field, QC and method blank samples, identity of each analyte in the hydrocarbon standard and/or the identity of petroleum product standard(s), retention times of each analyte in the hydrocarbon standard (when applicable), retention times of the surrogates and internal standard (when applicable), retention times of pristane and phytane (when applicable), retention time windows for each surrogate (when applicable), response factors/relative response factors used for quantitative determinations, response factors/relative response factors of surrogates, and percent relative standard deviations/percent differences of the surrogates.

D. Surrogate Compound Recovery Results Summary—If required by the analytical method, a summary form shall be submitted which contains the following information for all field samples, method blanks, and QC samples: sample identification number, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries and QC limits for each surrogate compound.

E. Matrix Spike Results Summary—If required by the analytical method, a summary form shall be submitted which contains the following information: ID number of the sample chosen for spiking, sample matrix, the concentration of each spiked analyte/petroleum product, the results of the unspiked sample analysis, the results of the spiked sample analysis, the percent recovery for each spiked analyte/petroleum product and the QC limit for percent recovery for each spiked analyte/petroleum product.

F. Quality Control Check Standard—If required by the analytical method, a summary form shall be submitted which contains the following information: ID number of the sample, concentration of each spiked analyte/petroleum product, the results of the spiked sample analysis, the percent recovery for each spiked analyte/petroleum product, and the QC limit for percent recovery for each spiked analyte/petroleum product.

G. Duplicate Sample Results Summary—A summary of the duplicate sample results shall be submitted which contains the following: ID numbers of the original sample and the duplicate sample, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference calculated from the original and duplicate sample results and the QC limit for the relative percent difference (when applicable).

H. Quantitation Reports—Instrument quantitation reports shall be submitted for all field samples, QC samples, method blanks and standards.

I. Chromatograms—Chromatograms for all field samples, QC samples, method blanks and standards shall be submitted. All surrogate, internal standard (when applicable), pristane and phytane peaks on the chromatogram shall be identified along with the retention time for each peak.

¹ A negative proof is a mass spectrum offered as evidence to support an analyst's decision to negate the presence of a contaminant which has been qualitatively identified and reported by the instrument's data system.

² Method blanks for nonaqueous samples shall consist of performing the entire analytical procedure without any actual sample being present. The appropriate amount of sodium sulfate as specified in the current Statements of Work for Organics would be substituted as the "sample" for the semivolatiles and pesticide/aroclor fractions.

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
Rewrote IV6.

APPENDIX B

Well Search Format

Preparer

- Name of Site
- Case Number
- Street Address
- Township
- County
- USGS Quadrangle
- Latitude
- Longitude
- Instructions:

1. All sources of well records/information shall be clearly documented.
2. List all wells and State well permit numbers, including active, inactive and abandoned, within 1/2 mile of the site boundary. Include all wells, active, inactive and abandoned at the site.
3. Locate all listed wells on a site locus map.
4. Sources that shall be used:
 - a. Well records search of the Bureau of Water Allocation. There is no cost if this search is performed by the individual. Appointments shall be made to examine well records by contacting the Bureau of Water Allocation at (609) 292-2957. Upon written request, the Bureau will provide the well search for a fee.
 - b. Contact local or county Health Department or equivalent.
5. Submit any available analyses from wells as an attachment.
6. Complete chart on back.

| Well Owner | Address | Total Depth | Length of Casing | Static Water Elev. | Use Code | Source of Information |
|------------|---------|-------------|------------------|--------------------|----------|-----------------------|
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| 6. | | | | | | |

USE CODES
A =
B = Boring

- C =
- D = Domestic
- E = Recovery/Decontamination Pollution Control/Leachate with Pump Capacity
- F = Fire
- G = Irrigation
- H = Heat Pump/Geothermal
- I = Industrial
- J = Injection/Waste Discharge
- K =
- L = Livestock
- M = Monitoring
- N = Public Non-community
- O = Oil/Gas Exploration
- P = Public Supply
- Q = Recharge
- S = Sealed
- T = Test
- U = Non-public
- V = Gas Vent
- W = Dewatering
- X = Cancelled
- Y = Cathodic Protection
- Z = Piezometer

NEW REPLACEMENT WELL CODES

- 1 = Domestic
- 2 = Public Community
- 3 = Public Non-Community
- 4 = Industrial
- 5 = Irrigation
- 6 = Monitoring
- 7 = Piezometer
- 8 = Heat Pump/Geothermal
- 9 = Recovery
- 0 = Gas Vent

APPENDIX C

Mann-Whitney U-Test*

The random variable to be analyzed shall be the concentrations of the individual contaminants of concern in each individual monitoring well. The statistic to be evaluated is the Mann-Whitney "U". The test shall be a Mann-Whitney U-test with the size of the test equal to 0.1. The hypotheses (H) to be tested are:

$$H_0: \hat{\theta}_1, \hat{\theta}_2 \text{ (null hypothesis)}$$

$$H_1: \hat{\theta}_1 > \hat{\theta}_2 \text{ (alternate hypothesis)}$$

where $\hat{\theta}_2$ represents the stochastic size of the population of each individual contaminant during the most recent 12 month period of sampling and $\hat{\theta}_1$ represents the stochastic size of the population of each individual contaminant during the previous 12 month period. The test is applied to each contaminant in each individual monitoring well. In other words, if benzene and trichloroethene are the contaminants of concern, and there are four monitoring wells involved in the sampling program, then a total of eight Mann-Whitney tests are to be performed (benzene in each of the four monitoring wells and trichloroethene in each of the four monitoring wells).

The U statistic shall be evaluated as follows:

1. The test is applied to eight consecutive quarters of analytical data for each individual contaminant in each individual monitoring well.

2. For each quarter of data, annotate the concentration of the specific contaminant in the specific monitoring well with either a "b" for the most recent four quarters or an "a" for the four quarters from the previous 12 month period.

3. Vertically arrange the eight contaminant concentrations, with notations, in order of increasing value: the lowest value on the top, and the greatest value on the bottom.

4. For each individual "a" concentration, count the number of "b" concentrations that occur below that "a" concentration in the column.

5. Add the four values (zero or some positive number) obtained for Step 4 to calculate the "U" value.

6. All values of non-detectable (ND) or values detected below the limits of quantitation are to be ranked as "zero." It is required that appropriate detection levels/quantitation limits be achieved.

7. If two or more concentrations are identical, then two vertical columns are necessary. In the first column, rank tying "b" concentrations first, and in the second column rank tying "a" concentrations first. Calculate an interim "U" for each column ("Ua" and "Ub"). The average of these interim values is the actual "U". This is shown in Example 2, below.

The hypotheses shall be tested as follows:

1. If "U" is three or less, the null hypothesis is rejected, and it is concluded, with at least 90 percent confidence, that the concentration for the individual contaminant has decreased with time at the specific monitoring well.

2. If "U" is greater than three, the null hypothesis is accepted, and it cannot be concluded, with 90 percent or greater confidence, that the concentration for the individual contaminant has decreased with time at the specific monitoring well.

* Adapted from Mann, H. B. and Whitney, D.R., 1947, On a test of whether one of two random variables is stochastically larger than the other., Ann. Math. Statist., 18, pp. 52-54.

EXAMPLE 1: All data points are numerically unique

1. Individual contaminant: TCE
Individual monitoring well: MW-1
2. Monitoring quarters:

| | | | | | | | | | |
|--|------|-------|------------------|------|---|------|------|------------------|------|
| | | | $\hat{\theta}_1$ | | | | | $\hat{\theta}_2$ | |
| Sampling Round: | 1 | 2 | 3 | 4 | ↑ | 5 | 6 | 7 | 8 |
| Sampling Result: (ppb) (concentration) | 506a | 1021a | 612a | 265a | ↑ | 543b | 261b | 77b | 379b |

3. 77b
261b
265a
379b
506a
543b
612a
1021a
4. 265a=2, 506a=1, 612a=0, 1021a=0
5. 2+1+0+0=3, U=3

Conclusion: "U" is three, therefore the null hypothesis is rejected, and it is concluded, with 90 percent or greater confidence, that the first sampling set ($\hat{\theta}_1$) is greater than the second sampling set ($\hat{\theta}_2$), and therefore that the concentration for the specific contaminant in the specific monitoring well has decreased over the period of the ground water monitoring program.

EXAMPLE 2: two or more numerically identical data points

1. Individual contaminant: TCE
Individual monitoring well: MW-1
2. Monitoring quarters:

| | | | | | | | | | |
|--|-----|-----|------------------|-----|---|-----|-----|------------------|-----|
| | | | $\hat{\theta}_1$ | | | | | $\hat{\theta}_2$ | |
| Sampling Round: | 1 | 2 | 3 | 4 | ↑ | 5 | 6 | 7 | 8 |
| Sampling Result: (ppb) (concentration) | 28a | Nda | 61a | Nda | ↑ | 63b | Ndb | 77b | 79b |

3. a) Ndb b) Nda
 Nda Nda
 Nda Ndb
 28a 28a
 61a 61a
 63b 63b
 77b 77b
 79b 79b
4. a) Nda=3, Nda=3, 28a=3, 61a=3
- b) Nda=4, Nda=4, 28a=3, 61a=3
5. a) 3+3+3+3=12 Ua=12 ==> U=13.0
- b) 4+4+3+3=14 Ub=14

Conclusion: "U" is 13, therefore we accept the null hypothesis, and we cannot conclude, with 90 percent or greater confidence, that the first sampling set ($\hat{\theta}_1$) is greater than the second sampling set ($\hat{\theta}_2$), and we cannot conclude that the concentration for that specific contaminant has decreased with time.

New Rule, R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).

APPENDIX D

Historic Fill Database
Summary Table

| | Minimum (ppm) ¹ | Maximum (ppm) ¹ | Avg (ppm) ¹ | Number of Samples | Number > URU CDCSCC ² | % > URU CDCSCC ² | Number > RU CDCSCC ² | % > RU CDCSCC ² |
|--------------------|-------------------------------|-------------------------------|---------------------------|----------------------|-------------------------------------|--------------------------------|------------------------------------|-------------------------------|
| B(a)A ³ | 0.03 | 160.0 | 1.37 | 441 | 126 | 29 | 33 | 7 |
| B(a)P ³ | 0.02 | 120.0 | 1.89 | 431 | 146 | 34 | 146 | 34 |
| B(b)F ³ | 0.02 | 110.0 | 1.91 | 426 | 118 | 28 | 39 | 9 |
| B(k)F ³ | 0.02 | 93.0 | 1.79 | 412 | 101 | 25 | 26 | 6 |
| I(1)P ³ | 0.02 | 67.0 | 1.41 | 397 | 70 | 18 | 18 | 5 |
| D(a)A ³ | 0.01 | 25.0 | 1.24 | 286 | 78 | 27 | 78 | 27 |
| Arsenic | 0.05 | 1098 | 13.2 | 369 | 35 | 9 | 35 | 9 |
| Be ³ | 0.01 | 79.7 | 1.23 | 213 | 21 | 10 | 21 | 10 |
| Cadmium | 0.02 | 510 | 11.1 | 236 | 147 | 62 | 5 | 2 |
| Lead | 0.28 | 10700 | 574 | 538 | 259 | 48 | 119 | 22 |
| Zinc | 2.45 | 10900 | 575 | 197 | 80 | 4 | 8 | 4 |

1. ppm=parts per million
 2. URU=Unrestricted Use, RU=Restricted Use, CDCSCC=Current Direct Contact Soil Cleanup Criteria
 3. B(a)A=Benzo(a)anthracene, B(a)P=Benzo(a)pyrene, B(b)F=Benzo(b)fluorene, B(k)F=benzo(k)fluoranthene, I(1)P=Indeno(1,2,3-cd)pyrene, D(a)A=Dibenzo(a,h)anthracene, Be=Beryllium

New Rule, R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
 See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).

APPENDIX E

DEED NOTICE

The model document in this appendix contains blanks and matter in brackets []. These blanks shall be replaced with the appropriate information prior to submission to the Department for approval. The model document in this appendix is not subject to the variance provisions of N.J.A.C. 7:26E-1.7.

Matter bracketed [] is not intended for deletion, but rather is intended to be descriptive of the variable information that may be contained in the final document.

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by:

 [Signature]

 [Print name below signature]

Recorded by:

 [Signature, Officer of County Recording Office]

 [Print name below signature]

DEED NOTICE

This Deed Notice is made as of the ____ day of _____, by [Name and address of each current property owner] (together with his/her/its/their successors and assigns, collectively "Owner").

WITNESSETH:

WHEREAS, Owner is the owner in fee simple of certain real property designated as Block ____ Lot _____, on the tax map of the [City/Borough/Township/Town] of [Name of municipality], ____ County; New Jersey Department of

Environmental Protection Known Contaminated Site List Number _____, more particularly described on Exhibit A attached hereto and made a part hereof (the "Property"); and

WHEREAS, the lead program during the remediation was _____, and the program identification number, if applicable was _____; and

WHEREAS, the New Jersey Department of Environmental Protection ("Department") approved remedial action on _____, for [Comprehensive Site List Case No./Case Name] concerning the Property in which the Department has approved the use of institutional controls and/or engineering controls in accordance with N.J.S.A. 58:10B-13; and

WHEREAS, this Deed Notice itself is not intended to create any interest in real estate in favor of the Department, nor to create a lien against the Property, but merely is intended to provide record or notice of certain conditions and restrictions on the property and to reflect the regulatory and statutory obligations imposed as a condition of using institutional and/or engineering controls; and

WHEREAS, the areas described on Exhibit B attached hereto and made a part hereof (the "Affected Areas") contain contaminants above the applicable remediation standards that would allow for the unrestricted use of the Property; and

WHEREAS, the type, concentration and specific location of the contaminants are described on one or more diagrams, maps and/or tables on Exhibit B attached hereto and made a part hereof; and

WHEREAS, a narrative description of all institutional controls and associated monitoring and maintenance activities are provided in Exhibit C; and

[other WHEREAS clauses shall be added to provide notice of additional site-specific concerns when required, and when engineering controls are implemented at the site, such as:

WHEREAS, a narrative description of engineering controls and associated monitoring and maintenance activities is provided in Exhibit C; and

WHEREAS, a narrative description of the monitoring and maintenance activities of the institutional and/or engineering controls is provided in Exhibit C; and

WHEREAS, to prevent the potential for migration of the contaminants and unacceptable risk of exposure to the contamination to humans or the environment, an [impermeable/permeable] surface cover is in place at the Property, at the location shown in Exhibit D on maps or diagrams; and

WHEREAS, to prevent the potential for unacceptable exposure to the contamination to humans or the environment, a [fence, posted sign(s), liners or any other engineering controls] is in place at the Property, at the locations shown in Exhibit D on maps or diagrams; and]

WHEREAS, in accordance with the Department's approval of the remedial action work plan, and in consideration of the terms and conditions of that approval, and other good and valuable consideration, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, and to restrict certain activities at the Property, as set forth below.

NOW, THEREFORE, Owner agrees to the conditions and restrictions listed below and hereby notifies all interested parties, owners, lessees and operators that the applicable regulations and statutes require of each such person while owning, leasing or operating the Property as follows:

1. RESTRICTED USES. The owner(s) of all of any fee interest in all or any portion of the Affected Areas and each operator of all or any portion of the Affected Areas, shall not allow any of the following uses of the following portions of the Affected Areas:

| <u>Portion of the Affected Area</u> | <u>Restricted Use</u> |
|--|--|
| The Affected Areas as identified in Exhibit B. | The use shall be restricted [to non-residential uses only and] pursuant to paragraphs 2 and 3. |

[The scope of the restrictions will be dependent on the contaminants, concentrations, location, and type of engineering controls in place, if any. If, for example, engineering controls are designed to limit the use to non-residential, the addition of "to non-residential uses only and," as noted above is appropriate.]

[When different areas of concern of the Property have engineering controls in place which result in different use restrictions each area of concern must be described separately in Exhibit B.]

[Describe other portions of the Property by reference to Exhibits referenced in the WHEREAS clauses above] [Describe nature of restricted use]

2. EMERGENCIES. In the event of an emergency which presents a significant risk to public health, safety, or the environment, the application of Paragraph 1 above may be temporarily and unilaterally suspended, by Owner, provided that the Owner:

- i. Immediately notifies the Department of the emergency;
- ii. Limits both the actual disturbance and the time needed for the disturbance to the minimum reasonably necessary to adequately respond to the emergency;
- iii. Implements all measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the residual contamination; and
- iv. Restores the Affected Areas to the pre-emergency conditions to the extent reasonably possible, and provides a report to the Department of such emergency and restoration efforts within ninety (90) calendar days after the end of the emergency.

3. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

(a) Except as provided in Paragraph 2 above, no owner or operator shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Affected Areas which disturbs any engineering control or which creates an unacceptable risk of exposure of humans or the environment to contamination in the Affected Areas without first obtaining the express written consent of the Department. Nothing herein shall constitute a waiver of the Owner's or operator's obligation to comply with all applicable laws and regulations.

(b) Notwithstanding subparagraph 3(a) above, the Department's consent is not required for any alteration, improvement, or disturbance provided the Owner or operator:

- i. Provides for restoration of any disturbance of an engineering control to pre-disturbance conditions within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and
- ii. Does not allow an exposure level above those noted under Restricted Uses, provided that all applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance.

4. ACCESS. While this Deed Notice is in effect, the Owner agrees to allow the Department, its agents and representatives access to the property to inspect and evaluate the continued effectiveness of the institutional or engineering controls and to conduct additional remediation to ensure the protection of the public health and safety and the environment.