TOWN OF ISLIP

SUFFOLK COUNTY, NEW YORK

FINAL

PHASE II INVESTIGATION REPORT
LINCOLN AVENUE (SAYVILLE) LANDFILL
NYSDEC SITE NO. 152053

APPENDIX A-K

DECEMBER 1991

R. E. PUSTORINO, P.C. CONSULTING ENGINEERS
COMMACK, NEW YORK
VERO BEACH, FLORIDA

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329034

APPENDIX A

APPENDIX A

NYSDEC WORK PLAN APPROVAL LETTER

LETTER OF APPROVAL TO DISPOSE OF BOREHOLE CUTTINGS

CORRESPONDENCE - FIELD SAMPLING PROTOCOL

CORRESPONDENCE - DATA VALIDATION SERVICES AND QUALIFICATIONS

New York State Department of Environmental Conservation
Building 40—SUNY, Stony Brook, New York 11794
(516) 751-7900

RECEIVED
FEB 23 1988
R.E. PUSTORINO, P.C.

Thomas C. Jorling
Commissioner

February 19, 1988

file 86082-F

Mr. W. F. Graner, P.E.,
Ph.D., Associate
R.E. Rustorino, P.C.
Consulting Engineers
2171 Jericho Turnpike
Commack, NY 11725

RE: LINCOLN AVENUE (SAYVILLE)
LANDFILL - # 152053
FINAL WORKPLAN

Dear Mr. Graner:

The referenced workplan has been approved by the New York State Department of Environmental Conservation. You can proceed with its implementation.

Very truly yours,

Alex M. Moskie

Alexander M. Moskie
Sanitary Engineer

AMM:cmp
cc: R. Becherer
R. Paggione

ISLIP RESOURCE RECOVERY AGENCY 40 NASSAU AVENUE, ISLIP, NEW YORK 11751 (516) 224-5447

RECEIVED
AUG 4 1989
R.E. PUSTORINO, P.C.

August 1, 1989

Tyree Brothers
Environmental Services, Inc.
208 Route 109
Farmingdale, New York 11735

Att: Carl Fiore, Hazardous Waste Supervisor

Re: Disposal of Borehole Cuttings
Sayville Landfill Monitoring Wells

Dear Mr. Fiore:

Recently you had requested verification from the Town of Islip concerning disposal of the above referenced borehole cuttings. Previously, this subject had been discussed between our consultant, R.E. Pusterino, P.C., and representatives of Tyree Brothers.

The borehole cuttings are to be removed from each well site and transported to the Town's Sayville Landfill. The disposal location will be established by the Town's consultant in conjunction with landfill supervision. The disposal location has been discussed with and approved by the NYSDEC. The material is presently stockpiled alongside of the six (6) monitoring well locations and includes three (3) 55 gallon drums filled with low-contaminate soils. Only a minimum amount of displacement of the soil will be necessary at locations No. 3 and No. 4 since these wells are already located within the landfill area.

Please contact Mr. Raymond Glover of R.E. Pusterino, P.C. to arrange a meeting at the landfill site and show you the disposal area. We thank you for your cooperation.

Very truly yours,

Charles H. Weidner, P.E.
Chief Engineer

cc: R.E.Pusterino, P.C.
Raymond Glover, Jr.

mf

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS
2171 JERICHO TURNPIKE
COMMACK, NEW YORK 11725
(516) 499-1888

October 12, 1990

New York State Department of Environmental Conservation
Region 1 Headquarters
Building 40
SUNY
Stony Brook, NY 11790-2356

Att: Anthony Candela, P.E.
Regional Hazardous Remediation Engineer

Re: Town of Islip
Lincoln Avenue Landfill
Phase II Supplemental Sampling
REP Job No. 86082-F

Dear Mr. Candela:

Pursuant to our previous conversations, this letter shall serve to document the basic sampling protocol to be followed during the supplemental sampling round to be conducted at the Lincoln Avenue Landfill. This sampling round will be conducted on the existing thirteen (13) groundwater monitoring wells previously installed as part of the Phase II investigation. The participants in this sampling effort shall be:

- R.E. Pustorino, P.C.
- Marine Pollution Control
- NYTEST Environmental, Inc.

R.E. Pustorino, P.C., shall be responsible for all aspects of this operation, including coordination, on-site testing and adherence to these protocols. Marine Pollution Control shall be responsible for furnishing and operating all pumping equipment, steam cleaning equipment, preparation of site, etc., required to implement the purging of the wells. NYTEST Environmenal, Inc., shall be responsible for the physical taking of the samples, sample preservation, delivery and analysis. Sample analysis shall be for the parameters of "TCL+30" and shall be conducted in accordance with the NYSDEC Analytical Services Protocol (ASP), September 1989 edition.

The well purging equipment shall consist of a downhole, bladder type pump constructed of teflon and stainless steel with Viton O-Rings and polypropylene fittings. The pump shall be Model 5612 Geogard gas drive pump as manufactured by American Sigma. New, dedicated bladders and coaxial air supply/pump discharge hoses shall be used for each well. The remaining portions of the pump shall be decontaminated on-site with steam at a minimum temperature of 200 deg. F. The pump shall be driven by the manufacturer's industrial grade oil-less compressor.

Sample recovery shall be conducted with dedicated, laboratory decontaminated and wrapped bailers, opened at the site at the time of sampling. The insertion of all downhole equipment shall be performed with new, dedicated ropes. All downhole equipment shall either be chemically decontaminated in the laboratory or steam cleaned on site prior to insertion in the well.

In accordance with your directives, this sampling operation shall be conducted Monday through Thursday between the hours of 9:00 A.M. and 5:00 P.M. On Thursday afternoons, every reasonable effort will he made to recover the final sample of the day by 3:00 P.M. in order to accommodate NYSDEC shipping schedules for split sampling.

The basic sequence for purging and sampling of each well shall be as follows:

1) Create staging area around well with dedicated plastic sheeting for placement of all downhole apparatus. Minimum area 10' x 10';

2) Measure static water level depth with an electronic indicator before purging the well;

3) Measure temperature of steam to ensure a minimum of 200 deg. F;

4) Disassemble pump and clean wooden pallets (if required) for steam cleaning of working parts; install dedicated bladder;

5) Attach dedicated poly-tubing, rope, etc., to assembled pump;

6) Lower pump into well to below the top of the water table, as determined from the above measurement;

7) Determine pump capacity by discharging to a five gallon container and measure filling time;

8) Evacuate a minimum of four (4) casing volumes of water and continue pumping, as required, until the measured pH, temperature, specific conductivity and turbidity of the discharge water stabilizes. The maximum stabilized turbidity of the discharge water at the termination of purging shall be 50 NTU's with any constituents subject to precipitation still in solution. The casing volume shall be considered the internal volume from the base of the well to the static liquid level plus the void volume of the filter material surrounding the screened interval;

9) After purging, allow well to recover to pre-purging water level. Initiate sampling within one hour of well achieving "recovered" state;

10) Take field blanks by running deionized water through the bailer, sample to be collected at each Well Cluster and tested for full analytical protocol;

11) Attach dedicated rope or chord to dedicated laboratory decontaminated bailer; field personnel should be wearing protected (dedicated) gloves;

12) Start sampling procedures; withdraw at least 3 bailer volumes of representative formation water, with minimum disturbance to the formation, before collecting the sample;

13) Fill appropriate type and volumes of sample containers, as supplied by the representative of the analytical laboratory; trip blanks are to be routed along with each batch of samples that are delivered to the laboratory, as required by the ASP;

14) Measure and record field pH, temperature, specific conductivity and turbidity;

15) Maintain samples in insulated ice chest and deliver to analytical laboratory with properly executed chain of custody form.

The purge water from each well shall be discharged to closed top 55 gallon drums for transport to and disposal on the landfill.

The above outline is intended to summarize and supplement the sampling protocol contained in the approved Final Work Plan, NYSDEC Site No. 152053, November 1987 and the "Selectives from the Oversight Guidance" document prepared by the NYSDEC.

We trust the above meets with your needs and approval. As discussed, we would appreciate your expeditious review of this document.

In anticipation of your concurrence, this letter shall serve to notify you that the sampling round has been scheduled and will commence at 9:00 A.M. on October 29, 1990 at Well Cluster No. 1.

Should you have any questions or comments regarding this matter, please feel free to contact this office.

Very truly yours,

R.E. PUSTORINO, P.C.
Consulting Engineers

Edward J. Reilly

Edward J. Reilly

EJR:gn
cc: C. Weidner, P.E.
G. Desai
W. Graner, P.E., Ph.D.

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS
2171 JERICHO TURNPIKE
COMMACK, NEW YORK 11725
(516) 499-1888

April 9, 1991

C.C. Johnson & Malhotra, P.C.
215 Union Boulevard, Suite 215
Lakewood, CO 80228

Att: Mr. Richard Cheatham
Director, Laboratory Consulting Group

Re: Town of Islip
Sayville (Lincoln Avenue) Landfill
Phase II Investigation
REP Job No. 86082-F

Dear Mr. Cheatham:

As a follow-up to your proposal of February 11, 1991 (copy attached), I am pleased to advise you that R.E. Pustorino, P.C. (REP) wishes to retain C.C. Johnson & Malhotra, P.C. (CCJM), for the purpose of performing data validation of the analytical results from a round of groundwater samples. These services are to be utilized for and form a part of the final report for the Phase II Investigation, Town of Islip, Long Island, New York, Sayville (Lincoln Avenue) Landfill.

Due to the urgency of this project, we are requesting that you provide a fifteen (15) day validation report turnaround time. All aspects of your analytical procedures and reportings must comply with the current New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP).

Thirteen (13) groundwater monitoring wells were sampled as part of this investigation. These wells are grouped and identified as follows:

Cluster No. 1 - MW-1S (shallow)
MW-1D (deep)

Cluster No. 2 - MW-2S
MW-2D

Cluster No. 3 - MW-3S
MW-3D

Cluster No. 4 - MW-4S
MW-4D

Cluster No. 5 - MW-5S
MW-5D

Cluster No. 6 - MW-6S
MW-6I (intermediate)
MW-6D

Field blanks designations are predicated on the above well indentifications. Please note that in response to the urging of the NYSDEC, certain field blanks were obtained from the discharge of the positive displacement bladder pump used for purging the wells and are denoted by the suffix "P". Field blanks acquired in the conventional sense using the sample baler are denoted by the suffix "B". Dedicated balers, decontaminated in the laboratory, were provided by NYTEST Environmental, Inc., the analytical laboratory for this project.

Enclosed for your review and performance of the data validation services, please find the following NYTEST Environmental, Inc. data package prepared for R.E. Pustorino, P.C.

DATA PACKAGE

CASE NO.	6533	6496, 6527	6559	6546
PACKAGE PER SET	4	4	4	4
NO. OF SETS	1	1	1	1
TOTAL PAGES/SET	779	1115	460	730
CASE NARRATION	2-5	2-6	1-5	2-6
TRAFFIC REPORTS	6-19	7-29	6-19	7-20
VOA	20-355	30-397	20-165	21-299
BNO	355-606	398-819	166-309	300-557
PEST/PCB'S	607-779	820-1115	310-460	558-730

Also included with this mailing is the inorganic data for all of the above case numbers in a two (2) volume set as follows:

	CASE NOS.	TOTAL PAGES
Volume 1	6533, 6496, 6527	350
Volume 2	6546, 6559	297

Attached please find attachments I, II and III of NYTEST Environmental's letter of January 17, 1991 regarding resubmittals and correction to the above data package.

All correspondence regarding this project shall reference the following:

Re: Town of Islip
Sayville (Lincoln Avenue) Landfill
Phase II Investigation
REP No. 86082-F

All invoices should be directed to this office for processing and submission to the Town of Islip. All invoices should reference R.E. Pustorino, P.C. Purchase Order No. 009-91. Payment of invoices shall be made promptly upon remittance by the Town of Islip.

We trust the enclosed data package is sufficient to permit your expeditious review and issuance of findings.

Should you have any questions or comments regarding this matter, please feel free to contact Mr. Robert Burgner or the undersigned. Our FAX number is (516) 462-5848.

We thank you for your anticipated cooperation in this matter.

Very truly yours,

R.E. PUSTORINO, P.C.
Consulting Engineers

Edward J. Reilly

Edward J. Reilly

EJR/ap
Enclosure
cc: C. Weidner, P.E., Chief Engineer - IRRA (less data package)
W. Graner, P.E., Ph.D. (less data package)
R. Burgner

CCJM
ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
DENVER
GRAND RAPIDS

February 11, 1991

Robert Burgner
R.E. Pustoreno, P.C.
2171 Jericho Turnpike
Commack, N.Y. 11725

Dear Bob,

As requested in our telephone conversation of this afternoon, enclosed is the C.C. Johnson & Malhotra, P.C. proposal for data validation services to support your NYSDEC project. Proposed costs are presented in a "unit cost per analytical fraction basis" for both a 15-day validation report turnaround time and a 30-day turnaround time. Please note that the total estimated cost does not include a discount for field QC blank samples, although separate unit costs are shown for these matrices.

For your review, I have also enclosed an example of the CCJM standard NYSDEC validation report forms, as well as additional information about CCJM Q&E for data validation.

CCJM is an SB-8A certified minority-owned, small business enterprise providing a full range of environmental consulting services. CCJM's Laboratory Consulting Group is located in Lakewood, Colorado. The Denver (Lakewood) office offers expertise in environmental quality assurance, environmental health risk assessments, database management, and data validation. CCJM has provided data validation services for several EPA regions under various contracts including REM 2, 3, 4 and 5, and TES, and at several state-lead and PRP-lead Superfund sites including several in New York State. CCJM data validation staff meets or exceeds all NYSDEC requirements.

The CCJM/Denver Office staff offers a thorough, consistent, and conscientious group of professionals whose technical depth, quality of work and experience in the environmental quality assurance field is extensive. The data review staff brings to the data validation task chemists and analysts who have performed sample analysis with a wide variety of sample types, analytical methods, analytical instrumentation, and private and government contracts. Coupled with this extensive laboratory experience, a majority of the data review staff has had significant on-site sampling experience with a variety of matrices and sample types, and hands-on experience in preparing and/or reviewing project control documentation such as

Quality Assurance Projects Plans (QAPPs), Sampling Analysis Plans (SAPs), Field Operations Plans (FOPs), etc. The staff also has in-depth experience in the field of Potentially Responsible Party (PRP) data review and QA/QC oversight, and are thoroughly familiar with the stringent legal defensibility and knowledgeability requirements of both the PRP and the enforcement programs. The above qualifications result in a superior data review team capable of reviewing, commenting on, identifying, and verifying data quality and data needs from virtually all aspects of a given project concerned with the acquisition and use of analytical data. As a result, the CCJM data validation team is able to provide to the client data validation capabilities and approaches specific to their needs and designed to derive maximum project usability from a given body of data in the most cost effective manner possible.

If you have any questions or need further information, please call me at (303) 987-2928.

Sincerely,

Richard A. Cheatham

Richard A. Cheatham
Director, Laboratory Consulting Group

cc: Proposal - PF
R. Reindl

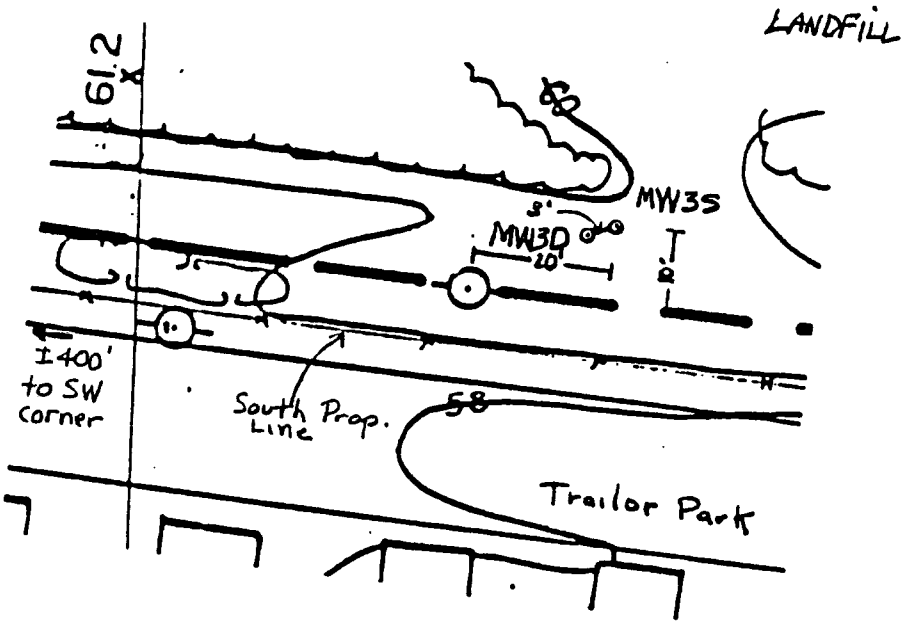
APPENDIX B

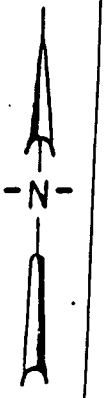
FIELD LOCATION PLAN

Project TOWN OF ISLIP, SAYVILLE LANDFILL

Monitoring Well-site #3 Location Down Gradient (SW)

Method of Measurement Tape/Pace Measured by RAY Glover





1986 Topo.
(Not to Scale)

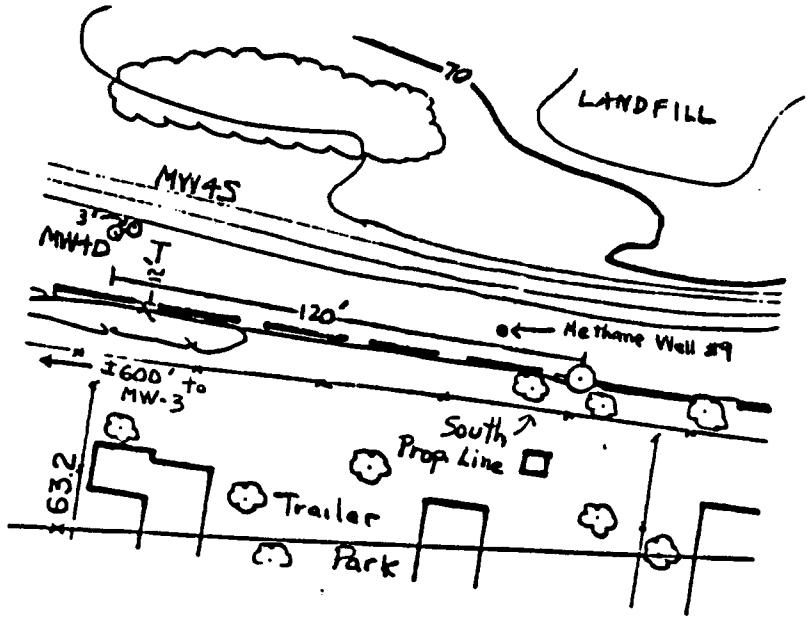
R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

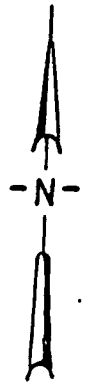
FIELD LOCATION PLAN

Project TOWN OF ISLIP, SAYVILLE LANDFILL

Monitoring Well-site #4 Location Downgradient (SE)

Method of Measurement Tape/Pace Measured by Ray Glover





1986 Topo.
(Not to Scale)

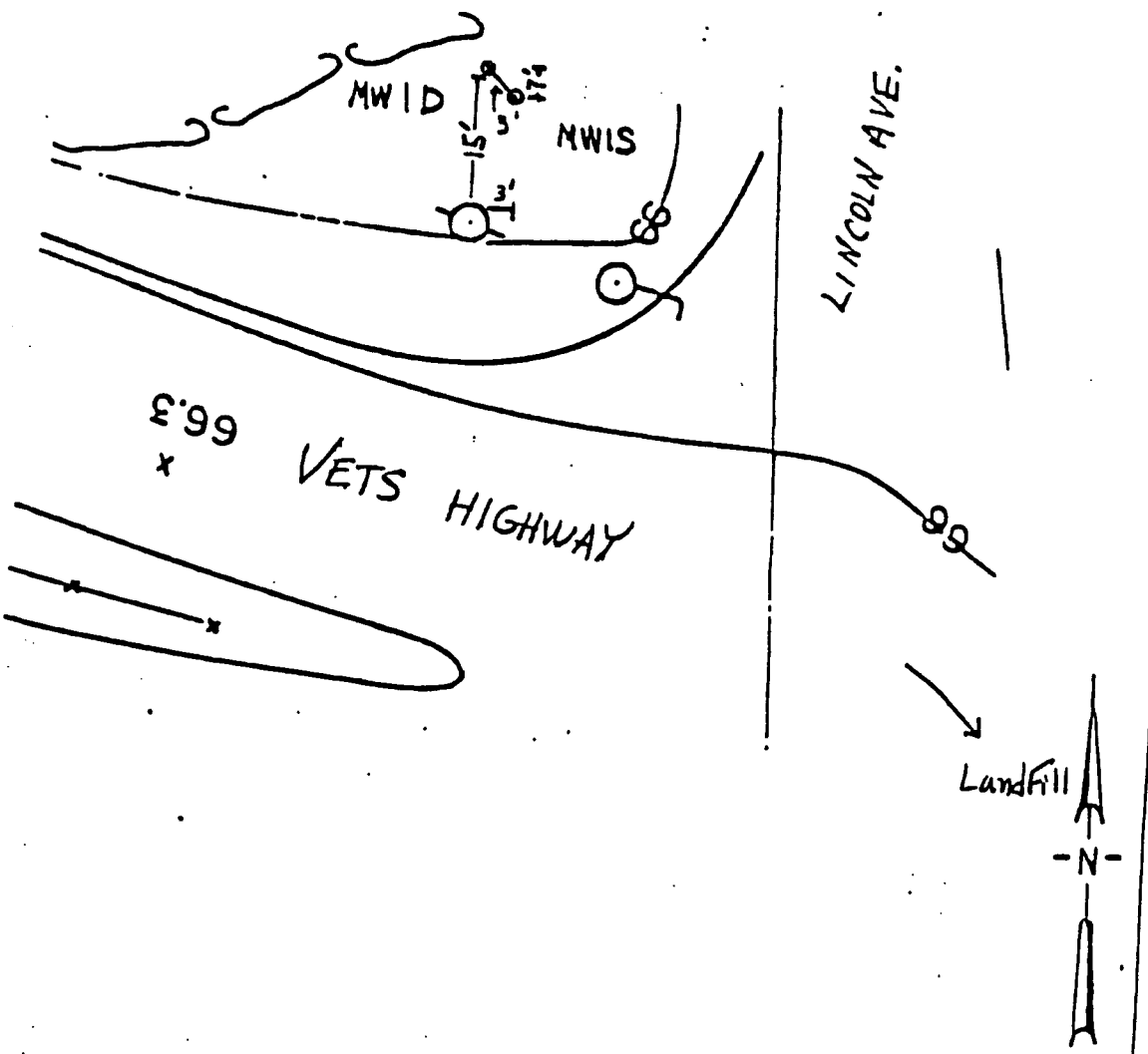
R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

FIELD LOCATION PLAN

Project TOWN OF ISLIP. Sayville LandFill

Monitoring Well-site #1 Location Upgradient (N)

Method of Measurement Tape/Pace Measured by Ray Glover



Not to Scale

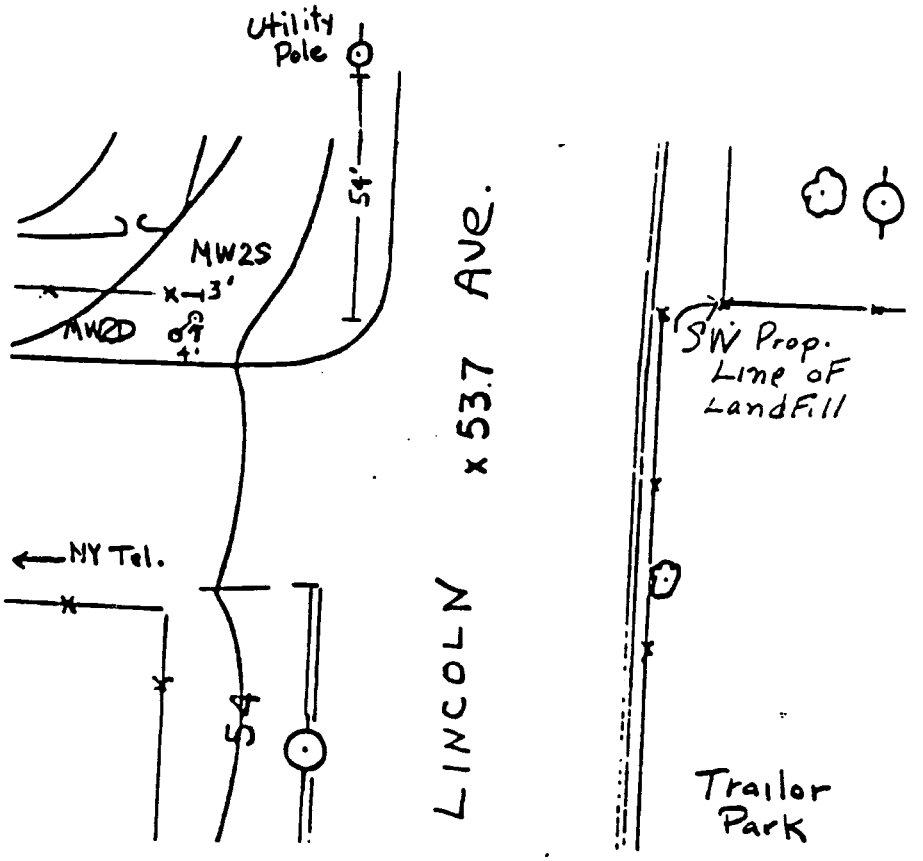
R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

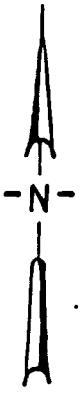
FIELD LOCATION PLAN

Project TOWN OF ISLIP, SAYVILLE LANDFILL

Monitoring Well-site #2 Location Upgradient

Method of Measurement Tape/Pace Measured by Ray Glover





Not to Scale

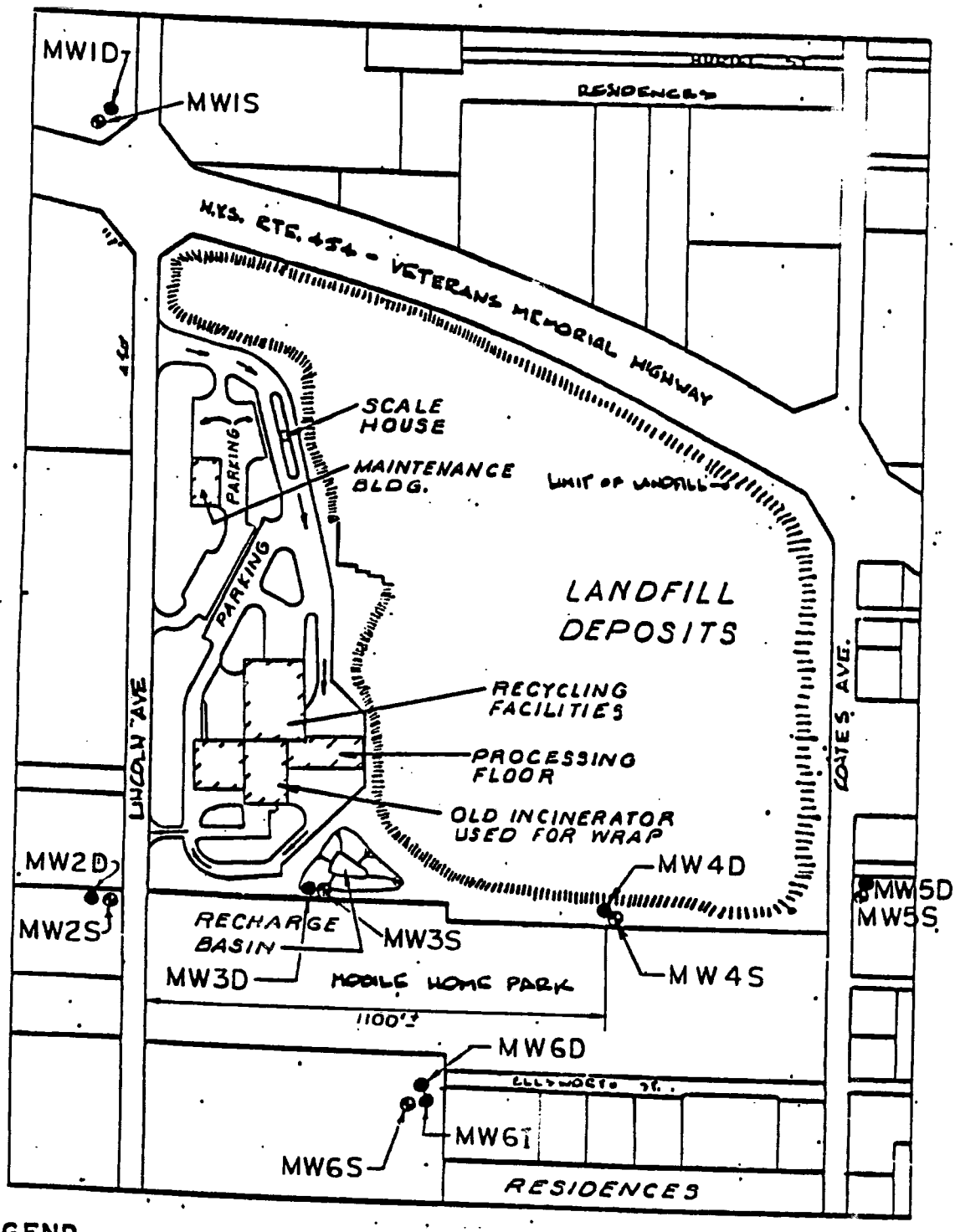
R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

APPENDIX B

MONITORING WELL LOCATION PLAN

FIELD LOCATION PLANS

SITE PHOTOGRAPHY



LEGEND

⊕ PHASE II SHALLOW MONITORING WELLS INSTALLED 1988

● INT. OR DEEP MONITORING WELLS

0 200 400
Scale in Ft. (Approx.)

GROUNDWATER MONITORING WELL LOCATION PLAN
LINCOLN AVENUE LANDFILL
(EXISTING WELLS)

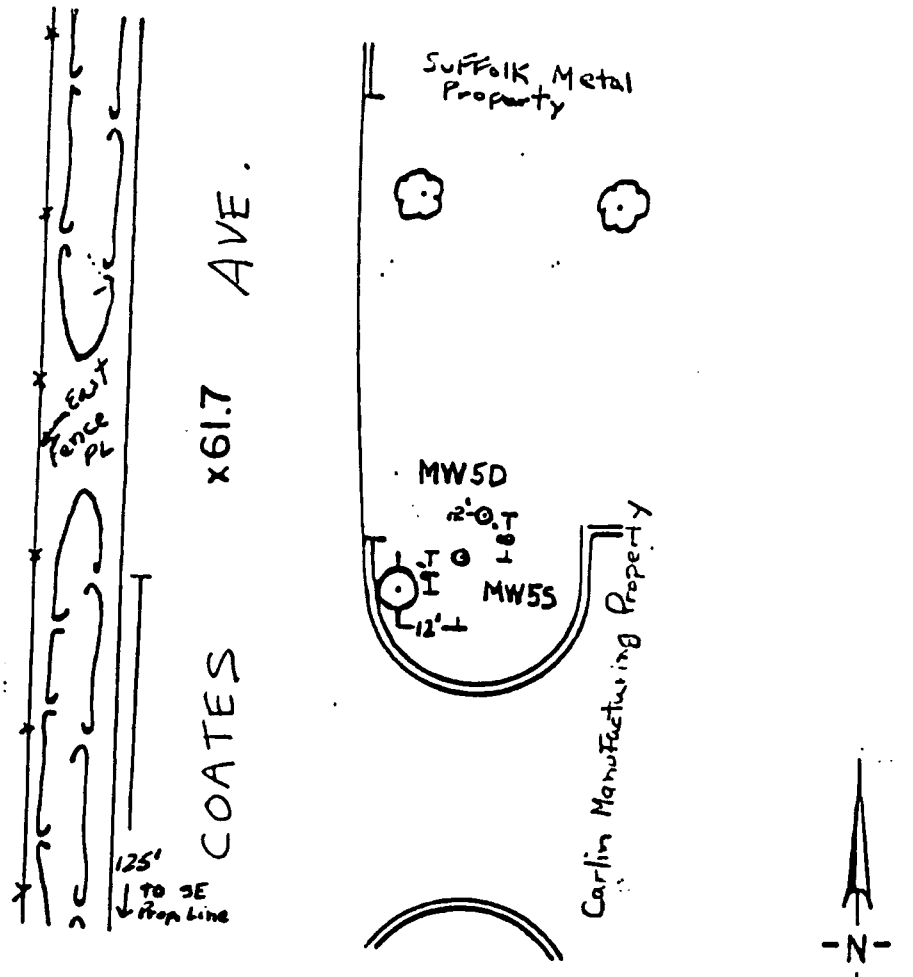
R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

FIELD LOCATION PLAN

Project TOWN OF ISLIP, SAYVILLE LANDFILL

Monitoring Well-site #5 Location Downgradient (E)

Method of Measurement tape/pace Measured by Ray Glover



Not to Scale

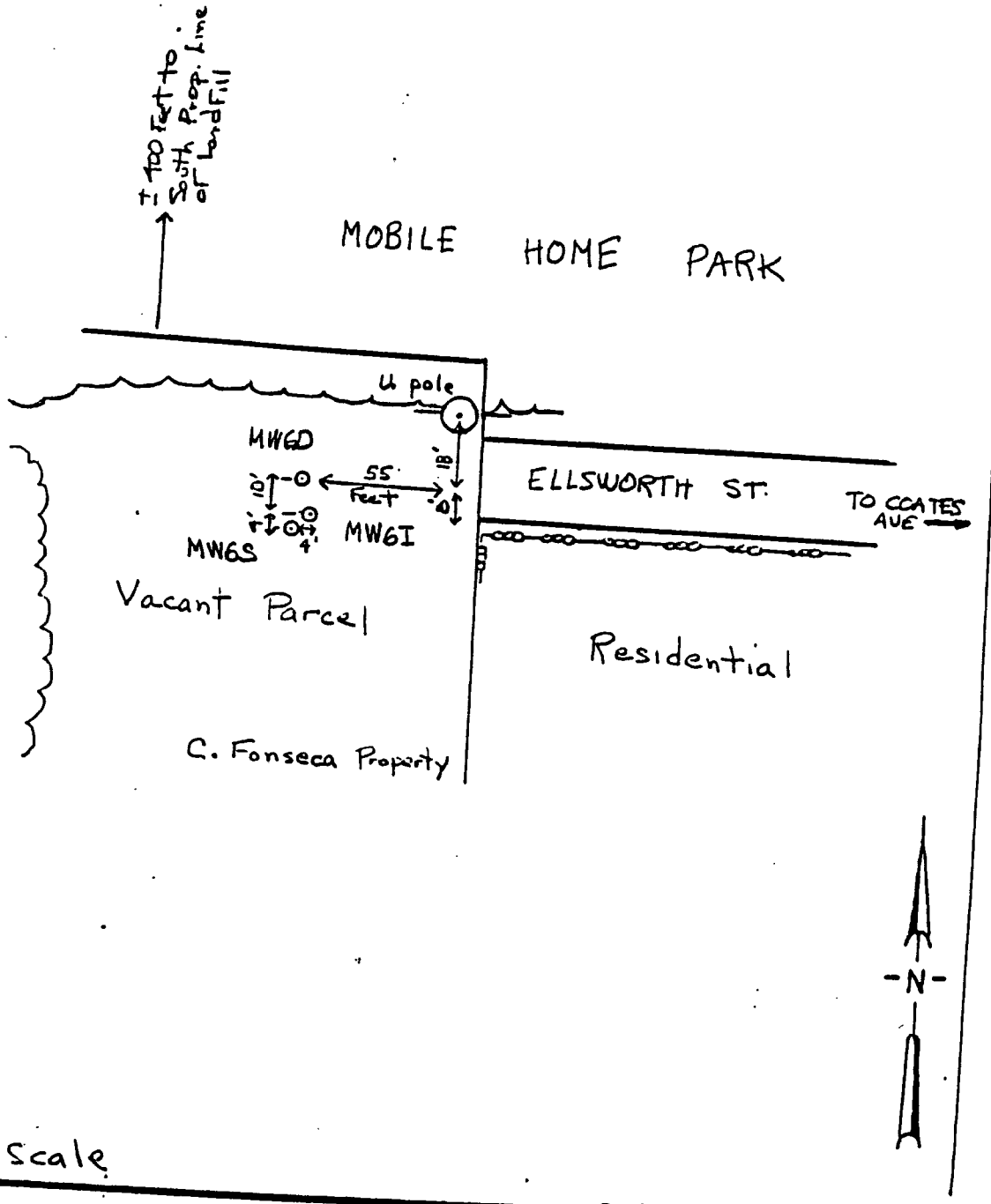
R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

FIELD LOCATION PLAN

Project TOWN OF ISLIP, SAYVILLE LANDFILL

Monitoring Well-site #6 Location Downgradient

Method of Measurement tape/pace Measured by Ray Glover

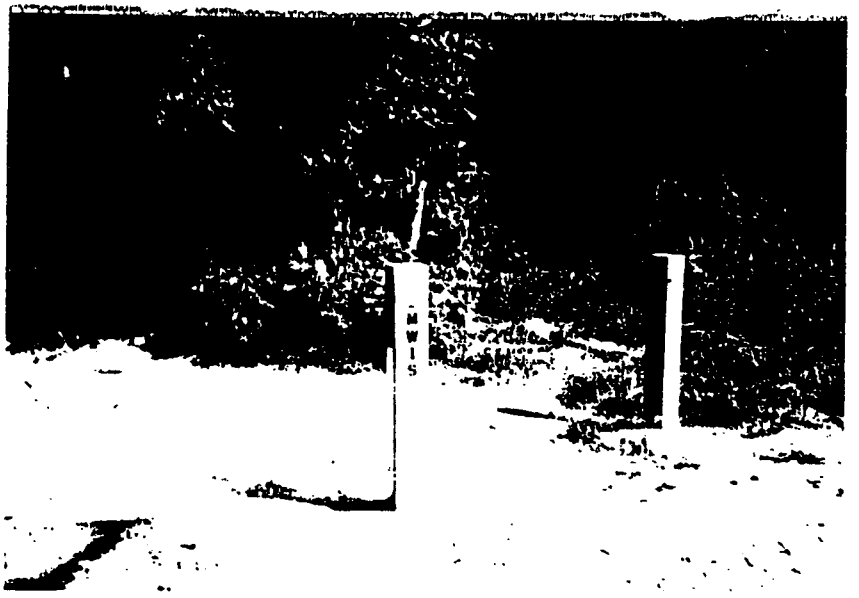


Not to Scale

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

Well Cluster

#1



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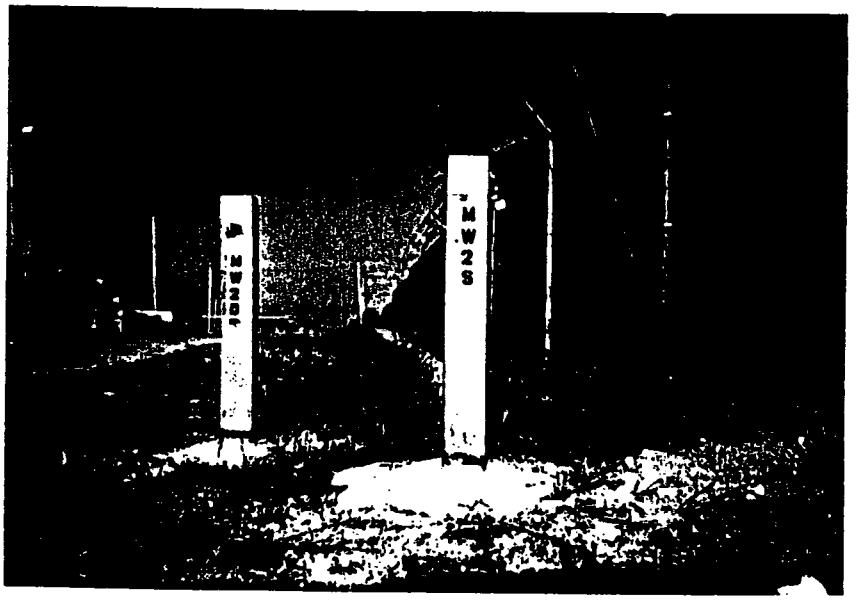

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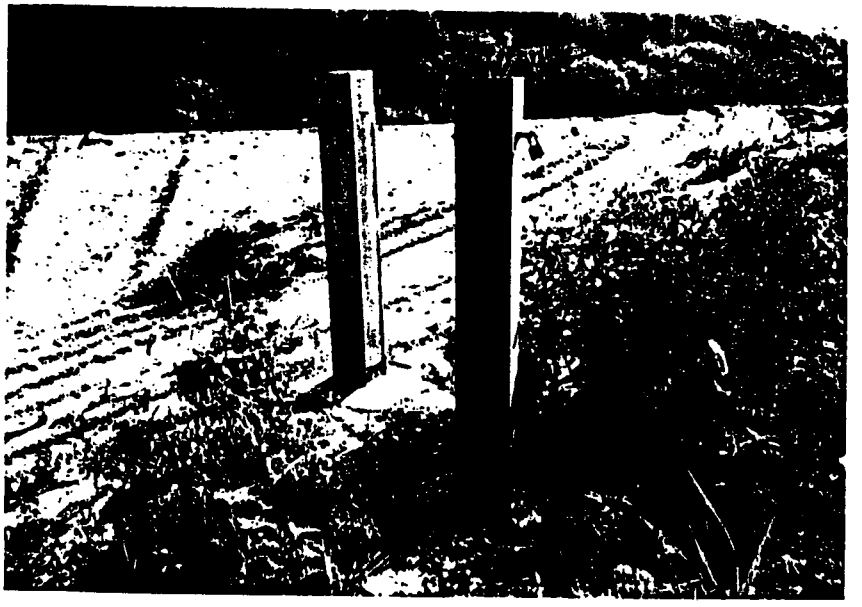
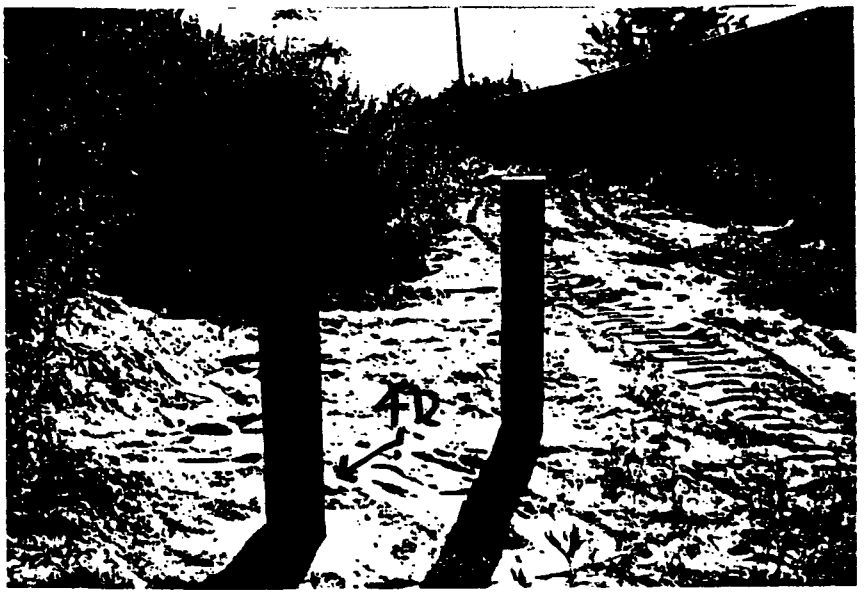


Surface Details

Well Cluster:



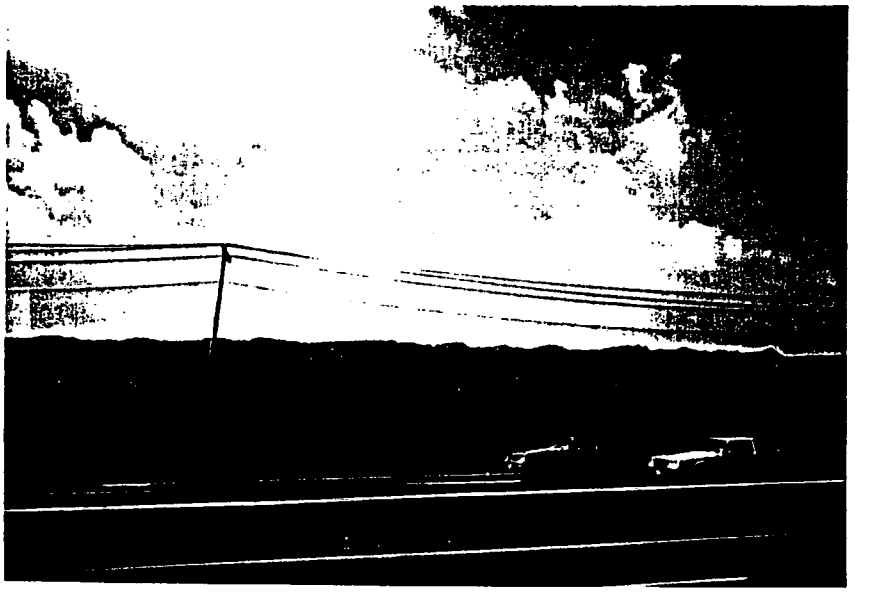
#4

#5

#6
(Excluding 6D)

Surface Details

Looking:

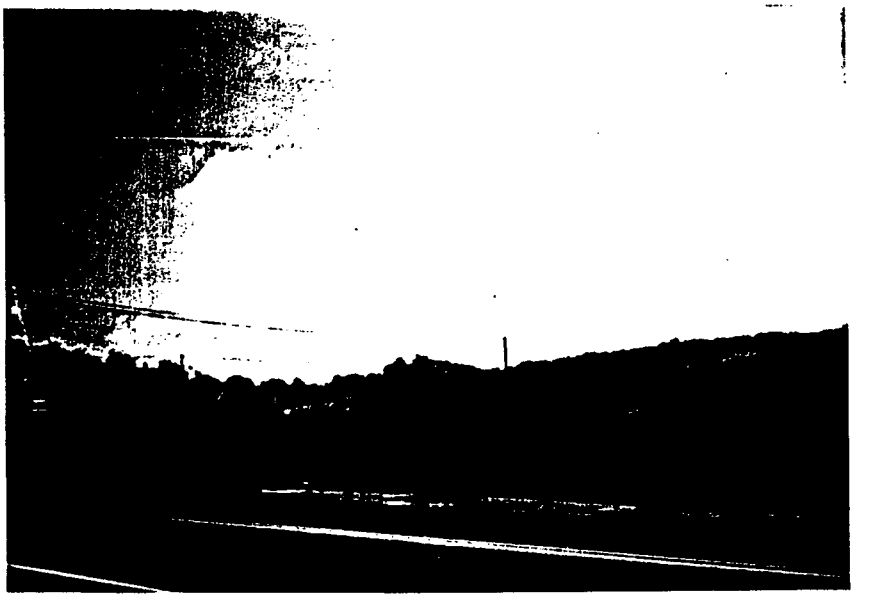


South

Compost covered Face

West

Stabilized slope (Vegetation cover)



East

Stabilized slope near NW corner

LANDFILL SITE

APPENDIX B-1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WILDLIFE RESOURCES CENTER

INFORMATION SERVICES

New York State Department of Environmental Conservation
Wildlife Resources Center
Information Services
700 Troy-Schenectady Road
Latham, New York 12110-2400

Thomas C. Jorling
Commissioner

July 10, 1991

Raymond Glover
R. E. Pustorino Consulting Engineers
2171 Jericho Turnpike
Commack, New York 11725

Dear Mr. Glover:

We have reviewed the Significant Habitat Unit and the NY Natural Heritage Program files with respect to your request for biological information concerning the Lincoln Avenue (Sayville) Landfill NYS DEC Site #152053, as indicated on your map, located in the Town of Islip, Suffolk County.

Enclosed is a copy of our map showing the area in the vicinity of the MacArthur Airport inhabited by the Coastal Barrens Buckmoth. The habitat is dwarf oak and pitch pine barrens. There are no other significant habitats or rarities associated with this site.

Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

This response applies only to known occurrences of rare animals, plants and natural communities and/or significant wildlife habitats. You should contact our regional office, Division of Regulatory Affairs, at the address enclosed for information regarding any regulated areas or permits that may be required (e.g., regulated wetlands) under State law.

If this project is still active one year from now we recommend that you contact us again so that we may update this response.

Sincerely,

Burrell Buffington

Burrell Buffington
Significant Habitat Unit

En
cc

New York Heritage Program is supported in part by The Nature Conservancy

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS
2171 JERICHO TURNPIKE
COMMACK, NEW YORK 11725
(516) 499-1888

July 3, 1991

Mr. Burell Buffington
NYSDEC Information Services
700 Troy-Schenectady Road
Lathem, New York 12110

Re: Endangered Species Identification
Phase II Investigation Report
NYSDEC Site No. 152053
Lincoln Avenue (Sayville) Landfill
Suffolk County, L.I., N.Y.

Dear Mr. Buffington:

As per our telephone conversation on July 3, 1991, I am sending you the portion of the 7-1/2 min. USGS Quadrangle Map you had requested, with the above referenced site outlined on it. As directed by the local NYSDEC Project Manager (Region 1-Stony Brook Office), we are required to identify the habitat of an endangered species, a moth, in the vicinity of Mac Arthur Airport, just northeast of the Sayville landfill site.

I thank you very much for your cooperation on this matter.

Very truly yours,

R.E. PUSTORINO, P.C.
Consulting Engineers

Raymond F. Glover Jr.

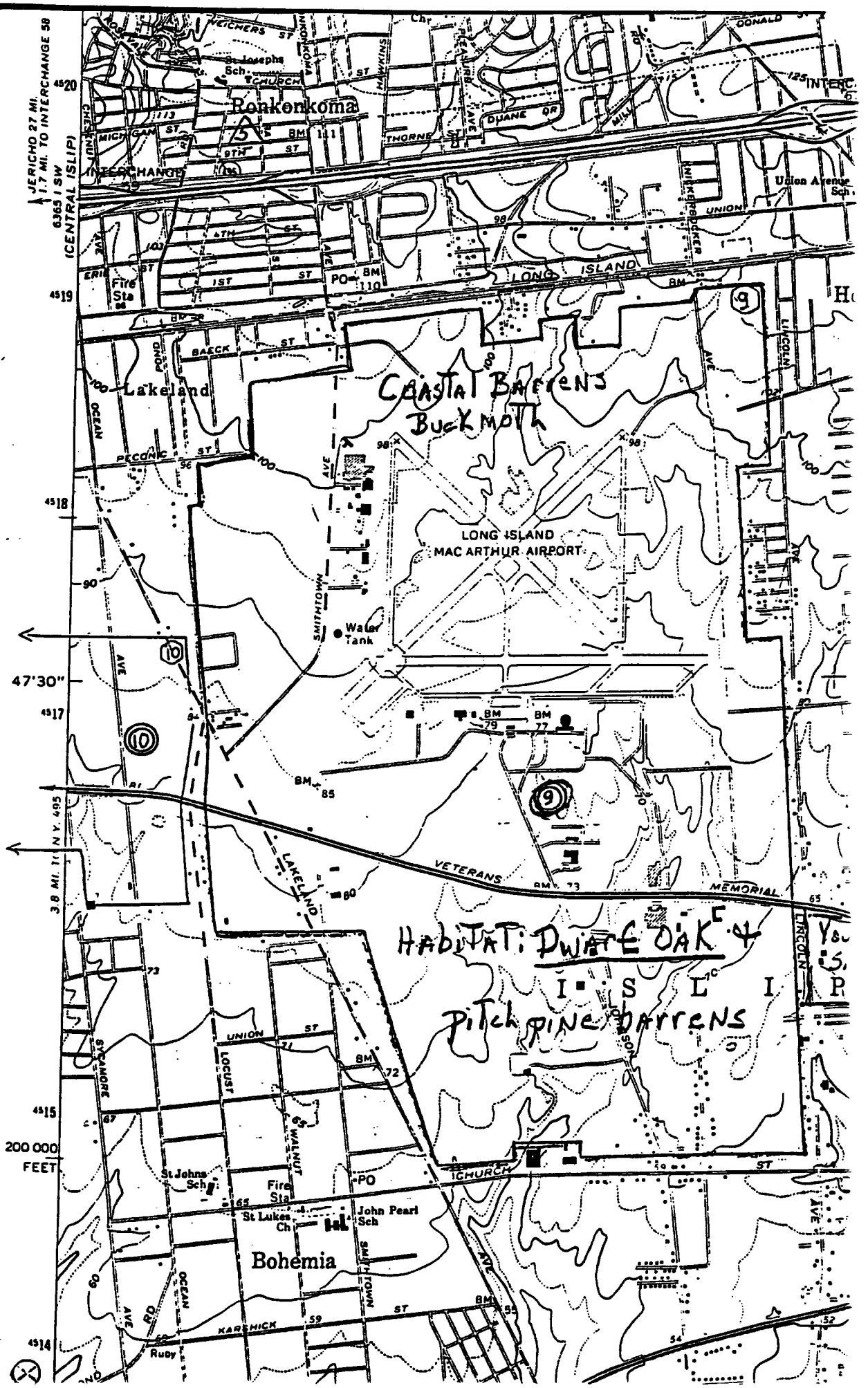
Raymond Glover
Hydrogeologist

RG:gn
cc: W. Graner, P.E., Ph.D.
E. Reilly
R. Burgner

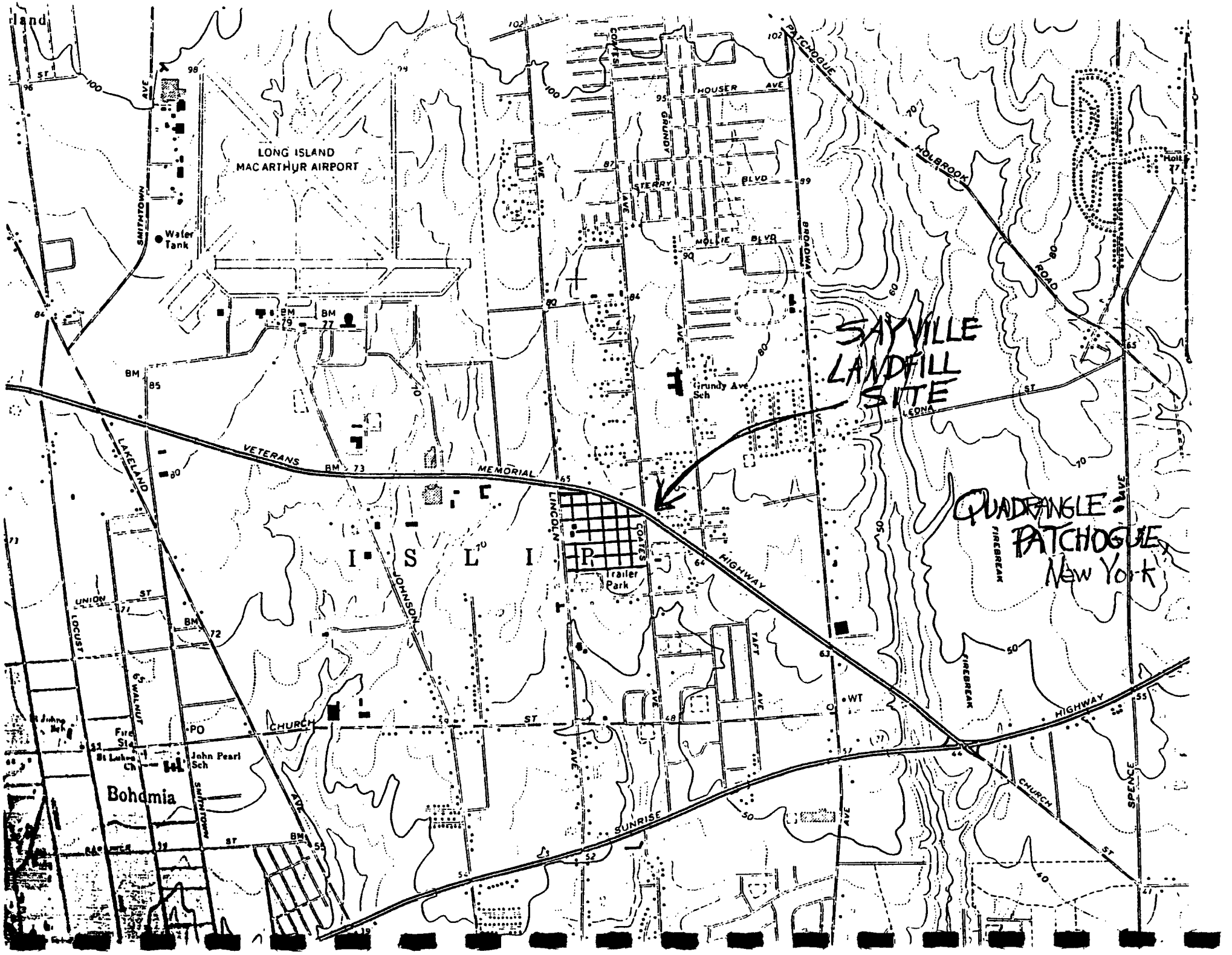
PUSTORINO, R.E.

91-01-08

463



Ronkonkoma
Lakeland
Bohemia
LONG ISLAND MAC ARTHUR AIRPORT
Coastal Barrens Buckmoth
Habitat: Dwarf Oak & Pitch pine barrens
VETERANS MEMORIAL
LONG ISLAND
INTERCHANGE
Water Tank
St Josephs Sch
Union Avenue Sch
St Johns Sch
St Lukes Ch
John Pearl Sch
Fire Sta
JERICHO 27 MI. 1.7 MI. TO INTERCHANGE 58
6365 I SW (CENTRAL ISLIP)
47'30"
200 000 FEET
3.8 MI. TO N.Y. 495


SAYVILLE LANDFILL SITE
QUADRANGLE: PATCHOGUE, New York
LONG ISLAND MACARTHUR AIRPORT
Water Tank
SMITHTOWN AVE
VETERANS MEMORIAL HIGHWAY
LAKELAND
LOCUST
WALNUT
UNION ST
CHURCH ST
JOHNSON
LINCOLN
COATES
GRUNDY AVE
HOUSER AVE
STERRY BLVD
MOLLIE BLVD
BROADWAY
PATCHOGUE HOLBROOK ROAD
LEONA ST
FIREBREAK
TAFT AVE
SUNRISE HIGHWAY
SPENCE
Grundy Ave Sch
Trailer Park
I S L I P
Bohemia
John Pearl Sch
Fire Sta
St Lukes Ch
PO
WT
BM 79
BM 77
BM 85
BM 73
BM 72
BM 55
Holt

APPENDIX C

APPENDIX C

BOREHOLE LOGS

SUFFOLK COUNTY STRATIGRAPHIC COLUMN

SUPPLIMENTARY LOG DATA SHEETS

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS
COMMACK, NEW YORK

LOG OF WELL

Well No. MW-1S (Upgradient) Job No. 86082-F Test No. _____ Sheet 1 of 1

Log of Well for (Owner) TOWN OF ISLIP

Address Town Hall, 655 Main Street, Islip, New York 11751

Representatives, If Any _____

Well Located at NW Corner of Vets Hwy. & Lincoln Ave. in Suffolk County, State of New York

Furnish Sketch of Location X Date Drilling Started 7/25/88 Date Test Hole Completed 7/25/88

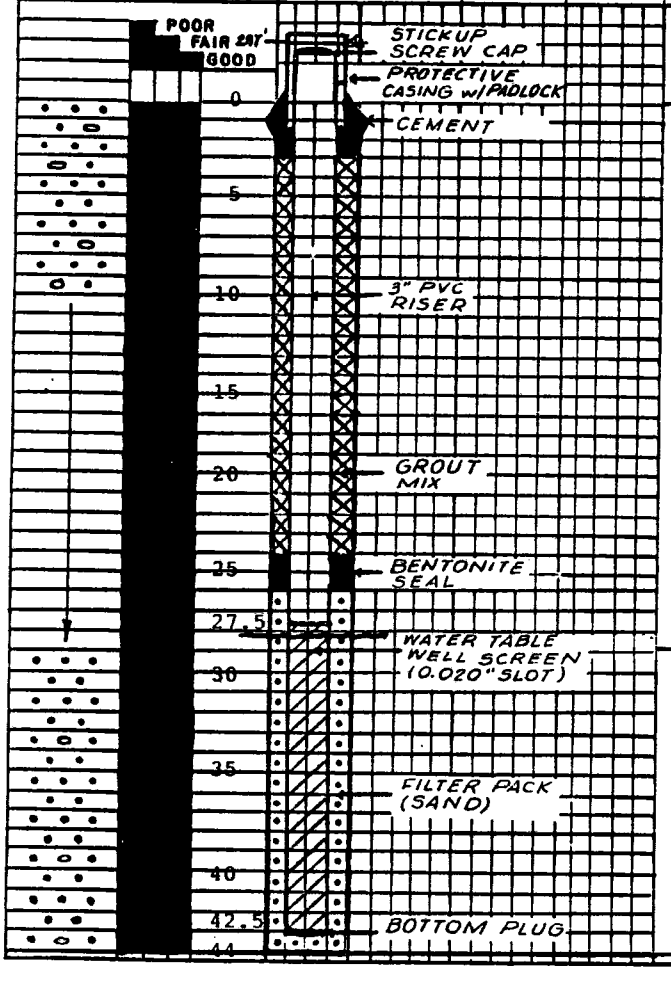
Total Depth to Bottom of Well 44 Ft. Diameter Test Hole ± 10-1/2 Elevation at Ground Level, if Available –

Elevation of Ground Level, if Available ±66 Distance from where Measurements Were Taken to Ground Level 0

Water Stands When Not Pumping 28.8 Feet – Inches from the Surface of the Ground as of May 1989

All Meaurements Taken from Ground Surface (0 Foot Depth)

SAND CLAY SILT GRAVEL



U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
		Drill Rig: B80 GMC Auger Rig, 6" I.D. Augers
0		
SP	Brown medium grained Quartz sand, some gravel, loose, moist.	See Log of MW-1-D for Samples and Analytical Data
	Light brown medium grained sand, trace of coarse sand, some gravel, loose, moist.	
	Very light-light brown medium-fine grained Quartz sand, medium dense, very moist.	
29		
SW/SP	Light brown medium grained Quartz sand, some coarse sand and granules, little-fine-coarse gravel, loose to medium dense, wet to saturated.	
44		

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COMMACK, NEW YORK

LOG OF WELL

Well No. MW1-D (Upgradient) Job No. 86082-F Test No. _____ Sheet 1 of 1

Log of Well for (Owner) Town of Islip

Address Sayville Landfill

Representatives, If Any _____

Well Located at NW Corner of Vets Hwy. & Lincoln Ave. in Suffolk County, State of NY

Furnish Sketch of Location x Date Drilling Started 7/25/88 Date Test Hole Completed 11/30/88

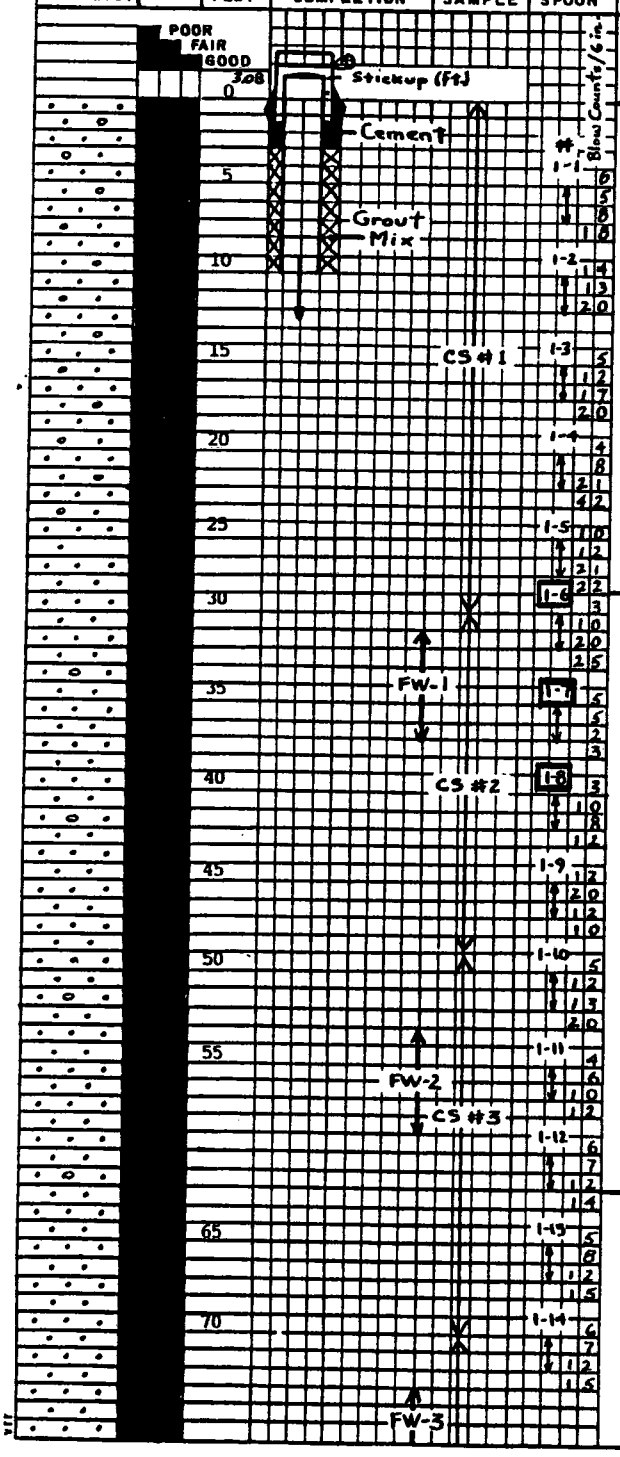
Total Depth to Bottom of Well 100 Diameter Test Hole 7-3/8" Elevation at Ground Level, if Available –

Elevation of Ground Level, if Available ±66 Distance from where Measurements Were Taken to Ground Level 0

Water Stands When Not Pumping 28.7 Feet – Inches from the Surface of the Ground as of May 1989

All Measurements Taken from Ground Surface (0 ft. depth)

SAND CLAY SILT GRAVEL



U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
		Drilling Rig: Test Hole - 6" Auger; Monitoring Well - 6" Cable Tool
0		
SP	Brown medium grained Quartz sand, some gravel, loose, moist.	Analytical Samples: CS - Composite Soil Samples; SS - Screen Soil Samples
	Light brown medium grained sand, trace of coarse sand, some gravel; loose; moist.	
	As Above	Sieve Analysis: 1S 27-42' depth
	Very light-light brown medium-fine grained Quartz sand, medium dense, very moist.	Readings from Split Spoon: HNU tr PPM
29		
SW/ SP	Light brown medium grained Quartz sand, some coarse sand and granules, little fine-coarse gravel; loose to medium dense, wet to saturated.	
	As above, but loose; saturated	H_2O Sample #1: PH 6.3, Temp. 56°F, Conductivity 98 PPM
		Test Samples: FW- Formation Water Samples
	Light brown medium-coarse Quartz sand, some granule size grains, trace of gravel, loose, saturated	Poor Sample Recovery
	As Above	
62	Light brown medium and coarse sand, little fine through coarse gravel (mostly Quartzite), moderately sorted, loose; saturated	H_2O Sample #2: pH 6.3, Conductivity 100 PPM
SP	Light Brown medium grained Quartz sand, loose, wet, trace of mica and magnetite flakes	H_2O Sample #3: pH 6.2, Conductivity 98 PPM

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LOG OF WELL

Well No. MW1-D Job No. 86082-F Test No. _____ Sheet 2 of 2

Log of Well for (Owner) Town of Islip

Address Sayville Landfill

Representatives, If Any _____

Well Located at See Above in _____ County, State of _____

Furnish Sketch of Location _____ Date Drilling Started _____ Date Test Hole Completed _____

Total Depth to Bottom of Well _____ Diameter Test Hole _____ Elevation at Ground Level, if Available _____

Elevation of Ground Level, if Available _____ Distance from where Measurements Were Taken to Ground Level _____

Water Stands When Not Pumping _____ Feet _____ Inches from the Surface of the Ground _____

All Meaurements Taken from _____

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	75 80 85 86 90 95 96 100	PVC RISER; Bentonite; Sand; Well Screen	CS #4; SS #1; FW-4	1-15 (3 3 7 12); 1-16 (4 5 2 3); 1-17 (4 5 5 6); 1-18 (1 3 4 5); 1-19 (15 22 25)	SP	Light brown medium Quartz sand, little fine sand and coarse sand-fine gravel, well sorted trace of very fine sand & silt, loose to very loose, wet; minor amount of mica flakes and magnatite. As Above to Bottom	Screened Interval: 86-96 ft. Water Sample #4: Temp. 56°F Ph 5.8 Conductivity 74 PPM
						100		

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS
COMMACK, NEW YORK

LOG OF WELL

Well No. MW-2S (Upgradient) Job No. 86082-F Test No. _____ Sheet 1 of 1

Log of Well for (Owner) TOWN OF ISLIP

Address Town Hall, 655 Main Street, Islip, NY 11751

Representatives, If Any _____

Well Located at West side of Lincoln Ave., opposite SW corner of Landfill in Suffolk County, State of New York

Furnish Sketch of Location ✓ Date Drilling Started July 28, 1988 Date Test Hole Completed July 28, 1988

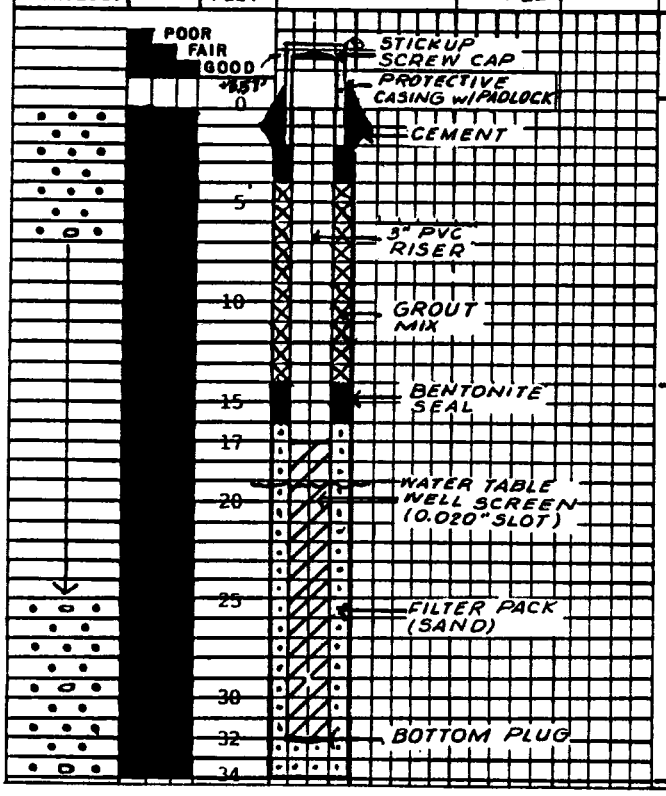
Total Depth to Bottom of Well 34 Ft. Diameter Test Hole ± 10-1/2" Elevation at Ground Level, if Available -

Elevation of Ground Level, if Available ±54 Distance from where Measurements Were Taken to Ground Level 0

Water Stands When Not Pumping 19.1 Feet - Inches from the Surface of the Ground as of May 1989

All Meaurements Taken from Ground Surface (o Foot Depth)

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	0 5 10 15 17 20 25 30 32 34	STICKUP SCREW CAP; PROTECTIVE CASING w/PADLOCK; CEMENT; 3" PVC RISER; GROUT MIX; BENTONITE SEAL; WATER TABLE; WELL SCREEN (0.020" SLOT); FILTER PACK (SAND); BOTTOM PLUG			0		Drill Rig: B80 GMC Auger Rig; 6" I.D. auger
						SP	Light brown medium grained Quartz sand, little fine-coarse sand, trace of gravel, moderate-well sorted, loose, moist.	See Log of MW-2S for Sample and Analytical Data
						14		
						SP	Gray to brown fine to medium grained sand, some fine gravel, loose to medium dense, moist to wet.	
							Brown-light brown, medium grained Quartz sand, some coarse sand through fine gravel, loose to medium dense, saturated.	
						34		

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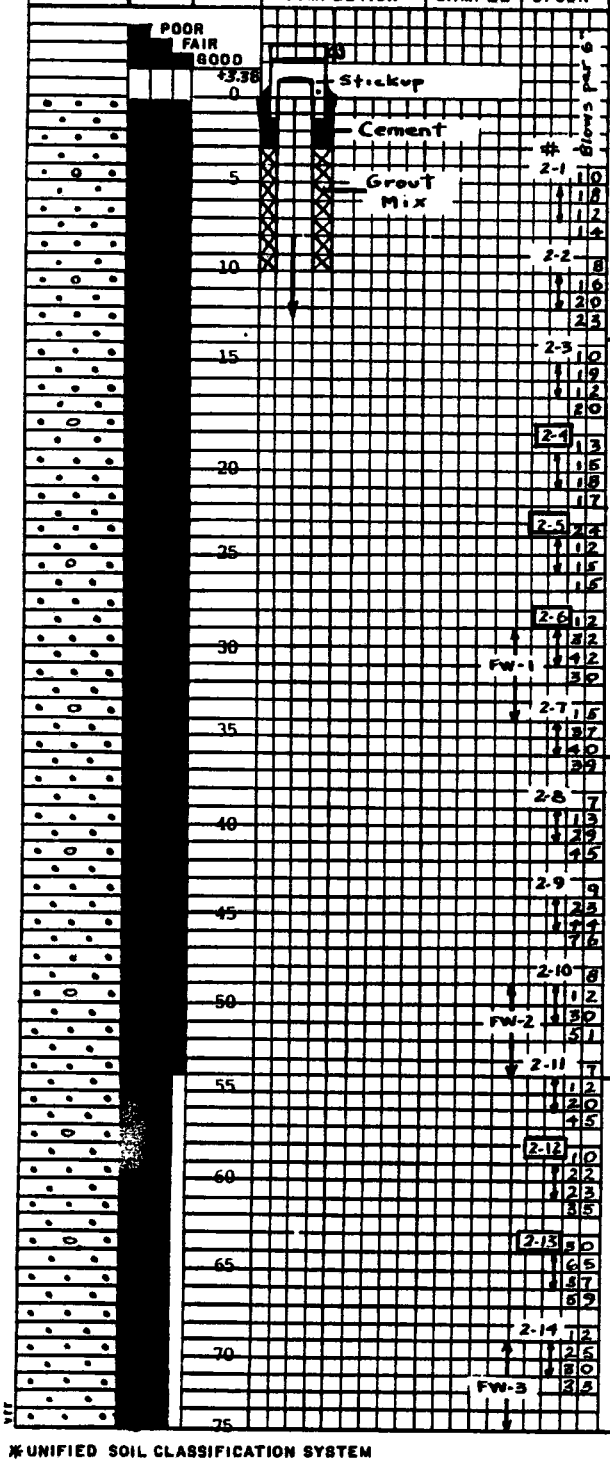
COMMACK, NEW YORK

LOG OF WELL

Well No. MW2-D (Upgradient W) Job No. 86082-F Test No. _____ Sheet 1 of 2
Log of Well for (Owner) Town of Islip
Address Sayville Landfill
Representatives, If Any _____
Well Located at West of Lincoln Ave., opposite SW corner of landfill in Suffolk County, State of NY
Furnish Sketch of Location x Date Drilling Started 11/12/88 Date Test Hole Completed 11/15/88
Total Depth to Bottom of Well 99 Diameter Test Hole 10-1/2" Elevation at Ground Level, if Available -
Elevation of Ground Level, if Available ±54 Distance from where Measurements Were Taken to Ground Level 0
Water Stands When Not Pumping 18.9 Feet _____ Inches from the Surface of the Ground as of May 1989
All Meaurements Taken from ground surface (0 foot depth)

SAND CLAY SILT GRAVEL



*U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
		Drilling Rigs: Test Hole: 6" Auger; Monitoring Well: 6" Cable Tool
0		
SP	light brown & brown medium sand, little fine & coarse sand. Fine gravel; moderate-well sorted, orange stained Quartz, loose to medium dense, moist	Readings from Split Spoon: HNU tr PPM
14	Gray to brown, fine to medium grain sand, some fine gravel, loose to medium dense, moist to wet	Analytical Samples: SS = Screen Soil Sample; Sieve Analysis: 2S 17-32 ft. depth; 2I 60'
SP	Brown medium -coarse sand, trace fine sand & gravel, mostly medium dense to dense saturated	pH 7.2; Temp. 55° F.; H_2O Sample #1: Conductivity 158 PPM
37		Test Samples: FW = Formation Water Samples
SW/SP	Light brown fine-medium sand, moderate to well sorted, trace to little coarse sand, trace of fine gravel, dominantly Quartz., loose to dense, saturated	pH 6.6; H_2O Sample #2: Conductivity 122 PPM
57		No Sample Recovery with Basket to 72' Depth
SP	Tan fine Quartz sand, trace medium sand, well to very well sorted, mostly medium dense and dense, saturated, trace of Muscovite	pH 3.2; H_2O Sample #3: Conductivity 168 PPM

*UNIFIED SOIL CLASSIFICATION SYSTEM

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CONSULTING ENGINEERS
COMMACK, NEW YORK

LOG OF WELL

Well No. MW2-D (Upgradient W) Job No. 86082-F Test No. _____ Sheet 2 of 2
Log of Well for (Owner) Town of Islip
Address Sayville Landfill
Representatives, If Any _____
Well Located at West of Lincoln Ave., opposite SW corner of landfill in Suffolk County, State of NY
Furnish Sketch of Location x Date Drilling Started 11/12/88 Date Test Hole Completed 11/15/88
Total Depth to Bottom of Well 99 Diameter Test Hole 10-1/2" Elevation at Ground Level, if Available -
Elevation of Ground Level, if Available ±54 Distance from where Measurements Were Taken to Ground Level 0
Water Stands When Not Pumping 18.9 Feet _____ Inches from the Surface of the Ground as of May 1989
All Meaurements Taken from ground surface (0 foot depth)

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	75			# 2-15 16 23 27 44	SP	Tan fine Quartz sand, trace of medium, well-very well sorted, loose to medium dense, wet	HNU tr PPM
		80	PVC Riser		2-16			
		84 85	Bentonite		2-17 8 13 25 28			
			Sand					pH 4.4 Temp. 56° F. H_2O Sample #4: Conductivity 171 PPM
		90			2-18 8 17 22 25			
		94 95	Well Screen	SS-1 FW-4	2-19 8 10 30 20		As Above to Bottom	No Split Spoon Recovery
		99				99		

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LOG OF WELL

Well No. MW-3S Job No. 86082-F Test No. _____ Sheet 1 of 1

Log of Well for (Owner) TOWN OF ISLIP

Address Town Hall, 655 Main Street, Islip, New York 11751

Representatives, If Any _____

Well Located at 390 ft. east, 10 ft. north SW corner of Landfill in Suffolk County, State of New York

Furnish Sketch of Location X Date Drilling Started Oct. 14, 1988 Date Test Hole Completed Oct. 15, 198

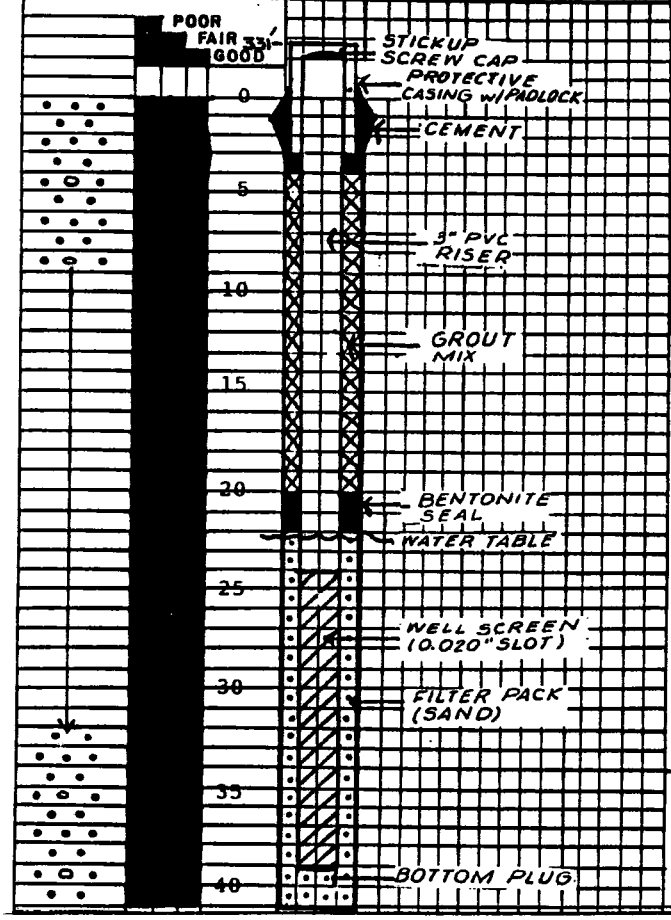
Total Depth to Bottom of Well 41 Diameter Test Hole ±10-1/2 Elevation at Ground Level, if Available 0

Elevation of Ground Level, if Available ± 59' Distance from where Measurements Were Taken to Ground Level –

Water Stands When Not Pumping 22.5 Feet – Inches from the Surface of the Ground as of May 1989

All Measurements Taken from Ground Surface (0 Foot Depth)

SAND CLAY SILT GRAVEL



U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
		Drill Rig: B80 GMC Aug Rig: 6" I.D. Auger
0 SP	Tan medium grained sand, some coarse sand through coarse gravel sizes, rounded Quartz sand, Quartzite pebbles, trace of rock fragment, moderate sorting; loose to medium dense; moist.	
14 SP	As above, but little fine sand, variable density of strata.	See Log of MW-3D for Sample and Analytical Data
34 SW/SP	Gray medium and coarse sand, some gravel, loose to dense, saturated, with sewage type odor.	
41		

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LOG OF WELL

Well No. MW3-D (Dosngradient SW) Job No. 86082-F Test No. _____ Sheet 1 of 2

Log of Well for (Owner) Town of Islip

Address Sayville Landfill

Representatives, If Any _____

Well Located at 390 ft. East, 10 ft. North, SW Corner of Landfill in Suffolk County, State of NY

Furnish Sketch of Location _____ Date Drilling Started 11/11/88 Date Test Hole Completed 12/08/88

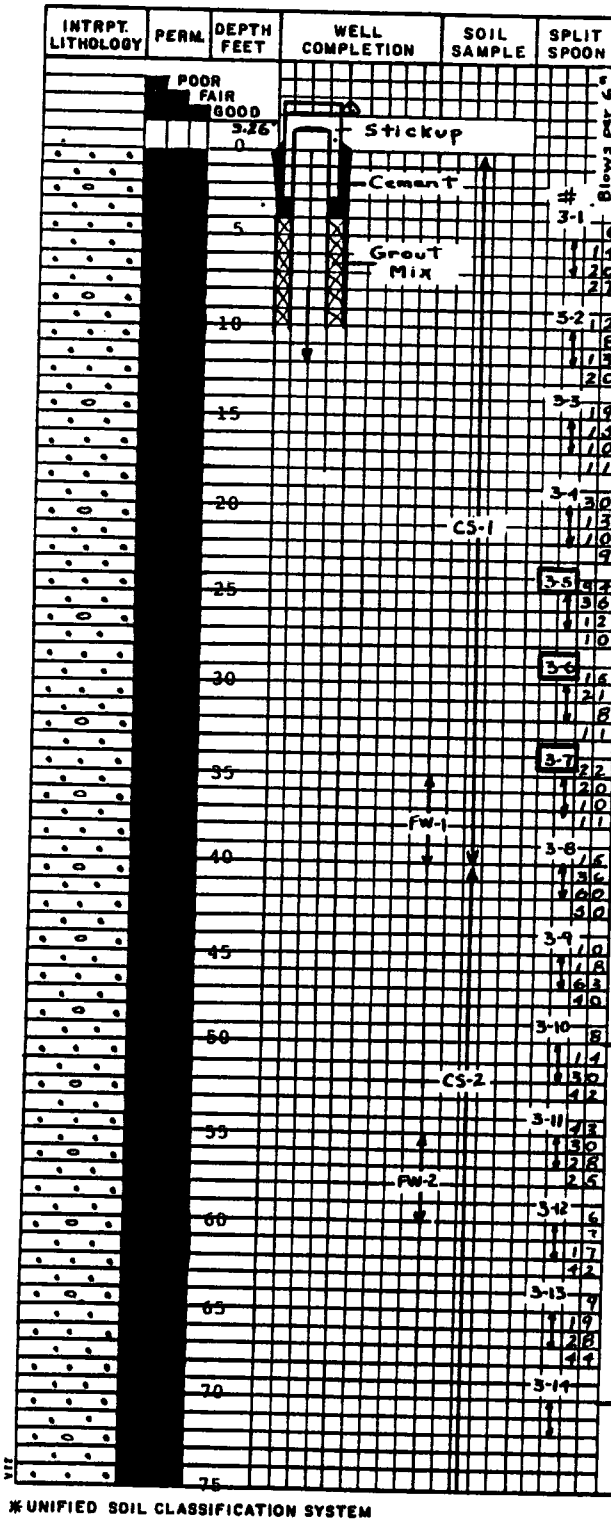
Total Depth to Bottom of Well 99 Diameter Test Hole 10-1/2" Elevation at Ground Level, if Available _____

Elevation of Ground Level, if Available 59' Distance from where Measurements Were Taken to Ground Level 0

Water Stands When Not Pumping 22.8 Feet - Inches from the Surface of the Ground as of May 1989

All Meaurements Taken from Ground Surface (0 foot depth)

SAND CLAY SILT GRAVEL



*U.S.C.S. (FT.)	FORMATION DESCRIPTION
0	
SP	Tan medium grained sand, some coarse sand through coarse gravel sized, rounded Quartz sand, Quartzite pebbles, trace of rock fragment, moderate sorting loose to medium dense; moist
14	
SP	As above, but little fine sand, variable density of strata.
35	
SW/SP	Gray medium and coarse sand, some gravel, loose to dense, saturated, with sewage type odor.
50	
SW/SP	Gray-lt. gray, medium and coarse sand, occ. fine sand; some fine-medium Quartzite pebbles, a little rock fragments, saturated, loose with interbedded dense strata
70	
SP	

PERTINENT DATA

Drilling Rig:
Test Hole: 6" Auger
Monitoring Well: 6" Cable Tool

Readings from Split Spoon: HNU tr PPM

Analytical Samples:
CS - Composite Soil Samples
SS - Screen Soil Samples

Sieve Analysis:
3S 24-29 ft. depth
3D 85-95'

pH 7.1
Temp. 60°
H_2O Sample #1: Conductivity 380 PPM

Test Samples:
FW - Formation Water Samples

pH 7.0
H_2O Sample #2: Conductivity 317 PPM

No Sample Recovery

*UNIFIED SOIL CLASSIFICATION SYSTEM

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CONSULTING ENGINEERS
COMMACK, NEW YORK

LOG OF WELL

Well No. MW3-D (Continued) Job No. _____ Test No. _____ Sheet 2 of 2
Log of Well for (Owner) _____
Address _____
Representatives, If Any _____
Well Located at _____ in _____ County, State of _____
Furnish Sketch of Location _____ Date Drilling Started _____ Date Test Hole Completed _____
Total Depth to Bottom of Well _____ Diameter Test Hole _____ Elevation at Ground Level, if Available _____
Elevation of Ground Level, if Available _____ Distance from where Measurements Were Taken to Ground Level _____
Water Stands When Not Pumping _____ Feet _____ Inches from the Surface of the Ground _____
All Meaurements Taken from _____

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	75 80 85 86 90 95 96 99	PVC RISER; Bentonite; Sand; Well Screen	FW-3; SS-1; FW-4	3-15 (30 27 19); 3-16 (56 16 28 30 47); 3-17 (7 9 13 20); 3-18 (8 11 15 22)	SP	Light gray medium sand, little coarse sand, trace of gravel, medium dense to dense, saturated	pH 7.1 H_2O Sample #3: Conductivi 374 PPM HNU tr PP No Sample Recovery
						91		
						SP	Light gray medium sand, trace of coarse sand, well sorted, mostly clear Quartz with little orange stain, loose to medium dense.	pH 7.9 Temp. 59° H_2O Sample #4: Conductivi 800 PPM
						99		

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS
COMMACK, NEW YORK

LOG OF WELL

Well No. MS-4S Job No. 86082-F Test No. _____ Sheet 1 of 1

Log of Well for (Owner) TOWN OF ISLIP

Address Town Hall, 655 Main Street, Islip, New York 11751

Representatives, If Any _____

Well Located at Approx. 330 feet due East of MW-3 in Suffolk County, State of New York

Furnish Sketch of Location X Date Drilling Started 10/15/88 Date Test Hole Completed 10/15/88

Total Depth to Bottom of Well 42 Diameter Test Hole ±10-1/2" Elevation at Ground Level, if Available 0

Elevation of Ground Level, if Available ± 59' Distance from where Measurements Were Taken to Ground Level -

Water Stands When Not Pumping 24.6 Feet - Inches from the Surface of the Ground as of June 1989

All Meaurements Taken from Ground Surface (0 Foot Depth)

REFUSE - SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR / FAIR / GOOD	2.70	STICKUP SCREW CAP; PROTECTIVE CASING w/PADLOCK; CEMENT			0		Drill Rig: B80 GMC Auger Rig: 6" I.D. Auger
		0				Fill	Brown unsorted sand and loamy sand and assorted debris; medium dense; moist.	
		5				6		
		10	3" PVC RISER			SP	Brown & tan fine to medium sand (some loamy sand on top) Mixed with varying amounts of refuse; fabricated wood, wood chunks, mortar, glass, plastic, aluminum cans, metallic nodules (slag), plus other debris; some gravel; very loose to dense; moist.	See Log of MW-4D For Sample and Analytical Data
		15	GROUT MIX					
		20	BENTONITE SEAL			+		
		25	WATER TABLE			Refuse		
		27						
		30	WELL SCREEN (0.020" SLOT)				As above, but grey, saturated, sometimes very dense, dominantly medium sand.	
		35	FILTER PACK (SAND)			35 SW/SP	Grey medium and coarse sand with fine gravel, trace of assorted debris (as above) on top; loose to medium dense, saturated.	
		40						
		42	BOTTOM PLUG			42		

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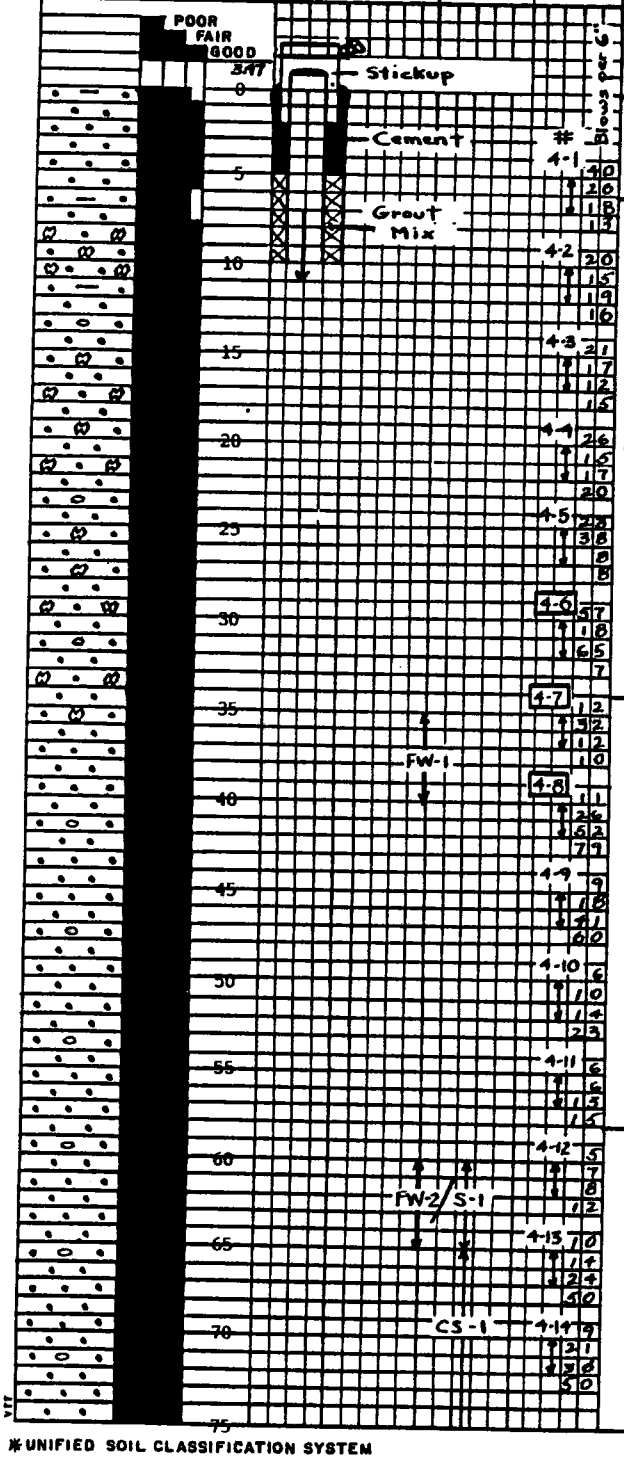
COMMACK, NEW YORK

LOG OF WELL

Well No. MW4-D (Downgradient SE) Job No. 86082-F Test No. _____ Sheet 1 of 2
Log of Well for (Owner) Town of Islip
Address Sayville Landfill
Representatives, If Any _____
Well Located at Access Road, South Boundary of Landfill, Due East of MW3 in Suffolk County, State of NY
Furnish Sketch of Location X Date Drilling Started 11/15/88 Date Test Hole Completed 12/15/88
Total Depth to Bottom of Well 99.5 Diameter Test Hole 10-1/2" Elevation at Ground Level, if Available -
Elevation of Ground Level, if Available ±59' Distance from where Measurements Were Taken to Ground Level 0
Water Stands When Not Pumping 24.7 Feet - Inches from the Surface of the Ground as of May 1989
All Meaurements Taken from Ground Surface (0 Foot Depth)

REFUSE - SAND CLAY SILT GRAVEL



U.S.C.S. (FT.)	FORMATION DESCRIPTION
Fill (0–6)	Brown unsorted sand and loamy sand + assorted debris medium dense-dense; moist
SP + Refuse (6–34)	Brown & tan fine to medium sand (some loamy sand on top) mixed with varying amounts of refuse: fabricated wood, wood chunks, mortar, glass, plastic, aluminum cans, metallic rodules (slag), plus other debris; some gravel; very loose to dense; moist.
	As above, but gray, saturated, sometimes very dense, dominantly medium sand.
SW/SP (34–59)	Gray medium and coarse sand with fine gravel trace of assorted debris (as above) on top; loose to medium dense; saturated.
SP (59–75)	Gray to dark gray medium Quartz sand, some coarse sand with rounded mostly medium size gravel, loose to dense, saturated with odorous smell; speckled with dark mineral grains

PERTINENT DATA

Drilling Rig:
Test Hole: 6" Auger
Monitoring Well: 6" Cable Tool

Readings from Split Spoon: HNU tr PPM

Analytical Samples:
CS = Composite Soil Sample
SS = Screen Soil Sample
S = Other Soil Sample

Sieve Analysis:
4S 27-42 ft. depth
4D 85-95'

H_2O Sample #1: pH 3.6, Temp. 65° F., Conductivity 532 PPM

Test Sample:
FW = Formation Water Sample

H_2O Sample #2: pH 3.4, Conductivity 410 PPM

HNU 18 PPM

HNU tr PPM

*UNIFIED SOIL CLASSIFICATION SYSTEM

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS
COMMACK, NEW YORK

LOG OF WELL

Well No. MW4-D (Continued) Job No. _____ Test No. _____ Sheet 2 of 2
Log of Well for (Owner) _____
Address _____
Representatives, If Any _____
Well Located at _____ in _____ County, State of _____
Furnish Sketch of Location _____ Date Drilling Started _____ Date Test Hole Completed _____
Total Depth to Bottom of Well _____ Diameter Test Hole _____ Elevation at Ground Level, if Available _____
Elevation of Ground Level, if Available _____ Distance from where Measurements Were Taken to Ground Level _____
Water Stands When Not Pumping _____ Feet _____ Inches from the Surface of the Ground _____
All Meaurements Taken from _____

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	75	PVC RISER		#4-15	SP	As Above	
		80	Bentonite	CS-2	4-16 FW-3	80	Light gray to gray medium Quartz Sand, little fine & coarse, trace of fine-coarse Quartzite pebbles, mostly medium dense; saturated	pH 3.30 Temp. 61° H_2O Sample #3: Conductivity 520 PPM
		85 86	Sand		4-17			
		90	Well Screen	SS-1	4-18	SP	As above, but medium dense and dense	
		95 96			4-19 FW-4			pH 3.20 Temp. 58° F. H_2O Sample #4: Conductivity 450 PPM
		99				99		

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS
COMMACK, NEW YORK

LOG OF WELL

Well No. MW-5S (Downgradient) Job No. 86082-F Test No. _____ Sheet 1 of 1
Log of Well for (Owner) TOWN OF ISLIP
Address Town Hall, 655 Main Street, Islip, New York 11751
Representatives, If Any _____
Well Located at East side of Coates, NW corner of Carlan Mfg. Co. property in Suffolk County, State of New York
Furnish Sketch of Location X Date Drilling Started Oct. 18, 1988 Date Test Hole Completed Oct. 18, 1988
Total Depth to Bottom of Well 40 Diameter Test Hole ±10-1/2" Elevation at Ground Level, if Available -
Elevation of Ground Level, if Available ±62' Distance from where Measurements Were Taken to Ground Level 0
Water Stands When Not Pumping 25.2 Feet - Inches from the Surface of the Ground as of June 19
All Meaurements Taken from Ground Surface (0 Foot Depth)

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	0 5 10 15 20 24 25 30 35 39 40	STICKUP SCREW CAP; PROTECTIVE CASING w/PADLOCK; CEMENT; 8" PVC RISER; GROUT MIX; BENTONITE SEAL; WATER TABLE; FILTER PACK (SAND); WELL SCREEN (0.020" SLOT); BOTTOM PLUG			0		Drill Rig: B80 GMC Auger Rig, 6" I.D. Augers
						SP	Light brown medium Quartz sand, little coarse sand and pebble-size gravel, loose to medium dense; moist.	See Log of MW-5D for Sample and Analytical Data
						21 SP	As above, but wet to saturated, becoming more dense	
						40		

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COMMACK, NEW YORK

LOG OF WELL

Well No. MW5-D (Downgradient E) Job No. 86082-F Test No. _____ Sheet 1 of 2

Log of Well for (Owner) Town of Islip

Address Sayville Landfill

Representatives, if Any _____

Well Located at East side of Coates, NW Corner Carlon Mfg. property in Suffolk County, State of NY

Furnish Sketch of Location x Date Drilling Started 11/18/88 Date Test Hole Completed 11/23/88

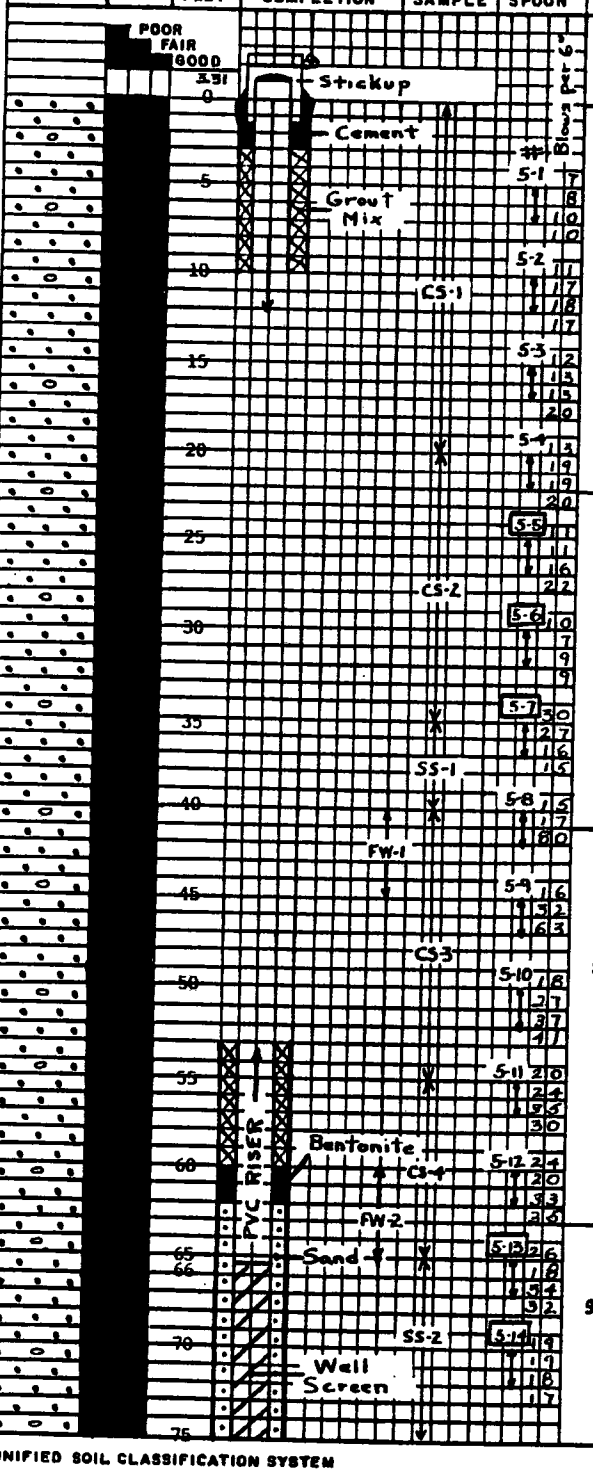
Total Depth to Bottom of Well 76' Diameter Test Hole ±10-1/2" Elevation at Ground Level, if Available _____

Elevation of Ground Level, if Available ±62' Distance from where Measurements Were Taken to Ground Level 0

Water Stands When Not Pumping 24.8 Feet - Inches from the Surface of the Ground as of June 1989

All Meaurements Taken from Ground Surface (0 ft, depth)

SAND CLAY SILT GRAVEL



U.S.C.S.* (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
0		Drilling Rig: Test Holes: 6" Auger; Monitoring Well: 6" Cable Tool
SP	Light brown medium Quartz sand, little coarse sand and pebble-size gravel, loose to medium dense; moist	Readings from Split Spoon: HNU tr PPM Analytical Samples: CS = Composite Soil Sample; SS = Screen Soil Sample; S = Other Soil Sample HNU 1.0
23		Sieve Analysis: 5S 24-39 ft. depth; 5D 65-75' HNU 2.0
SP	As above, but wet to saturated, becoming more dense	Test Sample: FW = Formation Water Sample
41		
SW/ SP	Light brown medium sand, some coarse sand, little fine subangular to subround gravel containing Quartzite and rock fragments, medium dense to dense; saturated	HNU 5.0 H_2O Sample #1: pH 4.15, Temp. 60° F., Conductivity 266 PPM HNU 1.0 HNU tr PPM H_2O Sample #2: pH 3.87, Conductivity 280 PPM
63		
SW/ SP	Light brown medium sand, some coarse sand through fine gravel (fine through coarse pebbles) as above, moderate to well sorted, mostly medium dense, saturated	

*UNIFIED SOIL CLASSIFICATION SYSTEM

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LOG OF WELL

Well No. MW5-D (Continued) Job No. _____ Test No. _____ Sheet 2 of 2
Log of Well for (Owner) _____
Address _____
Representatives, If Any _____
Well Located at _____ in _____ County, State of _____
Furnish Sketch of Location _____ Date Drilling Started _____ Date Test Hole Completed _____
Total Depth to Bottom of Well _____ Diameter Test Hole _____ Elevation at Ground Level, if Available _____
Elevation of Ground Level, if Available _____ Distance from where Measurements Were Taken to Ground Level _____
Water Stands When Not Pumping _____ Feet _____ Inches from the Surface of the Ground _____
All Meaurements Taken from _____

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	75, 76, 80, 85, 90, 95, 100	FW-3; FW-4/S-1		#5-15 (9, 12, 13, 27); 5-16 (8, 22, 24, 30); 5-17 (8, 34, 37, 34); 5-18 (9, 27, 30, 34)	SW/ SP; 94	Light brown medium sand, some coarse sand through fine gravel, moderate-well sorted Quartz, loose to medium dense; saturated	pH 3.46 Temp. 59° F. H_2O Sample #3: Conductivity 278 PPM; No Sample Recovery
					5-19 (19, 21, 20, 30)	SP; 100	Light brown medium-coarse sand, some gravel, medium dense; saturated	pH 3.77 Temp. 58° F. H_2O Sample #4: Conductivity 205 PPM

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LOG OF WELL

Well No. MW-6S (Downgradient) Job No. 86082-F Test No. _____ Sheet 1 of 1

Log of Well for (Owner) TOWN OF ISLIP

Address Town Hall, 655 Main Street, Islip, New York 11751

Representatives, If Any _____

Well Located at West End of Ellsworth Rd. in Vacant Parcel in Suffolk County, State of New York

Furnish Sketch of Location X Date Drilling Started Oct. 19, 1988 Date Test Hole Completed Oct. 19, 1988

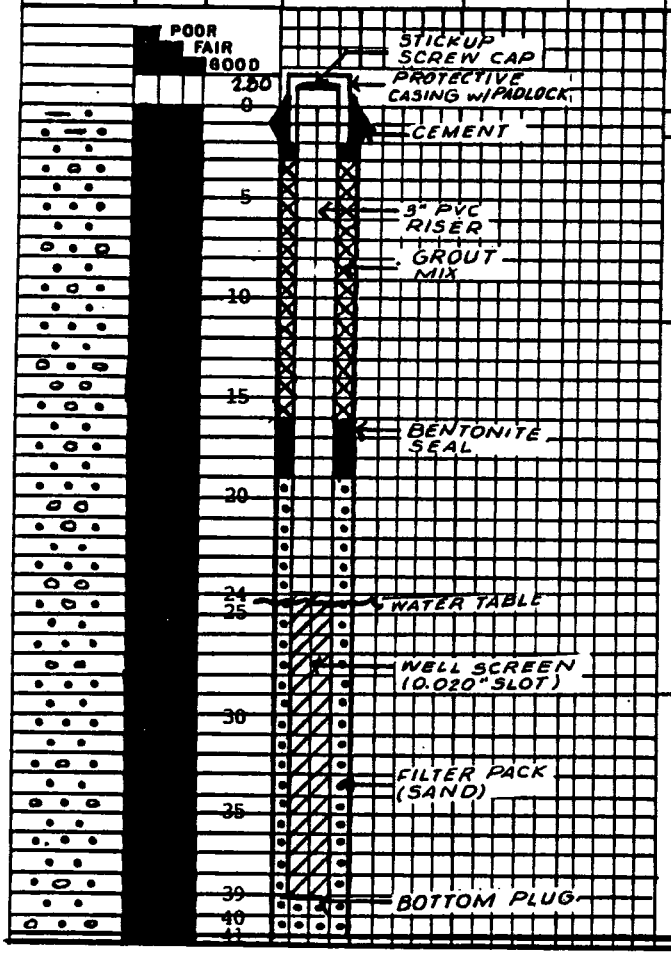
Total Depth to Bottom of Well 41 Diameter Test Hole ±10-1/2" Elevation at Ground Level, if Available -

Elevation of Ground Level, if Available ±60' Distance from where Measurements Were Taken to Ground Level 0

Water Stands When Not Pumping 24.3 Feet - Inches from the Surface of the Ground as of June 1989

All Meaurements Taken from Ground Surface (0 Foot Depth)

SAND CLAY SILT GRAVEL



INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
								Drill Rig: Auger Type with 6" I.D. Augers
		0				0 Fill	Brown sandy clay loam; asphaltic on top (6")	
		5				SP	Light brown medium sand, some coarse through fine sand and fine gravel; clear to yellow stain Quartz, loose-medium dense; moist.	See Log of MW-6D for Sample and Analytical Data
		10				11		
		15				SW/SP + GW	Light brown medium and coarse sand with fine through coarse, mostly Quartzitic gravel; beds of coarse gravel; variable densities; moist.	
		20						
		24 25					As above, but increasing in fine sand, moist	
		30				29 SW/SP + GW	Light brown to gray sand medium to coarse grain, tr of Fine Sand; up to 20% of fine through coarse pebble-size gravel, trace of rock fragments; variable density; saturated, thin beds of gravel.	
		35						
		39 40 41				41		

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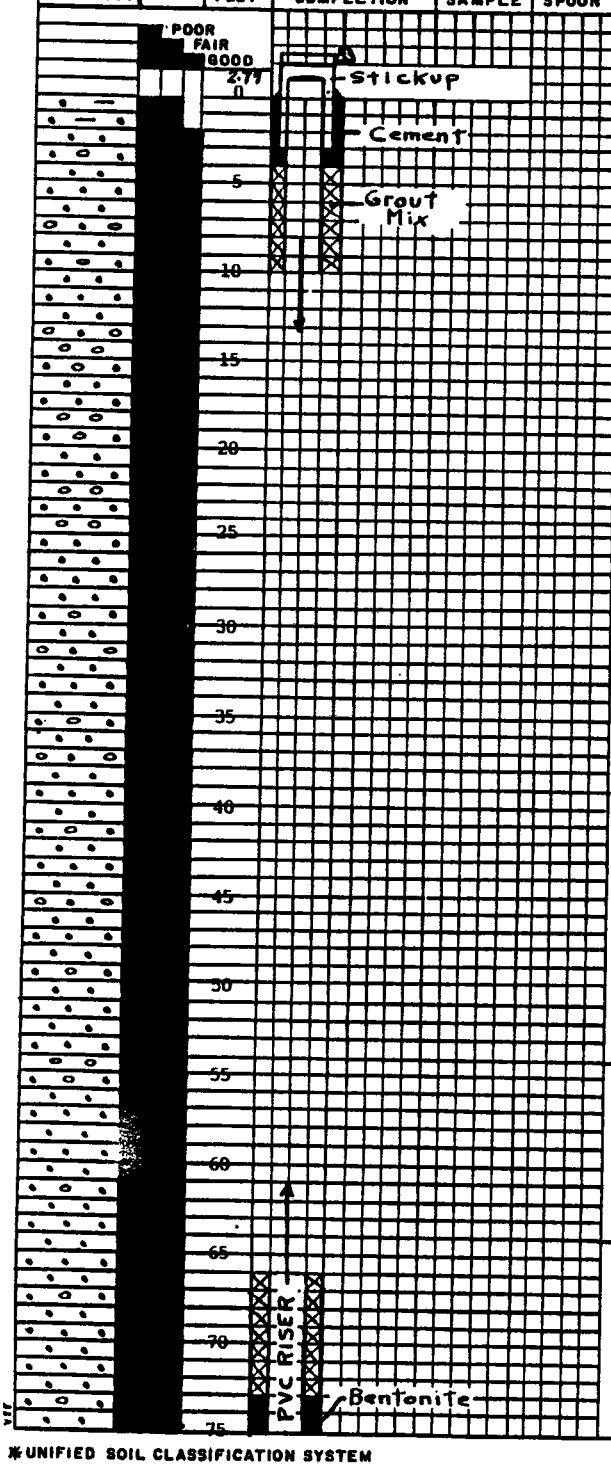
COMMACK, NEW YORK

LOG OF WELL

Well No. MW6-I (Downgradient S) Job No. 86082-F Test No. _____ Sheet 1 of 2
Log of Well for (Owner) Town of Islip
Address Sayville Landfill
Representatives, If Any _____
Well Located at West End of Ellsworth Rd., in vacant parcel in Suffolk County, State of NY
Furnish Sketch of Location _____ Date Drilling Started 12/16/88 Date Test Hole Completed 12/21/88
Total Depth to Bottom of Well 90± Diameter Test Hole 7-3/8" Elevation at Ground Level, if Available -
Elevation of Ground Level, if Available ±60 ft. Distance from where Measurements Were Taken to Ground Level 0
Water Stands When Not Pumping 24.5 Feet - Inches from the Surface of the Ground as of June 1989
All Meaurements Taken from Ground Surface (0 Foot Depth)

SAND CLAY SILT GRAVEL



*U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
		Drilling Rig: 6" Cable Tool
0 SP	Brown sandy clay loam, asphaltic on top (6") Light brown medium sand, some coarse through fine sand and fine gravel; clear to yellow stain Quartz, loose-medium dense; moist	See Sample and Analytical Data on MW6-D Log.
11 SW/SP + GW	Light brown medium and coarse sand with fine through coarse mostly Quartzitic gravel; beds of coarse gravel; variable densities; moist As above, but increasing in fine sand; moist-wet	
30 SW/SP + GW	Light brown to gray sand medium to coarse grain, trace of fine; up to 20% of fine through coarse pebble-size gravel; trace of rock fragments; variable density; saturated, thin beds of gravel As above, but mostly medium grained	
54 SP + GW	Gray medium sand, little fine and coarse, clear subangular Quartz, unsorted fine through coarse Quartzite with a little rock gravel; loose to medium dense, saturated, metallic smell	
66 SP	Gray medium Quartz sand, some fine grain, well sorted loose-medium dense, saturated, trace of gravel	

*UNIFIED SOIL CLASSIFICATION SYSTEM

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LOG OF WELL

Well No. MW6-I (Continued) Job No. _____ Test No. _____ Sheet 2 of 2

Log of Well for (Owner) _____

Address _____

Representatives, If Any _____

Well Located at _____ in _____ County, State of _____

Furnish Sketch of Location _____ Date Drilling Started _____ Date Test Hole Completed _____

Total Depth to Bottom of Well _____ Diameter Test Hole _____ Elevation at Ground Level, if Available _____

Elevation of Ground Level, if Available _____ Distance from where Measurements Were Taken to Ground Level _____

Water Stands When Not Pumping _____ Feet _____ Inches from the Surface of the Ground _____

All Meaurements Taken from _____

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	75				SP	As above, but very well sorted	
		80	Sand					
						82		
		85	Well Screen			SP	Gray medium grained sand, little fine, trace of very fine and coarse sand	
		90				90		

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LOG OF WELL

Well No. MW6-D Job No. 86082-F Test No. _____ Sheet 1 of 3

Log of Well for (Owner) Town of Islip

Address _____

Representatives, If Any Raymond Glover, Jr., Geologist for R.E. Pustorino, P.C.

Well Located at West End of Elsworth Rd., in Vacant Parcel in Suffolk County, State of NY

Furnish Sketch of Location _____ Date Drilling Started 11/9/88 Date Test Hole Completed 11/22/88

Total Depth to Bottom of Well 180 Diameter Test Hole 7-3/8" Elevation at Ground Level, if Available _____

Elevation of Ground Level, if Available ±60 Distance from where Measurements Were Taken to Ground Level 0

Water Stands When Not Pumping 24.4 Feet - Inches from the Surface of the Ground as of June 1989

All Measurements Taken from Ground Surface (0 feet depth)

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	3.42' 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	Stickup; Cement; Grout Mix; Surface Casing to Depth	CS-1; FW-1; CS-2; FW-2; CS-3; CS-4	# Blows Per 6" 6-1 12 35 60+; 6-2 15 15 27 60+; 6-3 60+ 30 60+; 6-4 22 60+ 60+; 6-5 60+ 30 100+; 6-6 60 100+; 6-7 60 100+; 6-8 50 100+; 6-9 100+ 60+; 6-10 60 100+; 6-11 15 34 100+; 6-12 10 15 30 30; 6-13 3 11 15; 6-14 32 16 53 60+	0; SP; 11; SW/SP; +; GW; SW/SP; +; GW; 30; 54; SP; +; GW; 66; SP	Brown sandy clay loam, asphaltic on top (6") Light brown medium sand, some coarse through fine sand and fine gravel; clear to yellow stain Quartz, loose-medium dense; moist Light brown medium and coarse sand with fine through coarse mostly Quartzitic gravel; beds of coarse gravel; variable densities; moist As above, but increasing in fine sand; moist-wet Light brown to gray sand medium to coarse grain, trace of fine; up to 20% of fine through coarse pebble-size gravel; trace of rock fragments; variable density; saturated, thin beds of gravel As above, but mostly medium grained Gray medium sand, little fine and coarse, clear subangular Quartz, unsorted fine through coarse Quartzite with a little rock gravel; loose to medium dense, saturated, metallic smell Gray medium Quartz sand, some fine grain, well sorted loose-medium dense, saturated, trace of gravel	Drilling Rig: Cable Tool 6-1/8" ID Casing; (5 foot Bailer) Readings from Split Spoon: HNU tr PPM Analytical Samples: CS = Composite Soil Sample SS = Screen Soil Sample Sieve Analysis: 6S 24-39 ft. depth 6I 79-89' 6D 172-176' pH 4.5 Temp. 62° F. H_2O Sample #1: Conductivity 180 PPM Test Samples: FW = Formation Water Sample No Sample Recovery (Gravel in Spoon) pH 6.99 H_2O Sample #2: Conductivity 455 PPM No Sample Recovery (Gravel in Spoon) Poor Sample Recovery pH 7.45

*UNIFIED SOIL CLASSIFICATION SYSTEM

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LOG OF WELL

Well No. MW6-D (Continued) Job No. _____ Test No. _____ Sheet 2 of 3
Log of Well for (Owner) _____
Address _____
Representatives, If Any _____
Well Located at _____ in _____ County, State of _____
Furnish Sketch of Location _____ Date Drilling Started _____ Date Test Hole Completed _____
Total Depth to Bottom of Well _____ Diameter Test Hole _____ Elevation at Ground Level, if Available _____
Elevation of Ground Level, if Available _____ Distance from where Measurements Were Taken to Ground Level _____
Water Stands When Not Pumping _____ Feet _____ Inches from the Surface of the Ground _____
All Measurements Taken from _____

SAND CLAY SILT GRAVEL

INTRPT. LITHOLOGY	PERM.	DEPTH FEET	WELL COMPLETION	SOIL SAMPLE	SPLIT SPOON	U.S.C.S.* (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
	POOR FAIR GOOD	75			Blows/6 in.			
		80		FW-3	6-15 8 19 26 19		As above, but very well sorted	H_2O Sample #3: Temp. 62° F. Conductivity 798/830
		85		SS-1	6-16 12 30 36 38	82 SP	Gray medium grained sand, little fine, trace of very fine and coarse sand, disseminated fine dark (organic?) matter, loose-medium dense; saturated.	Poor Sample Recovery
		90			6-17 16 19 25 35			
		95		FW-4	6-18 44 23 20 31			
		100	PVC RISER		6-19 16 60 70+		As above, but some reddish stain; mostly subangular Quartz, increasing coarseness	H_2O Sample #4: pH 7.05 Conductivity 548/570
		105		Cased Hole	6-20 15 37 61			No Sample Recovery
		110		Grout Mix	6-21 13 35 47 60			UPPER GLACIAL AQUIFER HNU (PPM) 1.2 PPM
		115		FW-5	6-22 29 18 9 9	110 SP	Gray medium sand, little fine, trace of coarse, well sorted Quartz with some stain; loose-medium dense; saturated	HNU 2.6 PPM
		120			6-23 27 36 39 60+			H_2O Sample #5: pH 4.27 Temp. 64° F. Conductivity 257/270
		125			6-24 22 12 47 60		As above, but fine-medium subround Quartz	Possibly Correlates to the GARDINERS CLAY at -65 ft. MSL HNU 1.1 PPM
		130			6-25 60 80+	127 SP SM	Gray fine Quartz sand, some very fine sand & silt; dense & very dense, wet; fine Muscovite flakes, trace of clay	HNU 3.0 PPM
		135		FW-6	6-26 37 60+			H_2O Sample #6: pH 33.6 Conductivity 400
		140			6-27 6 10 40 60+		As above, but yellow brown, little medium sand; medium dense	HNU 4.0 PPM
		145			6-28 5 5 38 77	145 SP	Yellow brown fine-medium sand little coarse sand, loose to dense, wet-saturated	
		150						

*UNIFIED SOIL CLASSIFICATION SYSTEM

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COMMACK, NEW YORK

LOG OF WELL

Well No. MW6-D (Continued) Job No. _____ Test No. _____ Sheet 3 of 3

Log of Well for (Owner) _____

Address _____

Representatives, If Any _____

Well Located at _____ in _____ County, State of _____

Furnish Sketch of Location _____ Date Drilling Started _____ Date Test Hole Completed _____

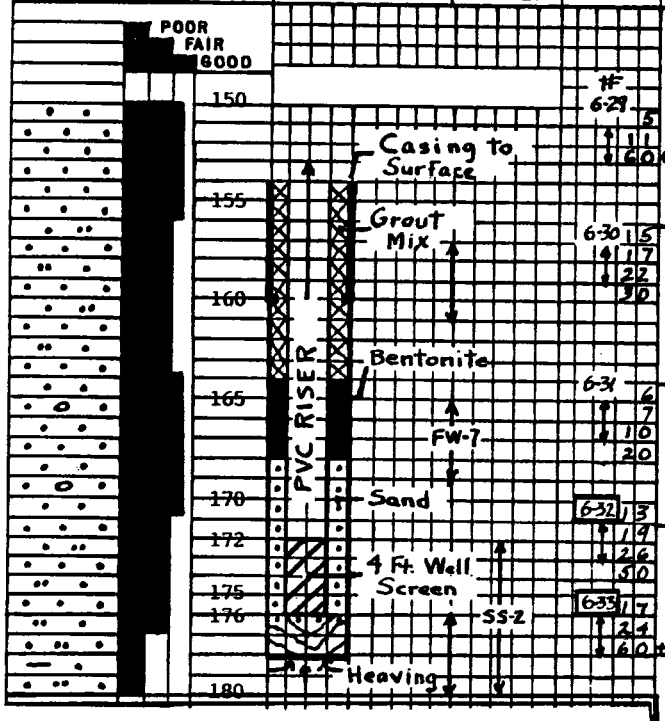
Total Depth to Bottom of Well _____ Diameter Test Hole _____ Elevation at Ground Level, if Available _____

Elevation of Ground Level, if Available _____ Distance from where Measurements Were Taken to Ground Level _____

Water Stands When Not Pumping _____ Feet _____ Inches from the Surface of the Ground _____

All Meaurements Taken from _____

SAND CLAY SILT GRAVEL



U.S.C.S. (FT.)	FORMATION DESCRIPTION	PERTINENT DATA
SP	As above	HNU 4.0 PPM
156		
SP-SM	Gray medium sand, little coarse sand and fine gravel, some very fine sand and silt wet, medium dense	Formation Test Unsuccessful (Unyielding Formation) HNU 3.0 PPM Borehole Gas: Methane tr% pH 3.66 Temp. 63° F. H_2O Sample #7: Conductivity 242/250
164		
SP/SW	Gray medium and coarse sand, occ. fine sand and gravel, loose; saturated	HNU 3.0 PPM
171		
SP-SM	Dark yellow-brown medium and coarse sand, little fine sand and silt; loose to medium dense; wet to saturated, Muscovite flakes	HNU 150 PPM
178		
SM	Yellow-brown and orange silty sand, fine to medium grained, moist; laminated with dark gray clay	HNU 25 PPM MAGOTHY FORMATION @ -118 MSL Formation Test Unsuccessful
180		

SUFFOLK COUNTY STRATIGRAPHY AND HYDROGEOLOGIC UNITS

System	Series	Geologic unit	Hydrogeologic unit	Thickness (ft)	Geologic Description
Quaternary	present Holocene 12,000 yrs	Recent shore, beach, and salt-marsh deposits	Upper glacial aquifer	0-60	Sand, gravel, clay, silt, organic mud, peat, loam, and shells. Colors; gray, brown, green, black, and yellow. Recent artificial-fill deposits of gravel, sand, clay, and rubbish.
	Pleistocene	Moraine deposits Glaciofluvial deposits Smithtown clay (informal usage)		0-700	Till composed of clay, sand, gravel and boulders; forms Harbor Hill and Ronkonkoma terminal moraines. Outwash deposits consist of quartzose sand, fine to very coarse, and gravel, pebble to boulder sized. Glaciolacustrine deposits (Smithtown clay) consist of silt, clay, and some sand and gravel layers. Colors are mainly gray, brown, and yellow. Contains shells and plant remains generally in finer grained beds.
		Unconformity			
		Gardiners Clay	Gardiners Clay	0-75	Marine deposits of clay and silt with some interbedded sand and gravel. Color, greenish-gray and gray. Foraminifera and lignite present, and also locally glauconite.
		Unconformity			
		post-Cretaceous(?) deposits	Upper glacial aquifer	0-140	Sand, fine to coarse. Color is brown. Identified as a distinct unit only on South Fork to date.
	200,000 yrs	Unconformity			
Cretaceous	60 mil yrs	Monmouth Group	Monmouth greensand	0-200	Interbedded marine deposits of clay, silt, and sand. Color, dark greenish-gray to black. Contains much glauconite and lignite.
		Unconformity			
	Upper Cretaceous	Magothy Formation – Matawan Group undifferentiated	Magothy aquifer	0-1000	Sand, fine to coarse, clayey in part; interbedded with lenses and layers of light- to dark-gray clay. Basal 100-200 feet is generally composed of coarse sand and gravel beds. Sand and gravel are quartzose. Lignite and pyrite are common. Colors are gray, white, red, brown, and yellow.
		Disconformity?			
		Raritan Formation — clay member	Raritan confing unit	0-250	Clay, solid and silty; few lenses and layers of sand; little gravel. Lignite and pyrite common. Colors are gray, red, and white, commonly variegated.
		Disconformity			
		Lloyd Sand Member	Lloyd aquifer	0-550	Sand, fine to coarse, and gravel with intercalated beds and lenses of light- to dark-gray clay, silt, clayey and silty sand and some lignite and pyrite. Locally had gradational contact with overlying Raritan clay. Colors are yellow, gray, and white; clay is red locally.
	100 mil yrs	Unconformity			
Early Paleozoic to Precambrian(?)	400 mil yrs >550 mil yrs (?)	Bedrock	Bedrock	not known	Crystalline metamorphic and igneous rocks; muscovite-biotite schist, gneiss, and granite. Surface of bedrock is commonly highly weathered to a greenish-white residual clay.

*WRMP = Suffolk County Water Resources Management Plan

Unified Soil Classification System

Compiled by B. W. Pipkin, University of Southern California

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE-GRAINED SOILS More than half of material is larger than no. 200 sieve size.	GRAVELS More than half of coarse fraction is larger than no. 4 sieve size.	Clean gravels	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.
		Gravels with fines	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS More than half of coarse fraction is smaller than no. 4 sieve size.	Clean sands	SW	Well-graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands, gravelly sands, little or no fines.
		Sands with fines	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE-GRAINED SOILS More than half of material is smaller than no. 200 sieve size.	SILTS AND CLAYS	Low liquid limit.	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts, with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
		High liquid limit.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
Highly organic soils			Pt	Peat and other highly organic silts.

NOTES:

1. Boundary Classification: Soils possessing characteristics of two groups are designated by combinations of group symbols. For example, GW-GC, well-graded gravel-sand mixture with clay binder.
2. All sieve sizes on this chart are U.S. Standard.
3. The terms "silt" and "clay" are used respectively to distinguish materials exhibiting lower plasticity from those with higher plasticity. The minus no. 200 sieve material is silt if the liquid limit and plasticity index plot below the "A" line on the plasticity chart (next page), and is clay if the liquid limit and plasticity index plot above the "A" line on the chart.
4. For a complete description of the Unified Soil Classification System, see "Technical Memorandum No. 3-357," prepared for Office, Chief of Engineers, by Waterways Equipment Station, Vicksburg, Mississippi, March 1953. (See also Data Sheet 17.)

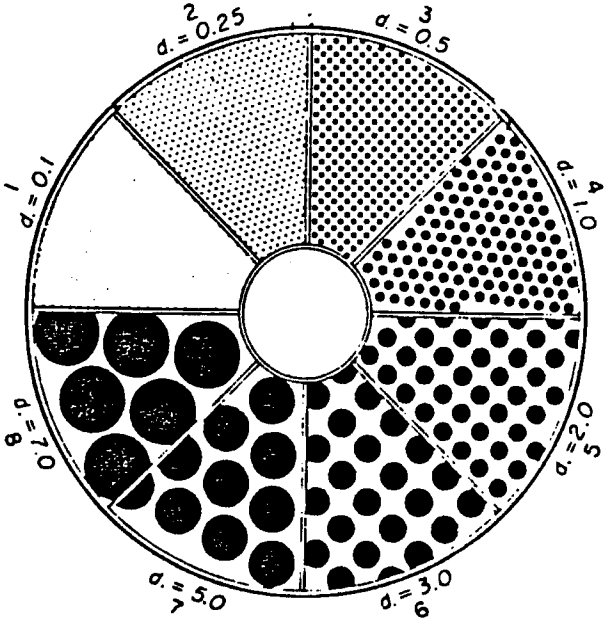
Source: AGI DATA SHEETS,
American Geological Institute

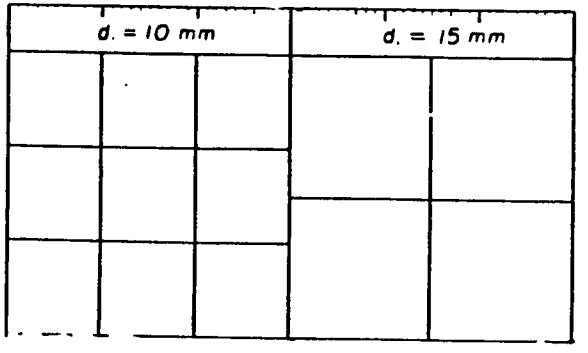
AGI DATA SHEET 16.1

Graph for Determining the Size of Sedimentary Particles

by the Data Sheet Committee, aided by George V. Chilingar

DARK PARTICLES





Place sand grains or rock particles in the central part of the circle. Compare the size of the particles with those on the graph with the aid of a magnifying glass. Record the corresponding number (1, 2, 3, 4, 5, 6, 7, 8) in notebook. For samples with particles of varying sizes, record the most common size first.

AGI DATA SHEET 17.1

Grain-size Scales

By Roy L. Ingram, University of North Carolina

GRAIN-SIZE SCALE USED BY AMERICAN GEOLOGISTS

Modified Wentworth Scale — after Lane, et al., 1947, Trans. American Geophysical Union, v. 28, p. 936-938

phi	mm	GRADE LIMITS mm	inches	U.S. Standard Sieve Series	GRADE NAME		
−12	4096		161.3				
−11	2048		80.6		very large		
−10	1024		40.3		large	Boulders	
−9	512		20.2		medium		
−8	256		10.1		small		
−7	128		5.0		large	Cobbles	
−6	64		2.52	63 mm	small		GRAVEL
−5	32		1.26	31.5 mm	very coarse		
−4	16		0.63	16 mm	coarse		
−3	8		0.32	8 mm	medium	Pebbles	
−2	4		0.16	No. 5	fine		
−1	2		0.08	No. 10	very fine		
0	1		0.04	No. 18	very coarse		
+1	1/2	0.500		No. 35	coarse		
+2	1/4	0.250		No. 60	medium	Sand	SAND
+3	1/8	0.125		No. 120	fine		
+4	1/16	0.062		No. 230	very fine		
+5	1/32	0.031			coarse		
+6	1/64	0.016			medium	Silt	
+7	1/128	0.008			fine		
+8	1/256	0.004			very fine		MUD
+9	1/512	0.002			coarse		
+10	1/1024	0.001			medium	Clay size	
+11	1/2048	0.0005			fine		
+12	1/4096	0.00025			very fine		

Source: AGI DATA SHEETS American Geological Institute

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

AGI DATA SHEET 17.2

GRAIN-SIZE SCALE USED BY ENGINEERS
(A.S.T.M. Standards D422-63; D843-78)

GRADE LIMITS			GRADE NAME	
mm	inches	U.S. Standard Sieve Series		
305	12.0			Boulders
76.2	3.0	3.0 in.		Cobbles
4.75	0.19	No. 4		Gravel
2.00	0.08	No. 10	coarse	Sand
0.425		No. 40	medium	
0.074		No. 200	fine	
0.005				Silt
				Clay Size

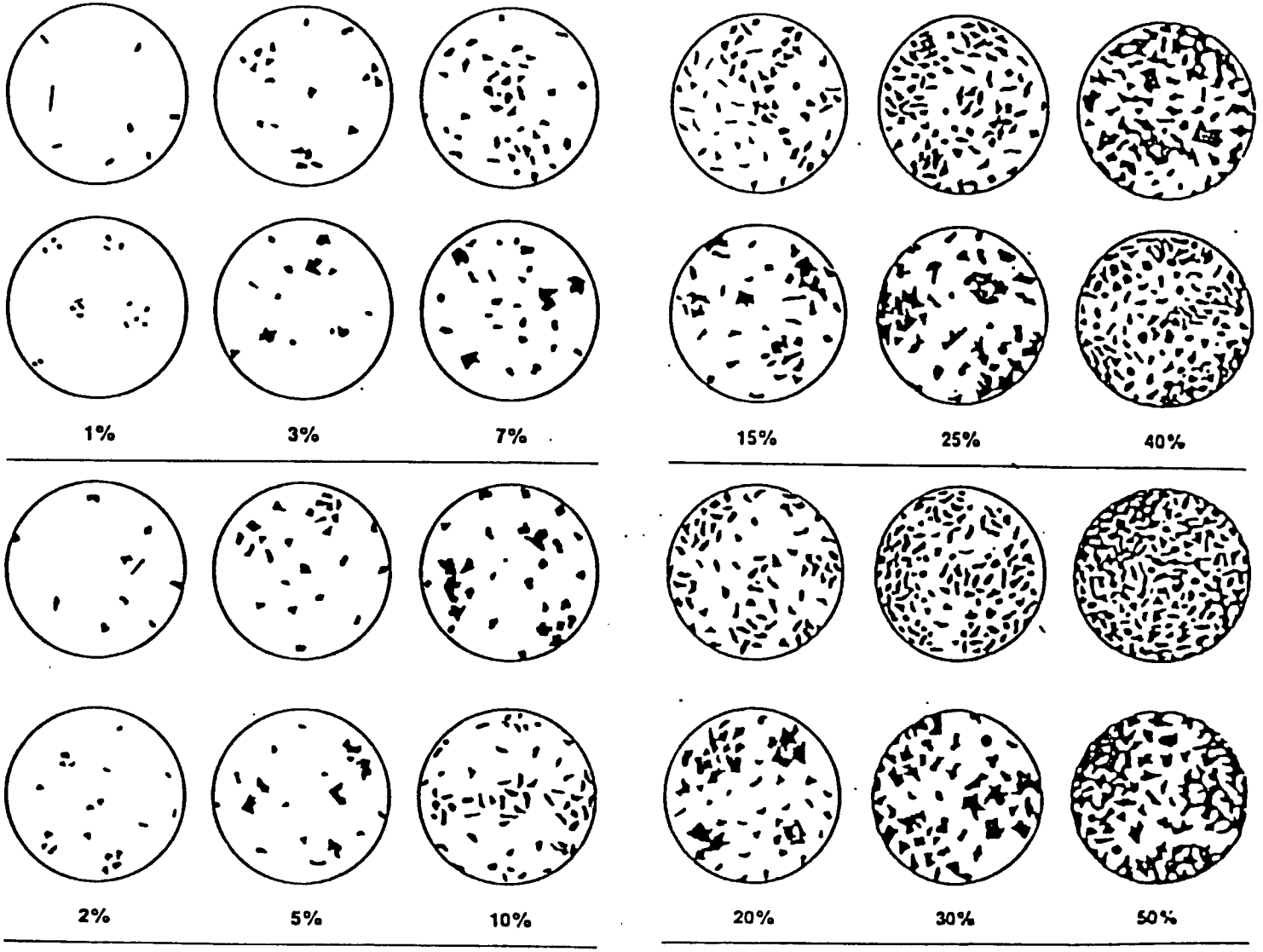
Source: AGI DATA SHEETS
American Geological Institute

AGI DATA SHEET 15.1

Comparison Chart for Estimating Percentage Composition

Prepared by Richard D. Terry and George V. Chilingar, Allen Hancock Foundation, Los Angeles. Reprinted from *Journal of Sedimentary Petrography*, v. 25, n. 3, p. 229-234, Sept. 1955.

AGI DATA SHEET 15.2



SOURCE: AGI DATA SHEETS
American Geological Institute

0-5% = trace; 5-15% = little; 15-35% = some; 35-50% and occ.;

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

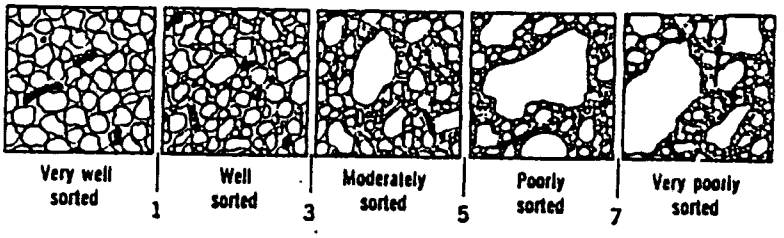


Fig. 12-1. Terms for degrees of sorting. The numbers indicate the number of size-classes included by the great bulk (80 percent) of the material. The drawings represent sandstones as seen with a hand lens. Silt and clay-size materials are shown diagrammatically by the fine stipple.

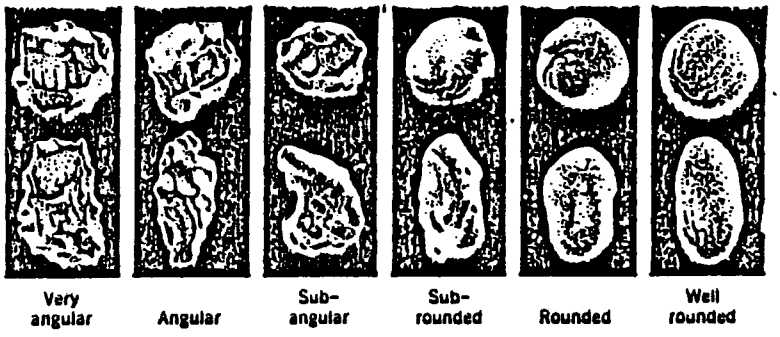


Fig. 12-2. Terms for degree of rounding of grains as seen with a hand lens. After Powers, M. C., 1953, *Journal of Sedimentary Petrology*, v. 23, p. 118. Courtesy of the Society of Economic Paleontologists and Mineralogists.

Source: MANUAL OF FIELD GEOLOGY,
Compton, R. R.

APPENDIX D

APPENDIX D

GRAIN SIZE ANALYSIS

GRADATION CURVES

PERMEABILITY CALCULATIONS

K FOR CLASSES OF GEOLOGIC MATERIALS

INDEPENDENT TESTING LABORATORIES, INC.
"SERVING INDUSTRY WORLDWIDE SINCE 1976"
129-11 18th Avenue - College Point, N.Y. 11356
(718) 961-8530

RECEIVED
MAY 1 5 1989
R.E. PUSTORINO, P.C.

May 11, 1989

R.E. Pustorino P.C.
Consulting Engineers
2171 Jericho Turnpike
Commack, New York 11725

Attention: Mr. Richard Pustorino

Re: Testing of Twelve Soil Samples from -
Town of Islip, Sayville Landfill

Dear Mr. Pustorino:

On May 4, 1989, Mr. Victor Zambrelli of R.E. Pustorino delivered twelve soil samples to our Laboratory from the above referenced site. The samples were sampled by Mr. Raymond Glover on May 2, 1989 from various locations and depths, the following are the results of the tests:

Sample No. MW - 1S - Shallow Well Screen 27 - 42' Depth

Sieve Size	Percent Passing
1"	100
3/4"	95.9
1/2"	95.9
3/8"	95.0
#4	93.0
#8	90.0
#16	84.8
#30	62.4
#40	41.9
#50	18.7
#100	2.8
#200	1.1

Sample No. MW - 2S - Shallow Screen 17 - 32' Depth

Sieve Size	Percent Passing
3/4"	100
1/2"	98.9
3/8"	98.3
#4	96.2
#8	95.7
#16	87.7
#30	60.3
#40	41.2
#50	20.8
#100	8.7
#200	6.2

continued.....

INDEPENDENT TESTING LABORATORIES, INC.
"SERVING INDUSTRY WORLDWIDE SINCE 1976"
129-11 18th Avenue - College Point, N.Y. 11356
(718) 961-8530

Sample No. MW - 2 - Middle of Bore - 60' Depth

Sieve Size	Percent Passing
#8	100
#16	99.4
#30	76.6
#40	56.9
#50	33.1
#100	12.4
#200	5.8

Sample No. MW - 3S - Shallow Screen - 24 - 39' Depth

Sieve Size	Percent Passing
1/2"	100
3/8"	98.7
#4	94.3
#8	90.2
#16	82.5
#30	55.3
#40	37.1
#50	17.2
#100	5.3
#200	1.3

Sample No. MW - 3D - Deep Screen - 85 - 95' Depth

Sieve Size	Percent Passing
3/8"	100
#4	98.8
#8	96.0
#16	87.9
#30	56.4
#40	39.3
#50	16.7
#100	4.8
#200	2.9

Sample No. MW - 4S - Shallow Screen - 27 - 42' Depth

Sieve Size	Percent Passing
3/4"	100
1/2"	98.7
3/8"	97.6
#4	96.0
#8	93.2
#16	85.2
#30	57.6
#40	37.8
#50	17.4
#100	5.5
#200	3.1

continued

INDEPENDENT TESTING LABORATORIES, INC.
"SERVING INDUSTRY WORLDWIDE SINCE 1976"
129-11 18th Avenue - College Point, N.Y. 11356
(718) 961-8530

Sample No. MW - 4D - Deep Screen - 85 - 95' Depth

Sieve Size	Percent Passing
#4	100
#8	99.7
#16	97.6
#30	82.6
#40	66.2
#50	41.8
#100	18.3
#200	10.6

Sample No. MW - 5S - Shallow Screen - 24 - 39' Depth

Sieve Size	Percent Passing
1/2"	100
3/8"	98.7
#4	95.9
#8	90.7
#16	83.0
#30	58.6
#40	40.9
#50	20.9
#100	7.3
#200	4.2

Sample No. MW - 5D - Deep Screen - 65 - 75' Depth

Sieve Size	Percent Passing
#4	100
#8	99.0
#16	96.5
#30	72.9
#40	53.0
#50	30.1
#100	6.9
#200	4.3

Sample No. MW - 6S - Shallow Screen - 24 - 39' Depth

Sieve Size	Percent Passing
3/4"	100
1/2"	97.9
3/8"	96.9
#4	94.3
#8	92.1
#16	87.3
#30	63.4
#40	41.9
#50	16.9
#100	2.2
#200	0.7

continued

INDEPENDENT TESTING LABORATORIES, INC.
"SERVING INDUSTRY WORLDWIDE SINCE 1976"
129-11 18th Avenue - College Point, N.Y. 11356
(718) 961-8530

R.E. Pustorino

May 11, 1989

Sample No. MW - 6I - Intermediate Screen - 79 - 89' Depth

Sieve Size	Percent Passing
3/8"	100
#4	99.1
#8	96.4
#16	89.9
#30	72.8
#40	49.6
#50	28.7
#100	4.8
#200	1.2

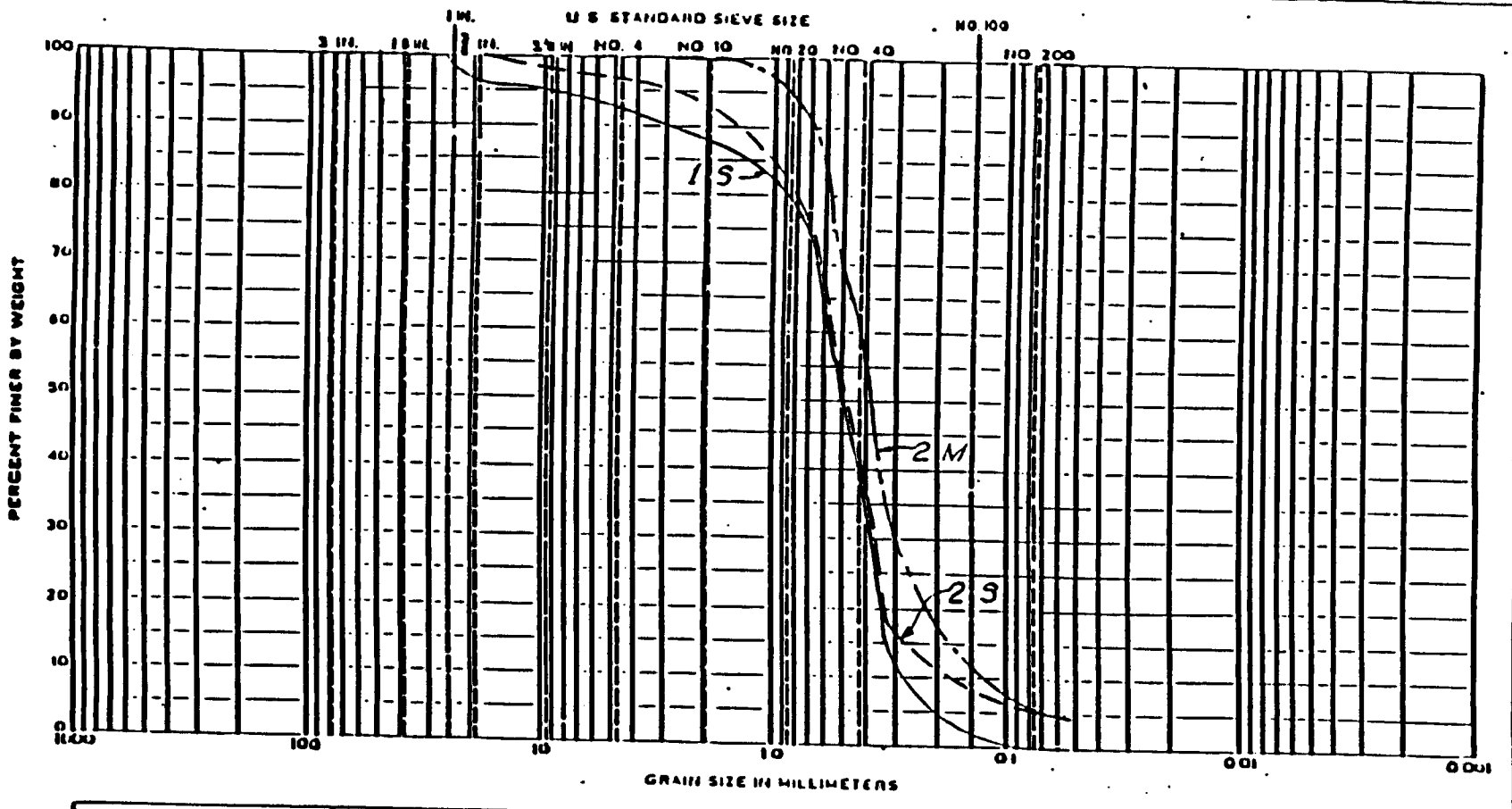
Sample No. MW - 6D - Deep Screen - 172 - 176' Depth

Sieve Size	Percent Passing
3/4"	100
1/2"	97.2
3/8"	97.2
#4	96.5
#8	95.2
#16	92.5
#30	72.4
#40	49.0
#50	26.5
#100	10.7
#200	4.7

Very truly yours,

Howard Pickett, Pres.

Independent Testing Labs., Inc.
Howard Pickett, President



COBBLES	GRAVEL Coarse	GRAVEL Fine	SAND Coarse	SAND Medium	SAND Fine	SILT OR CLAY

Sample No.	Elev or Depth	Classification	Nat WC	LL	PL	PI	USCS *
1S	27-42 Ft.	F-m Sand, little c & grav.					SW/SP
2S	17-32 Ft.	F-m sand, occ c & grav. occ Fines					SP-SM
2M	± 60 Ft.	Fine sand, some Med. occ. Fines					SP-SM

* Unified Soil Classification System

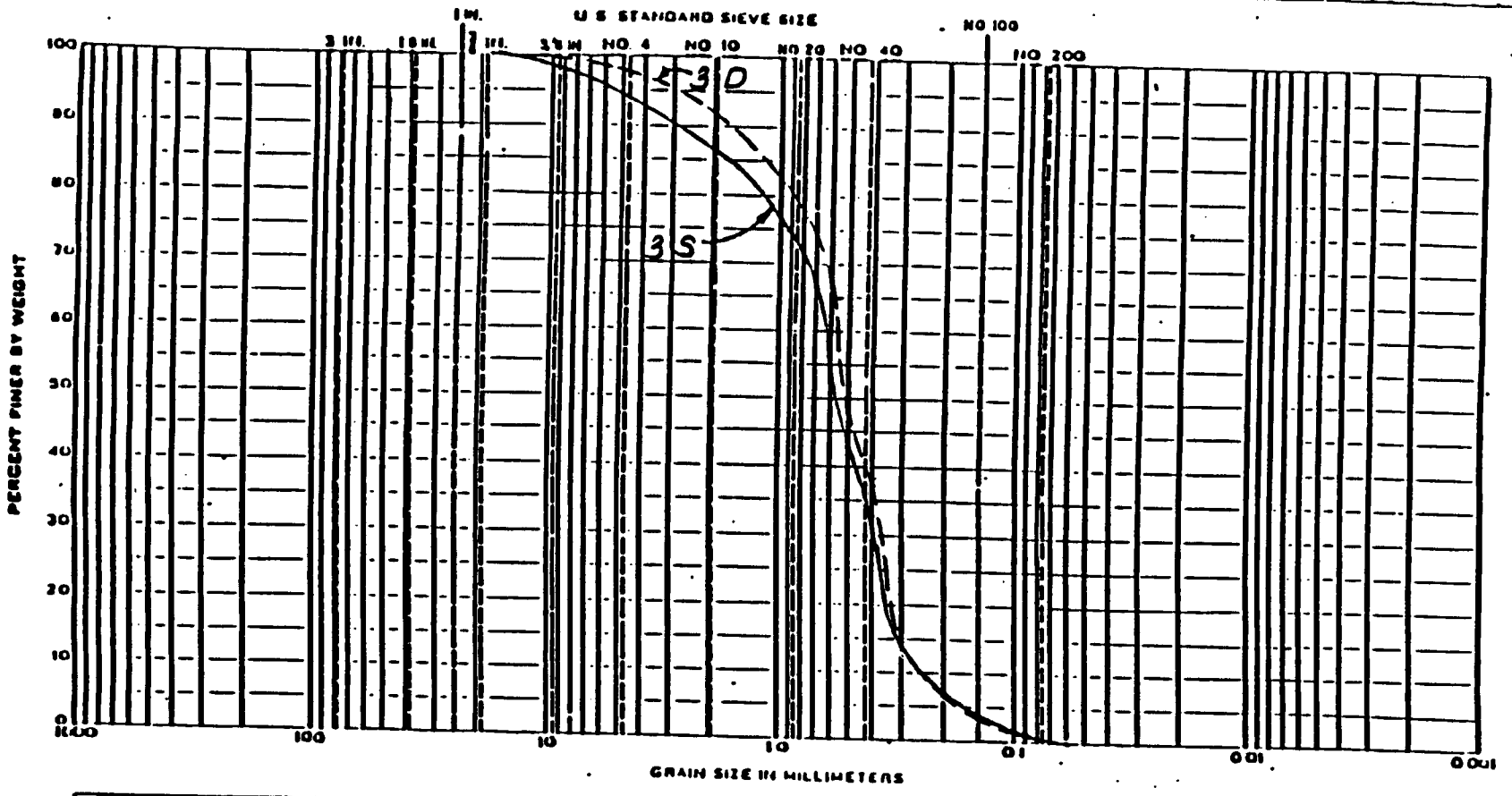
TOWN OF ISLIP

Project SAYVILLE LANDFILL

Boring No MW-1; MW-2

Date MAY 11, 1989

GRADATION CURVES



COBBLES	GRAVEL Coarse	GRAVEL Fine	SAND Coarse	SAND Medium	SAND Fine	SILT OR CLAY

Sample No.	Elev or Depth	Classification	Nat WC	LL	PL	PI	USCS
3S	24-39 Ft	F-med. sand, little c. sand through F. gravel					SW/SP
3D	85-95 Ft	F-Med. sand, occ C. sand through F. grvl.					SP

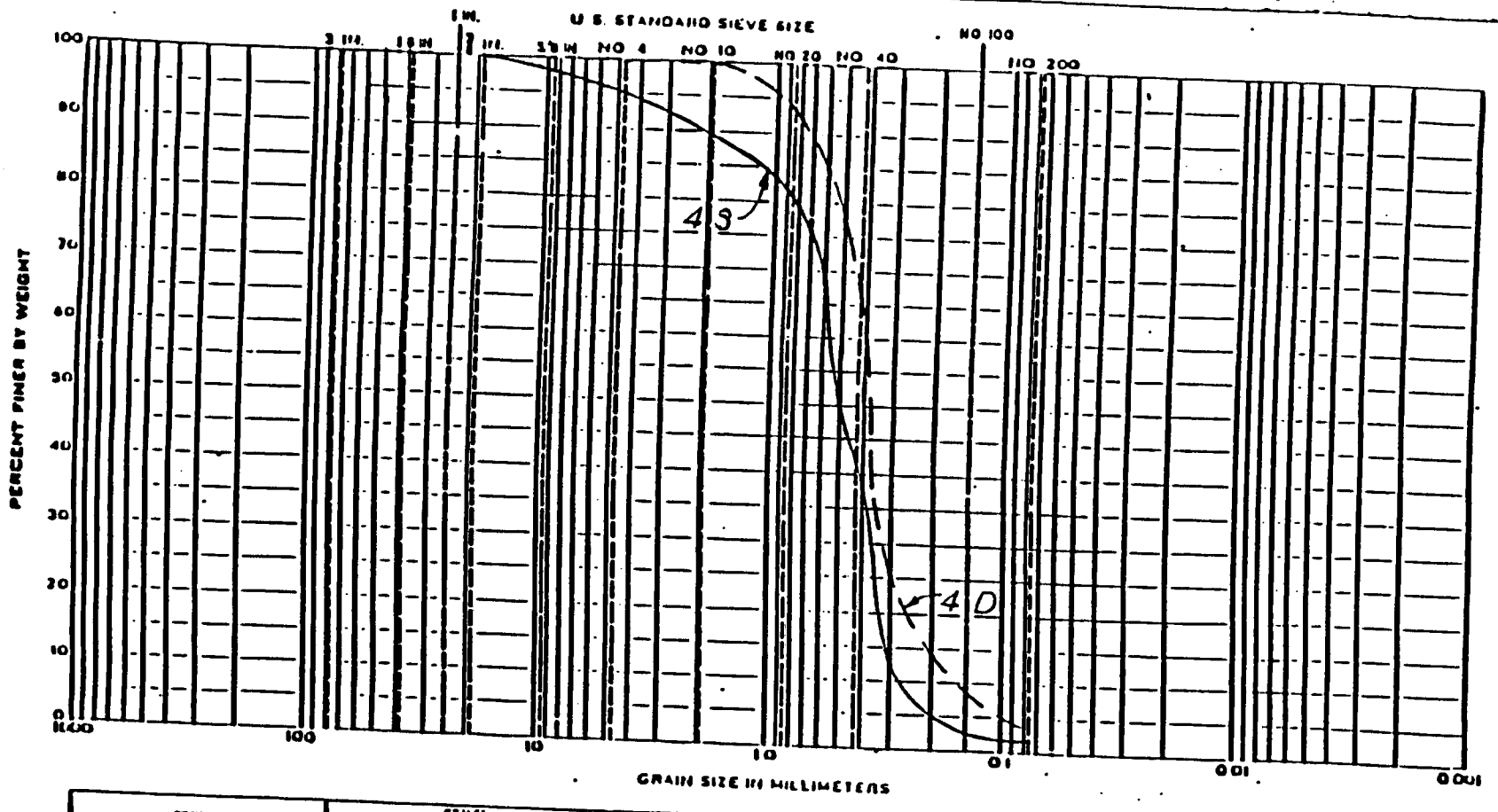
GRADATION CURVES

TOWN OF ISLIP

Project SAYVILLE LANDFILL

Boring No MW-3

Date MAY 11, 1989



COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Elev or Depth	Classification	NatWC	LL	PL	PI	USCS
4S	27-42 Ft	Fine-medium Sand occ. C sand-gravel					SW/SP
4D	85-95 Ft	Fine-Med. Sand					SP

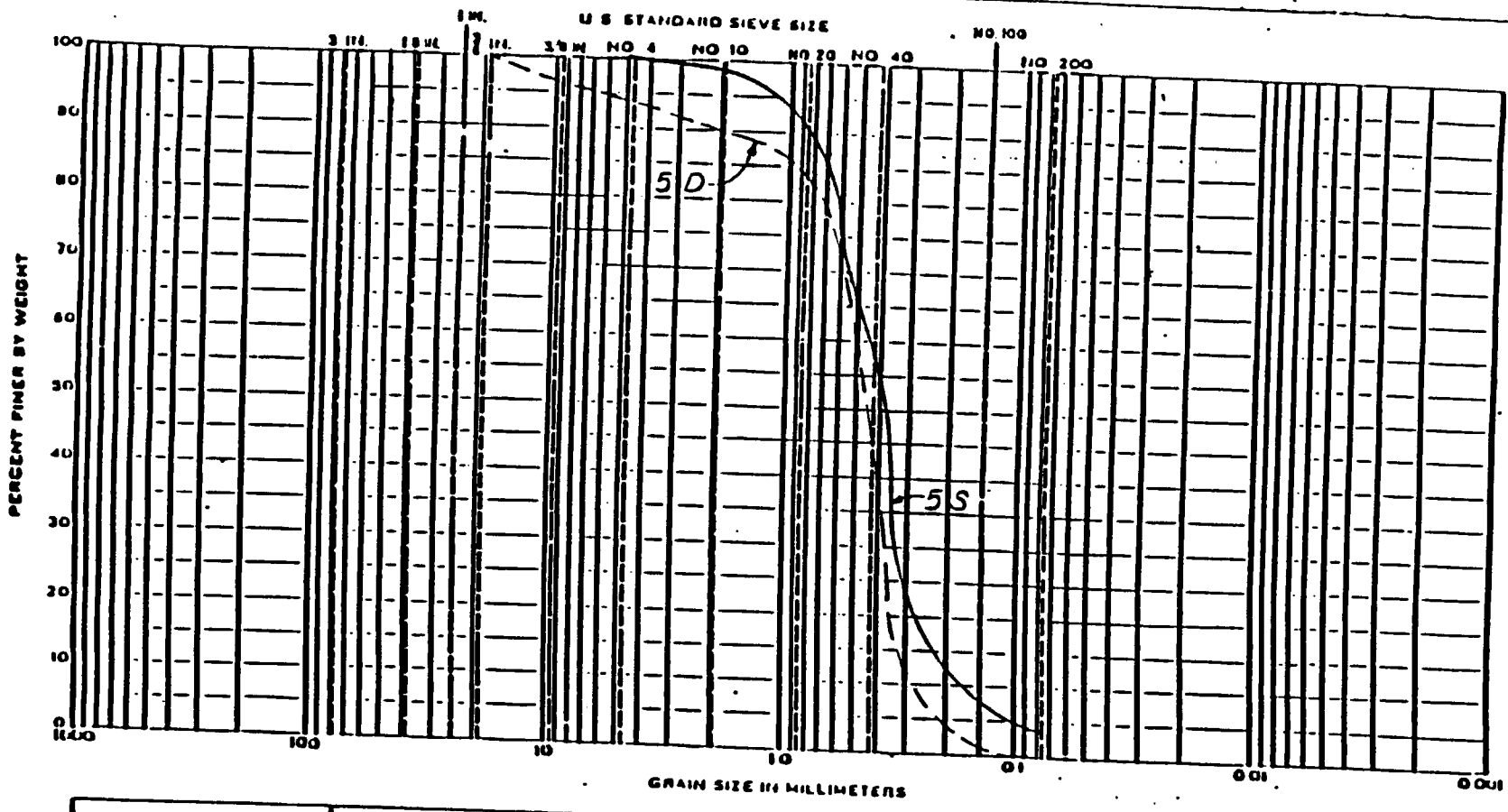
GRADATION CURVES

TOWN OF ISLIP

Project SAYVILLE LANDFILL

Boring No MW4

Date MAY 11, 1989



COBBLES	GRAVEL Coarse	GRAVEL Fine	SAND Coarse	SAND Medium	SAND Fine	SILT OR CLAY

Sample No.	Elev or Depth	Classification	NatWC	LL	PL	PI	USCS
5S	24-39Ft	Fine-med Sand					SP
5D	65-75Ft	F-m Sand occ c sand - F grvl.					SW/SP

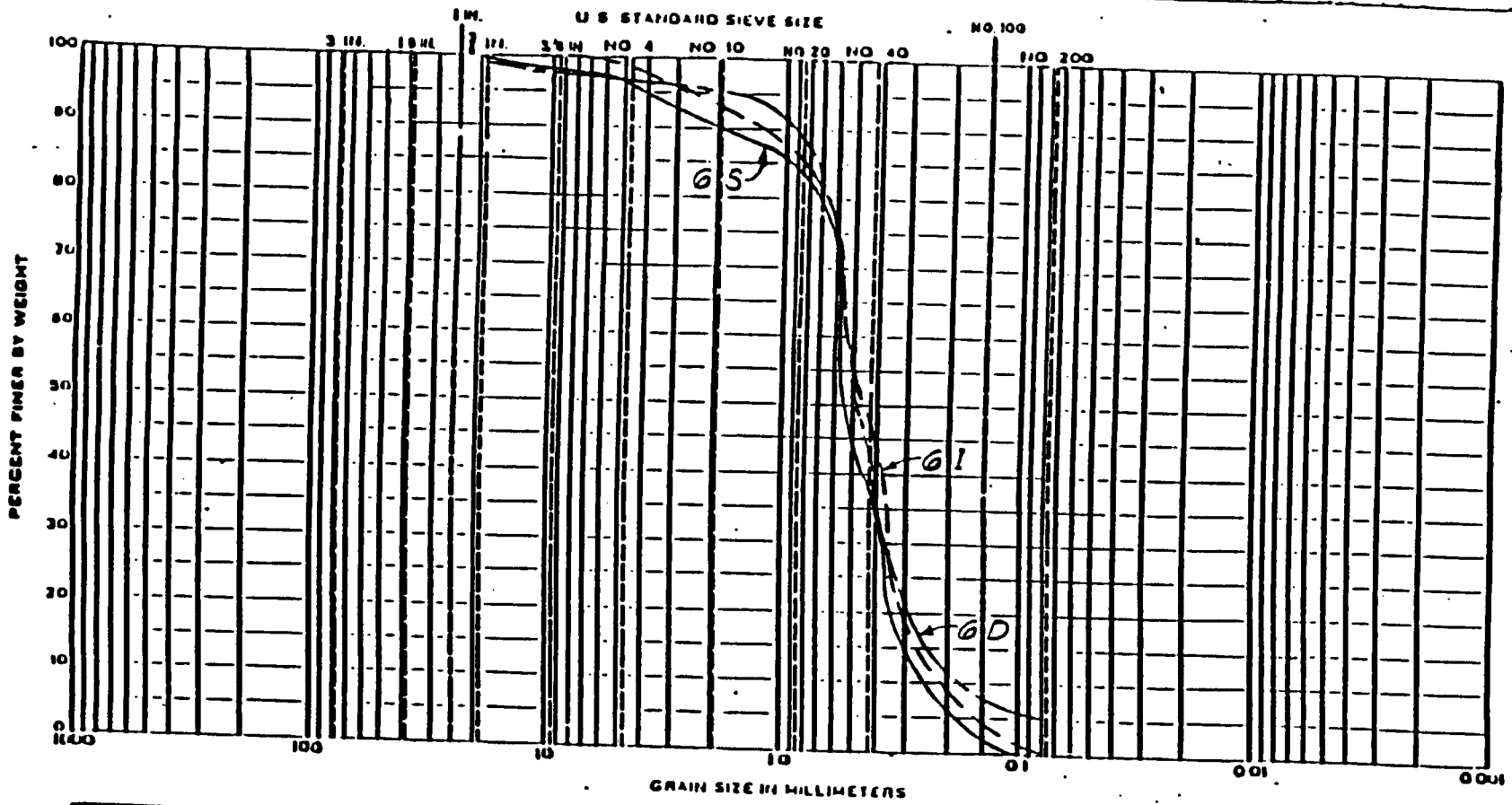
GRADATION CURVES

TOWN OF ISLIP

Project SAYVILLE LANDFILL

Boring No MW-5

Date MAY 11, 1989



COBBLES	GRAVEL Coarse	GRAVEL Fine	SAND Coarse	SAND Medium	SAND Fine	SILT OR CLAY

Sample No.	Elev or Depth	Classification	Nat WC	LL	PL	PI	USCS
6S	24-39 Ft	F-m Sand occ C sand through Fine Grvl.					SW/SP
6I	79-89 Ft	" " "					SP
6D	172-176 Ft	F-m Sand occ coarse sand - F grvl; occ Fines					SP-SM

GRADATION CURVES

TOWN OF ISLIP

Project SAYVILLE LANDFILL

Boring No MW-6

Date MAY 11, 1989

CALCULATION OF PERMIABILITY FROM GRAIN SIZE ANALYSIS

Hazen Equation: $K = A\, d^2_{10}$ where

K = Hydraulic Conductivity in cent/sec

d = Effective Grain Size at which 10% by weight of the soil particles are finer and 90% are coarser

d_{10} is taken directly from the gradation curve as generated from the seive analysis. For K in cent/sec and d_{10} in mm, the coefficient A is equal to one (1.0).

The followimg calculations were made for each sieve analysis and in general, represent the values of Intrinsic (Average) Permiability for the soils in the screened intervals:

<u>Sample #1S</u>	27-42ft. depth d_{10} = .27 mm $K = 1.0(.27)^2 =$	f-med sand, little c sand & gravel (SW/SP) 7.3×10^{-2} (63 m/day)
<u>Sample #2S</u>	17-32ft. d_{10} = .11 mm $K = 1.0(.12)^2 =$	f-med sand, occ c sand & gravel, occ fines (SP-SM) 1.5×10^{-2} (13 m/day)
<u>Sample #2M</u>	60ft. depth d_{10} = .06 mm $K = 1.0(.05)^2 =$	fine sand, some med sand, occ fines (SP-SM) 3.6×10^{-3} (3 m/day)
<u>Sample #3S</u>	24-39ft. d_{10} = .25 mm $K = 1.0(.25)^2 =$	f-med sand, little c sand through f gravel (SW/SP) 6.2×10^{-2} (54 m/day)
<u>Sample #3D</u>	85-95ft. d_{10} = .24 mm $K = 1.0(.24)^2 =$	f-med sand, occ c sand through f gravel (SP) 5.6×10^{-2} (50 m/day)

<u>Sample #4S</u>	27-42ft. depth	f-med sand, occ c sand and gravel (SW/SP)
	d_{10} = .28 mm K = $1.0(.28)^2$ =	7.8×10^{-2} (68 m/day)
<u>Sample #4D</u>	85-95ft.	f-med sand (SP)
	d_{10} = .13 mm K = $1.0(.13)^2$ =	1.6×10^{-2} (15 m/day)
<u>Sample #5S</u>	24-39ft.	f-med sand (SP)
	d_{10} = .17 mm K = $1.0(.17)^2$ =	2.9×10^{-2} (25 m/day)
<u>Sample #5D</u>	65-75ft.	f-med sand, occ c sand through f gravel (SW/SP)
	d_{10} = .27 mm K = $1.0(.27)^2$ =	7.3×10^{-2} (63 m/day)
<u>Sample #6S</u>	34-39ft.	f-med sand, occ c sand through f gravel (SW/SP)
	d_{10} = .26 mm K = $1.0(.26)^2$ =	6.8×10^{-2} (58 m/day)
<u>Sample #6I</u>	79-89ft.	f-med sand, occ c sand through f gravel (SP)
	d_{10} = .21 mm K = $1.0(.21)^2$ =	4.4×10^{-2} (38 m/day)
<u>Sample #6D</u>	172-176ft.	f-med sand, occ c sand-f gravel, occ fines (SP-SM)
	d_{10} = .16 mm K = $1.0(.16)^2$ =	2.5×10^{-2} (22 m/day)

APPENDIX E

APPENDIX E

WELL DEVELOPMENT (TURBIDITY) DATA

GROUNDWATER SAMPLING DATA - 1989 & 1990

PERMEABILITY BY VARIABLE HEAD TESTS

GEOGARD SUBMERSIBLE PUMP

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

January 3, 1989

TO: R. E. Pustorino
260 Main Street
Northport, NY 11768

Date: Collected 12/27/88 Analyzed 12/28/88 Report 1/3/89

Sampling Point

1. Sayville Landfill - Sample # 1 MW-3D - 10:35
2. Sayville Landfill - Sample # 2 MW-3D - 11:30
3. Sayville Landfill - Sample # 3 MW-3D - 1:15
4. Sayville Landfill - Sample # 4 MW-3S - 3:10
5.

Parameters	1	2	3	4	5
Turbidity mg/l	58	60	64	40	

Lab Number 50591

JOHN PEDNEAULT
Lab Director

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

January 3, 1989

TO: R. E. Pustorino
260 Main Street
Northport, NY 11768

Date: Collected 12/17/88 Analyzed 12/17/88 Report 1/3/89

Sampling Point

1. Sayville Landfill - MW 4D
2. Sayville Landfill - MW 4S
3. Sayville Landfill - MW 4S
4. Sayville Landfill - MW 4S
5.

Parameters	1	2	3	4	5
Turbidity mg/ℓ	45	65	70	75	

Lab Number 50465

JOHN PEDNEAULT
Lab Director

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

January 10, 19.

TO: R. E. Pustorino
2171 Jericho Tpke.
Commack, NY 11725-2903

Date: Collected 12/29/88 Analyzed 12/29-1/3/89 Report 1/10/89

Sampling Point

1. MW 6I 5 - 9:40
2. MW 6D - 12:00
3. MW 45-4 -
4. MW 5S
5. MW 5D

Parameters	1	2	3	4	5
Turbidity mg/ℓ	64	15	180	8	160

Lab Number 50627
jm

JOHN PEDNEAULT
Lab Director

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

January 3, 1989

TO: R. E. Pustorino
260 Main Street
Northport, NY 11768

Date: Collected 12/28/88 Analyzed 12/28/88 Report 1/3/89

Sampling Point

1. Sayville Landfill - MW 6S - 9:00
2. Sayville Landfill - MW 6-I - 12:50
3. Sayville Landfill - MW 6-II
4. Sayville Landfill - MW 6-III
5. Sayville Landfill - MW 6-IV

Parameters	1	2	3	4	5
Turbidity mg/l	8.5	300	280	220	190

Lab Number 50609
jm

JOHN PEDNEAULT
Lab Director

FIELD SAMPLING DATA

GROUNDWATER SAMPLING - 1989

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 86082F
Well-site Location NW Corner Vets Hwy. & Lincoln	Well # 15 (Upgradient)
Contractor Marine Pollution	Representative John Emmington
Consultant R.E. Pustorino	Representative Ralf Glover
Borehole Diameter ± 10½"	Ground Elevation ± 66 Ft / Total Depth 44 Ft.
Type of PVC 3" Sch 80, 20 slot	Ground Water Level 31.81' / Screen Depth 28-43'
Volume of Water in Case ± 4 gal	Pump Rate (gal/min) 1¼ g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
1st round	1	99	58	5.5	11	clear
	5	62	57	5.5	7	clear
	15	62	56	5.6	4	clear
	20	62	57	5.7	70	cloudy
2nd round	10	63	56	5.7	50	mod. turbid
	20	61	56	5.7	25	sl. cloudy-clear

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen 15 Ft.	Date 5/20/89
Lithology at Screen mostly medium Sand	Geologic Formation Upper Glacial Aq.	
Reference Point top of casing	Height of Ref. above ground 2.97 Ft	

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

1st round 20 minute sample taken from bailer. 2nd round started with surging.

Total Evacuation = 12x volume of water in Casing.

Weather: Hot and Humid throughout the sampling period (80-90°F)

Field Permiability _____

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 8608LF
Well-site Location NW corner Vets Hwy & Lincoln Ave	Well # 1D (Upg. 1)
Contractor Marine Pollution	Representative John Emm.
Consultant R.E. Pustorino	Representative Ray Glover

Borehole Diameter ±10½	Ground Elevation 66 ft	Total Depth 100 FT.
Type of PVC 3" sch 80, 20 slot	Ground Water Level 31.77	Screen Depth ±6-96'
Volume of Water in Case ±25 gal	Pump Rate (gal/min) 1 1/4 g/m	

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	1	45	60	6.5	3	clear
	15	53	57	6.3	10	clear
	30	50	57	6.4	8	clear
	45	48	57	6.4	4	clear
1	00	51	57	6.3	8	clear
1	20	50	60°	6.3	12	clear

VARIABLE HEAD TEST DATA

Type of Test Falling Head	Length of Screen 10 ft.	Date 5/30/89
Lithology at Screen mostly medium Sand	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 3.08 ft.	

Hours	minutes	DEPTH TO WATER LEVEL
	—	—

REMARKS

1 hr. 20 min sample from bailer; Falling head test attempted but transmissivity is to high - could not fill casing with water fast enough to obtain rate of fall measurements with tape.

Total Evacuation = 4x volume in casing.

Field Permiability High - Very High

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 86082F
Well-site Location E. of Lincoln, SW corner PL	Well # 25 (Upgradient)
Contractor Marine Pollution	Representative John Emmington
Consultant R.E. Pastorino	Representative RAP Glover
Borehole Diameter ≈ 10½"	Ground Elevation ≈ 54 Ft. / Total Depth 35 Ft.
Type of PVC 3" sch 80, 20 slot	Ground Water Level 22.10 / Screen Depth 17-32'
Volume of Water in Case ≈ 16 gal	Pump Rate (gal/min) 1½+ gpm

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	155	55	5.2	7100	brown, turbid
	10	153	55	5.2	30	sl. cloudy
	15	151	55	5.1	7	clear
	—	150	56	5.0	32	sl. cloudy

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen	Date 5/31/89
Lithology at Screen Fine & medium Sand	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Case	Height of Ref. above ground 3.02	

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

1st 5 minutes water too turbid, no readings taken; water clears considerably after about 10 min; Last readings from bailer.

Total Evacuation = 4x volume in Casing.

Field Permiability _____

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL TOWN OF ISLIP	Project No. 86082
Well-site Location E. of Lincoln, SW corner PL	Well # 2D (Upper)
Contractor Marine Pollution	Representative John Emm[illegible]on
Consultant R.E. Pustorino	Representative Ray [illegible]
Borehole Diameter ≈ 10½"	Ground Elevation ≈ 54 Ft. / Total Dept. 79 Ft
Type of PVC 3" Sch 80 20 slot	Ground Water Level 22.26 / Screen Depth 84-94'
Volume of Water in Case ≈ 27 gal	Pump Rate (gal/min) 1¼ gal/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	251	56	9.9	5	clear
	15	277	56	6.5	17	sl. cloudy
	30	274	57	6.4	7	clear
	45	275	57	6.3	5	clear
1	15	275	58	6.3	5	clear
	—	248	58	9.4	12	clear

VARIABLE HEAD TEST DATA

Type of Test Falling Head	Length of Screen 10 Ft.	Date 5/30/89
Lithology at Screen mostly medium Sand	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 3.38'	

Hours	minutes	DEPTH TO WATER LEVEL
	—	—

REMARKS

Transmissivity to great in screen interval to obtain measurements for Falling Head Test

Last sample readings from bailer.

Total Evacuation = 4x volume in casing

Field Permiability High

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 86082F
Well-site Location 390 Ft E, 10 Ft N, SW PL	Well # 3S (Downgradient)
Contractor Marine Pollution	Representative John Emmington
Consultant R.E. Pustorino	Representative Ray Rover
Borehole Diameter ±10½" / Ground Elevation ±59 Ft	Total Depth 41 Ft.
Type of PVC 3" sch 80. 20 slot / Ground Water Level 25.82	Screen Depth 24-39'
Volume of Water in Case ±5 gal	Pump Rate (gal/min) 1¼ g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	12	345	60	7.2	9	clear
	22	339	60	7.2	5	clear
	32	345	59	7.1	6	clear
	—	344	60	7.2	26	sl. cloudy

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen 15 Feet	Date 5/31/89
Lithology at Screen Fgmed Sand with little c.	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 3.31	

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

Water is initially dark gray; Surged well after 5 min., no initial readings taken;

Last sample readings from bailer.

Total Evacuation = 5 x volume in Casing.

Field Permiability _____

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 8608-2F
Well-site Location 390 Ft E 10N of SW corner PL	Well # 3D (Downgradient)
Contractor Marine Pollution	Representative John Emmin[illegible]
Consultant R.E. Portorino	Representative Ray Glover
Borehole Diameter I 10 1/2"	Ground Elevation I 59 ft
Total Depth 99 Feet	
Type of PVC 3" sch 80, 20 slot.	Ground Water Level 26.00
Screen Depth 86-96'	
Volume of Water in Case I 27 gal	Pump Rate (gal/min) 1 1/4 g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	12	539	59	7.9	9	clear
	17	540	61	8.1	10	clear
	27	560	59	7.8	4	clear
	42	552	58	7.9	5	clear
1	05	558	59	7.9	3	clear
	—	552	59	7.9	22	clear

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen 10 Feet	Date 5/31/89
Lithology at Screen Mostly medium Sand	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 3.20 ft.	

Hours	minutes	DEPTH TO WATER LEVEL
	—	—

REMARKS

Last sample readings taken directly From bailer.

Total Evacuation = 3 X the volume in Casing.

Field Permiability High-Very High

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL TOWN OF ISLIP	Project No. 86082F
Well-site Location ± 330 due East of MW3	Well # 4S (Down Gradient)
Contractor Marine Pollution	Representative John Emmington
Consultant R.E. Pustorino	Representative Ray Glover
Borehole Diameter ± 10½" / Ground Elevation ± 59'	Total Depth 41
Type of PVC 3" sch 80, 20 slot / Ground Water Level 27.25	Screen Depth 27-42 Ft.
Volume of Water in Case ± 5 gal	Pump Rate (gal/min) 1¼ g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	15	513	67	6.6	20	sl. cloudy
	26	530	65	6.7	16	sl. cloudy
	30	522	65	6.7	12	clear - sl. cloudy
	—	684	67	6.6	27	sl. cloudy

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen 15 Ft.	Date 6/1/89
Lithology at Screen Mostly medium Sand	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 2.70'	

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

Water initially dark gray with abundant Fine Sand; no beginning readings taken, clarity improves after 10 minutes.

Last readings From bailer samples

Total Evacuation = 8 x volume in Casing.

Field Permiability _____

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 86082F
Well-site Location ±330 due East MW-4	Well # 4D (Downgradient)
Contractor Marine Pollution	Representative John Emmington
Consultant R.E. Pustorino	Representative Ray Glomb
Borehole Diameter ±10½"	Ground Elevation ±59 Ft.
Total Depth 20 Ft.	
Type of PVC 3" Sch 80, 20 slot	Ground Water Level 28.19
Screen Depth 86-96'	
Volume of Water in Case ± 26	Pump Rate (gal/min) 1 1/4 g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	15	277	61	10.2	12	sl. yellow/cloudy
	25	190	60	7.9	13	" "
	40	182	60	6.8	10	" "
	55	180	60	6.8	8	" "
	85	172	61	6.7	9	clear
	—	206	62	7.0	31	sl. yellow/cloudy

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen 10 Feet
Date 6/1/89	
Lithology at Screen mostly medium Sand	Geologic Formation Upper Glacial Aq.
Reference Point Top of Casing	Height of Ref. above ground 3.47

Hours	minutes	DEPTH TO WATER LEVEL
	—	—

REMARKS

Last Sample taken directly From bailer.

Total Evacuation = 4 x volume in Casing

Field Permiability High-Very High

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 86082F
Well-site Location East side Gates Ave, near SE PL	Well # 5S (Down Gradient)
Contractor Marine Pollution	Representative John Emmington
Consultant R.E. Pusterino	Representative Ray Alonso
Borehole Diameter ≠10½"	Ground Elevation 162 feet / Total Depth 40 Ft.
Type of PVC 3" sch 80, .20 slot	Ground Water Level 27.08 / Screen Depth 24-39'
Volume of Water in Case ≈ 3 gals.	Pump Rate (gal/min) 1 1/4 g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	245	60	5.6	7	clear
	10	230	60	5.6	4	clear
	15	252	59	5.6	4	clear
	–	255	61	5.7	8	clear

VARIABLE HEAD TEST DATA

Type of Test –	Length of Screen 15 Feet	Date 6/5/89
Lithology at Screen medium & Fine Sand	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 1.85 Ft.	

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

Last sample readings from bailer

Total Evacuation = 4X volume of water in Casing

Field Permiability _____

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL TOWN OF ISLIP	Project No. 86082F
Well-site Location Eastside of Cortes, near SE PL	Well # 5D (Down [illegible])
Contractor Marine Pollution	Representative John Emm[illegible]ton
Consultant R.E. Pustorino	Representative Ray Glover
Borehole Diameter I 10½"	Ground Elevation 62 Ft
Total Depth 100 Feet	
Type of PVC 3" sch 80, 20 slot	Ground Water Level 28.14
Screen Depth 66-76'	
Volume of Water in Case I 16 gals	Pump Rate (gal/min) 1¼ g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	120	60	5.9	4	clear
	10	125	58	5.7	5	clear
	20	129	57	5.6	6	clear
	30	120	58	5.6	15	clear-sl. cloudy
	50	124	58	5.6	12	" "
	—	129	62	5.9	29	sl. cloudy

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen 10	Date 6/5/89
Lithology at Screen mostly medium Sand	Geologic Formation Upper Glacial Aq.	
Reference Point TOP of Casing	Height of Ref. above ground 3.31'	

Hours	minutes	DEPTH TO WATER LEVEL
	—	—

REMARKS

Last sample readings from bailer

Total Evacuation = 4X volume in Casing.

Field Permiability High-Very High

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 86082F
Well-site Location West End of Ellsworth Rd. in parcel	Well # 6S (Down Gradient)
Contractor Marine Pollution	Representative John Emmington
Consultant R.E. Pustorino	Representative Ray Grover
Borehole Diameter I 10½" / Ground Elevation ± 60 Feet	Total Depth 41 Feet
Type of PVC 3" sch 80, 20 slot / Ground Water Level 27.10	Screen Depth 24-39'
Volume of Water in Case ±5 gals.	Pump Rate (gal/min) 1 1/4 g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	10	266	63	6.6	82	sl. brown/turbid
	20	267	62	6.6	17	sl. cloudy
	25	286	62	6.6	20	sl. cloudy
bailer	—	—	—	—	80	sl-mod turbid
	12	273	63	6.6	22	sl. cloudy
	22	276	63	6.6	11	clear
bailer	27	283	63	6.7	50	sl-mod cloudy

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen 15 Ft	Date 6/5/89
Lithology at Screen F-m Sand, some c & Gravel	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 2.80 Ft	

Hours	minutes	DEPTH TO WATER LEVEL	REMARKS
			No initial readings: sample was brown and turbid. 1st reading from bailer was 80 NTU; continued to pump; Last readings taken from bailer showed marginally acceptable turbidity. Total Evacuation = 12X volume in Casing

Field Permiability _____

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL TOWN OF ISLIP	Project No. 86082F
Well-site Location West End Ellsworth in parcel	Well # 6I (Downfr[illegible]nt)
Contractor Marine Pollution	Representative John Emmin[illegible]
Consultant R.E. Pustarino	Representative Ray [illegible]
Borehole Diameter ±10½"	Ground Elevation ±60 FT
Total Depth 90 Feet	
Type of PVC 3" sch 80 20 slot	Ground Water Level 27.31
Screen Depth 79-89'	
Volume of Water in Case ±22 gal	Pump Rate (gal/min) 1¼ g/m

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	474	65	7.1	22	clear-sl. cloudy
	10	463	64	7.1	19	clear
	15	472	64	7.0	12	clear
	30	485	64	6.9	15	clear
	45	615	64	6.8	12	clear
	55	617	64	6.7	9	clear
1	05	620	62	6.4	12	clear
	—	469	64	6.6	45	sl. cloudy

VARIABLE HEAD TEST DATA

Type of Test —	Length of Screen 10 FT
Date 6/2/89	
Lithology at Screen Fine & medium Sand	Geologic Formation Upper Glacial Ag.
Reference Point Top of Casing	Height of Ref. above ground 2.79 Ft

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

Last sample taken from bailer

Total Evacuation = 4X volume in casing.

Field Permiability _____

PURGING AND SAMPLING DATA

Project SAYVILLE LANDFILL, TOWN OF ISLIP	Project No. 86082F
Well-site Location West End Elkworth Rd. in Parcel	Well # 6D (Down Gradient)
Contractor Marine Pollution	Representative John Emmington
Consultant R.E. Pustorino	Representative Ray Glover
Borehole Diameter ±10½" / Ground Elevation ±60 Ft.	Total Depth 180 Ft
Type of PVC 3" sch 80, 20 slot / Ground Water Level 27.81	Screen Depth 172-176
Volume of Water in Case ±55 gal	Pump Rate (gal/min) 1½ gal/min

HOURS	MINUTES	Conductivity (PPM)	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	10	87	66	9.6	16	clear
	20	82	63	9.7	9	clear
	30	83	63	9.8	8	clear
1	00	87	63	9.9	6	clear
1	45	83	62	8.6	12	clear
2	15	82	62	7.5	7	clear
2	45	84	61	7.2	6	clear
	—	84	63	8.4	7	clear

VARIABLE HEAD TEST DATA

Type of Test Falling Head	Length of Screen 4 Ft.	Date 6/2/89
Lithology at Screen Fine Med. Sand, tr of fines	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 5.42 Ft	

—	Seconds	DEPTH TO WATER LEVEL
	0	27.81
	0½	20.0
	5	25.0
	-	27.81

REMARKS

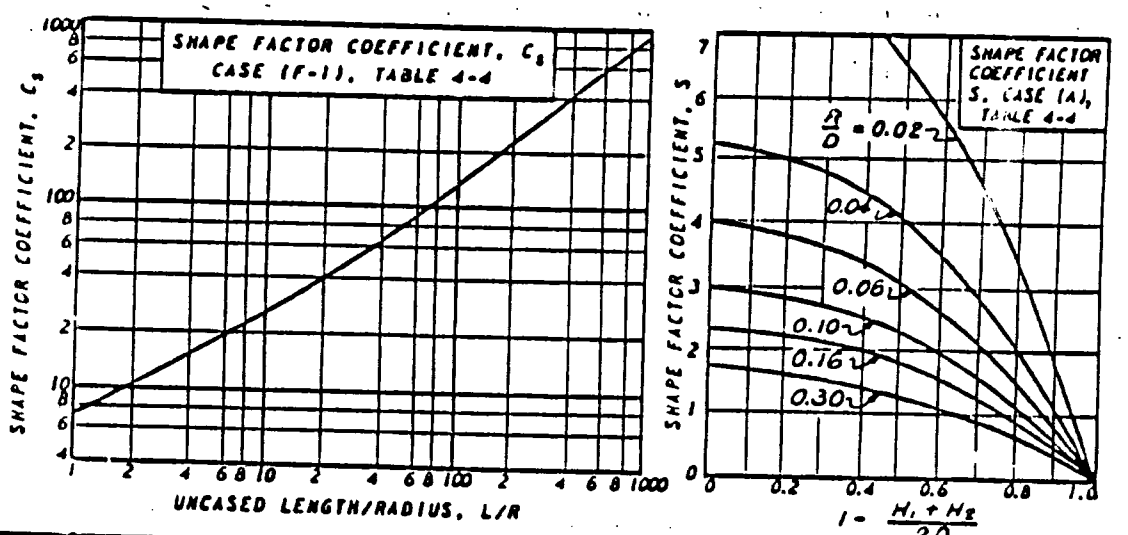
— 176 min = total evacuation time, Last sample From bailer

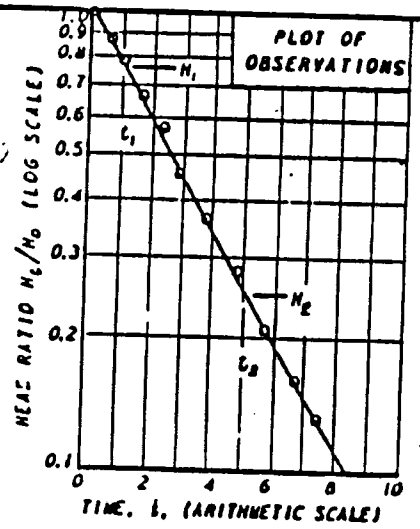
— Total evacuation = 4X Casing Volume

Rate of Fall as measured with Electronic meter ≈ 1 sec/Ft translating into a horizontal permiability (K) of 140 Feet/day*

*(See 'Permeter in Isotropic Soil' in Table that Follows)

Field Permiability High

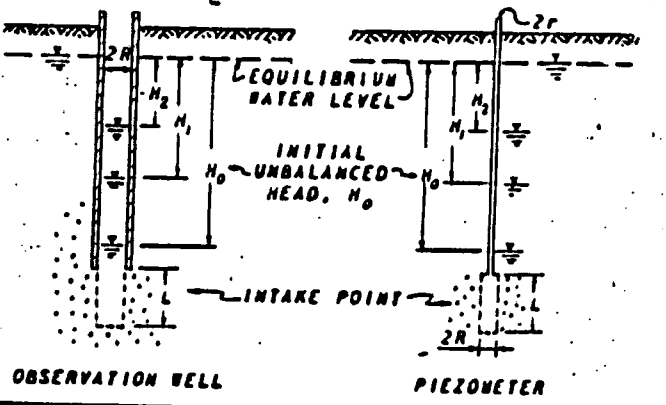




IN GENERAL:

$$K = \frac{A}{F(t_2 - t_1)} \ln\left(\frac{H_1}{H_2}\right)$$

F = SHAPE FACTOR OF INTAKE POINT
A = STANDPIPE AREA
K = MEAN PERMEABILITY
$\ln H_1/H_2$ AND $(t_2 - t_1)$ ARE OBTAINED FROM PLOT OF OBSERVATIONS.



OBSERVATION WELL IN ISOTROPIC SOIL:

OBTAIN SHAPE FACTOR FROM TABLE 4-4.

FOR CASE (C):

$$F = \frac{2\pi L}{\ln\left(\frac{L}{R}\right)}$$

$$K = \frac{R^2}{2L} \ln\left(\frac{L}{R}\right)\left[\frac{\ln H_1/H_2}{(t_2 - t_1)}\right]$$

***PIEZOMETER IN ISOTROPIC SOIL:**

RADIUS OF INTAKE POINT (R) DIFFERS FROM RADIUS OF STANDPIPE (r).

$$F = \frac{2\pi L}{\ln\left(\frac{L}{R}\right)} = 9.73 \text{ Ft}$$

$$A = \pi r^2 = .393 \text{ Ft}^2$$

$$K = \frac{A}{F(t_2 - t_1)} \ln\left(\frac{H_1}{H_2}\right) = 140 \text{ Ft/day}$$

$$K = \frac{r^2}{2L} \ln\left(\frac{L}{R}\right)\left[\frac{\ln H_1/H_2}{t_2 - t_1}\right]$$

TEST IN ANISOTROPIC SOIL:

ESTIMATE RATIO OF HORIZONTAL TO VERTICAL PERMEABILITY AND DIVIDE HORIZONTAL DIMENSIONS OF THE INTAKE POINT BY:

$m = \sqrt{K_H/K_V}$ TO COMPUTE MEAN PERMEABILITY $K = \sqrt{K_H \times K_V}$.

FOR CASE (C), TABLE 4-4:

$$F = \frac{2\pi L}{\ln\left(\frac{mL}{R}\right)}$$

$$K = \frac{r^2}{2L} \ln\left(\frac{mL}{R}\right) \frac{\ln H_1/H_2}{(t_2 - t_1)}$$

FIGURE 4-2
Analysis of Permeability by Variable Head Tests

Source: Design Manual: Soil Mechanics, Foundations, and Earth Structures; U.S. Dept. of the Navy

FIELD SAMPLING DATA

GROUNDWATER SAMPLING - 1990

PURGING AND SAMPLING DATA

Project	TOWN OF ISLIP SAYVILLE LANDFILL	Project No.	8608
Well-site Location	NE Corner - Vets & Lincoln	Well #	15
Contractor	Marine Pollution	Representative	Keith Klu[illegible]
Consultant	R.E. Pustorino, P.C.	Representative	RAY GLOVER
Borehole Diameter	±11"	Ground Elevation	
Total Depth	44		
Type of PVC	3 in. 20 slot	Ground Water Level	28.42
Screen Depth	27.5-42.5		
Volume of Water in Case/well	7.0 gal	Pump Rate (gal/min)	.6 gpm

HOURS	MINUTES	Conductivity	Temperature	Ph	Turbidity	Water Quality
11/5/90		mhos	(°F)		(NTU's)	
	6	134.5	56	5.86	100+	brown sand
	15	117.6	51	5.82	+8	sl. turbid
	25	121.2	55	5.87	22	mostly clear
	50	132.0	55	5.99	100+	turbid, brn
11/9	17 min	143	55	7.11	9	clear
	25	151	54	6.80	5.4	clear
	41	144	54	6.08	2.7	clear
	50	145	54	6.3	8.4	clear
Bailer		103	55	6.2	37	sl. cldy

VARIABLE HEAD TEST DATA

Type of Test	N/A	Length of Screen	15 Ft
Date	11/5/90-11/9/90		
Lithology at Screen	Sand & Gravel	Geologic Formation	Upper Glacial Aq.
Reference Point	Top of Casing	Height of Ref. above ground	2.97

Hours	minutes	DEPTH TO WATER LEVEL	REMARKS
			44 Evacuation = 1.75 bbls
			" " casing only = .5 bbl
			Pump rate .6 gpm - .7 gpm
			WL = 28.42
			Evacuated 4 x casing vol.
			or 1/2 bbl.
			Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 86082F
Well-site Location NE Corner - West of Lincoln	Well # 1D
Contractor Marine Pollution	Representative Keith Klaus
Consultant R.E. Portorino, P.C	Representative RAY GLAER
Borehole Diameter 8"	Ground Elevation / Total Depth 100
Type of PVC 3in 20 slot	Ground Water Level 28.26 / Screen Depth 86.1-96.1
Volume of Water in Case/well 27 gal	Pump Rate (gal/min) .6 gpm

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	20	53	54	6.39	10 NTU	clear
	30	55	53	6.44	12 NTU	clear
	65	53	53	6.03	6	clear
1	20	53	53	6.49	3.5	clear
1	55	52	53	5.97	2.4	v. clear
2	29	65	52	6.04	1.7	v. clear
3	02	53	52	5.92	2.5	v. clear
Bailer Sample		52	53	6.07	4.9	v. clear

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 10 Ft	Date
Lithology at Screen Sand	Geologic Formation Upper Glacial Aq.	
Reference Point Top of Casing	Height of Ref. above ground 3.08	

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

4x evacuation = 2.75 bbls
11/9/ - WL - 28.26
calculated 106 g 4x evac.
4x vol. of casing Evacuated
or 2 bbls

instantaneous recovery measured in well after purging.

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 860 F
Well-site Location Lincoln Ave West Cross Grad	Well # 2S
Contractor Marine Pollution	Representative Eric Jenne
Consultant R.E. Pustorino	Representative RAY GLOVER
Borehole Diameter 11"	Ground Elevation
Type of PVC 3" 20 slot	Ground Water Level 19.04
Volume of Water in Case 5.97	Pump Rate (gal/min) 6-.75 gpm
Total Depth 35 Ft	Screen Depth 17.0-32.0

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	7	275	55	5.11	14	clear no sand
	15	268	56	5.06	8.8	clear
	23	262	55	4.79	7.1	clear
	32	268	54	4.71	8.2	clear
	42	271	54	4.97	4.3	clear
	51	271	53	4.95	4.7	clear
	59	269	53	4.84	2.8	clear
Bailer Sample		258	54	5.15	78	sl. turbid

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 15 Ft.
Date 11/13/90	
Lithology at Screen Sand & Gravel	Geologic Formation Up. Glacial Aq.
Reference Point Top of Case	Height of Ref. above ground 5.02

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

24 gals for 4x evacuation all samples taken from bailer

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 86082F
Well-site Location Lincoln Ave. W. Cross Gradient	Well # 2D
Contractor Marine Pollution	Representative Eric Jenne
Consultant R.E Postorino, P.C	Representative RAY Glover
Borehole Diameter 8"	Ground Elevation
Type of PVC 3" 20slot	Ground Water Level 19.04
Total Depth 99 Ft	Screen Depth 83.5-93.5
Volume of Water in Case 29 gals	Pump Rate (gal/min) .6 gpm

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	16	245	54	6.44	3.3	clear
	40	417	53	5.73	7.0	"
1	~~11~~ 0	451	53	5.87	2.4	"
1	20	454	52	5.90	5.4	"
1	50	455	53	5.88	3.4	"
2	10	452	52	5.87	2.5	"
		433	52	5.91	3.4	"
2	55					
Bailout		291	51	6.19	6.1	

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 10 Ft
Date 11/13/90	
Lithology at Screen Sand	Geologic Formation Up. Glacial Ag.
Reference Point Top of Casing	Height of Ref. above ground 3.38'

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

116 gals or about 2bbls for 4x evacuation

Stopped purging after 4x EVAC

*Only VOA sample taken from bailer, all others taken from pump;

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF Islip Sayville Landfill	Project No. 86C 32F
Well-site Location Down Gradient SW	Well # 3S
Contractor Marine Pollution	Representative EPIC Denne
Consultant R.E. Pustorino, P.C.	Representative RAY Glover
Borehole Diameter ±11"	Ground Elevation
Type of PVC 3" 20 slot	Ground Water Level 22.23
Volume of Water in Case 6.5 g	Pump Rate (gal/min) .75
Total Depth 41 Ft	Screen Depth 23.9-38.9

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	685	54	6.93	9	clear dark particles (a
	10	630	52	6.92	7	clear w/ " " + rt
	20	598	55	6.87	8	" " pa.
	30	581	54	6.80	4	" "
	40	600	56	6.75	8	
Bailer		457	53	6.75	45	sl. turbid to
Sample						clear

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 15 Ft
Date 11-14-90	
Lithology at Screen Sand and Gravel	Geologic Formation Up. Glacial Aq
Reference Point Top of Casing	Height of Ref. above ground 3.31

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

4x EVAC = 30 gals

Iron Oxides in water, (from recharge basin discharge), sl. odorous

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 86082F
Well-site Location Downgradient SW	Well # 3D
Contractor Marine Pollution	Representative Eric Jenne
Consultant R.E. Pastorino, P.C.	Representative KAY CLOVER
Borehole Diameter 8"	Ground Elevation
Type of PVC 3" PVC 20 Sch	Ground Water Level 23.20
Total Depth 79 Ft	Screen Depth 85.8-95.8'
Volume of Water in Case 28.4	Pump Rate (gal/min) .75

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	12	996	52	7.58	19	clear, sl. yel
	20	1518	52	7.06	12	clear "
	40	1523	53	6.81	11	clear "
	52	1552	52	6.84	7	clear "
1	02	1540	52	6.84	8	clear "
1	20	1543	52	6.82	8	" "
1	35	1560	52	6.75	6	" "
Bailer Sample		1110	50	7.04	22	

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 10 Ft
Date 11-14-90	
Lithology at Screen Sand	Geologic Formation Up. Glac. Ag
Reference Point Top of Case	Height of Ref. above ground 3.26

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

4x Evac. = 2.06 Bbl
Evac. 2 bbls

Samples turn turbid after setting 15 min, precip. of dissolved solids (yellow-brn) sl. metallic (putrid) odor

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 86[illegible]2F
Well-site Location DownGradient SE	Well # 4S
Contractor Marine Pollution	Representative Eric Jenne
Consultant R.E. Pustorino, P.C.	Representative KAY Glo[illegible]
Borehole Diameter ±11"	Ground Elevation [illegible]
Total Depth 45	
Type of PVC 3" 20slot	Ground Water Level 24.60
Screen Depth 27.2-42.2	
Volume of Water in Case 7.5	Pump Rate (gal/min) ±75 gpm

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	792	58	6.95	8	clr-yel to snd
	15	828	58	6.58	12	" "
	30	804	58	6.59	14	clr-yel no snd
	40	810	59	6.61	10	" "
	45	828	59	6.74	8	" "
Bailer Sample		923	60	6.63	25	bailer is stabilized so was 45

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 15Ft
Date 11-15-90	
Lithology at Screen Sand & Gravel	Geologic Formation Up. Glac. Aquifer
Reference Point Top of Case	Height of Ref. above ground 2.70'

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

30.77 gal 4x Evac

Floaters on top of water table

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 06082F
Well-site Location Downgradient SE	Well # 4D
Contractor Marine Pollution	Representative Eric Jenne
Consultant R.E. Pustorino, P.C.	Representative KAY GLOVER
Borehole Diameter 8"	Ground Elevation
Type of PVC 3' 20 slot	Ground Water Level 25.43
Total Depth 100 Ft	Screen Depth 85.6-95.6
Volume of Water in Case 27.54	Pump Rate (gal/min) .75-1 gpm

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	7	362	54	6.63	5	clear-sl. wet
	20	37[illegible]	54	6.50	5	" "
	35	384	54	6.40	5	" "
	55	380	54	6.46	9	" "
1	05	386	54	6.45	5	" "
1	35	384	55	6.38	6	" "
1	50	387	56	6.46	7	
Barrier Sample		281	57	9.00	20	sl. turbid (yellow)

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 10 Ft
Date	
Lithology at Screen Sand	Geologic Formation Up. Glacial Aq.
Reference Point Top of Case	Height of Ref. above ground 3.47'

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

110 gals - 4x Evac.

Evacuated about 4x vol.

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL — Project No. 8607

Well-site Location Cogles Ave Cross Gradient E — Well # 55

Contractor Marine Pollution — Representative Eric Je[illegible]

Consultant R.E. Pustorino, P.C. — Representative Pat Glover

Borehole Diameter 8 11" — Ground Elevation — Total Depth 40

Type of PVC 3" 20 Slot — Ground Water Level 24.43 — Screen Depth 24.4-39.4

Volume of Water in Case 6.2 gal — Pump Rate (gal/min) .6 - .75 gpm

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	631	51	5.81	9.1	clear
	12	635	50	5.78	4.9	clear
	22	631	51	5.86	2.0	clear
	36	627	52	5.85	1.2	clear
Final	43	626	51	5.86	2.4	clear
Samples						
Bailer		508	51	6.2	8.9	clear
Sample						

VARIABLE HEAD TEST DATA

Type of Test N/A — Length of Screen 15 Ft. — Date 11/13/90

Lithology at Screen Sand & Gravel — Geologic Formation Upper Glac. Aq.

Reference Point Top of Case — Height of Ref. above ground 1.83'

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

4x evac = 25 gals
4x evac. — sampled from pump after 1/2 bbl.

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 86082F
Well-site Location Coates Ave. Cross Gradient E	Well # 5D
Contractor Marine Pollution	Representative Eric Jenne
Consultant R.E. Pasterino P.C	Representative RAP Glover
Borehole Diameter 8"	Ground Elevation / Total Depth 76 ft
Type of PVC 3" 20slot	Ground Water Level 25.54 / Screen Depth 65.5-75.5
Volume of Water in Case 19.9 gal	Pump Rate (gal/min) .75 gpm

HOURS	MINUTES	Conductivity	Temperature	Ph	Turbidity	Water Quality
		mhos	(°F)		(NTU's)	
	10	320	51	5.65	100+	turbid, H.brown
	22	326	50	5.45	100+	Cloudy
	40	322	51	5.30	39	sl. cloudy
	52	323	52	5.24	24	clear
1	10	318	52	5.28	22	clear
1	20					
Quin Sample		334	51	6.14	38	clear, suspended mon

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 10 ft.	Date 11/14/90
Lithology at Screen Sand	Geologic Formation UP. Glac. Aq.	
Reference Point Top of Case	Height of Ref. above ground 3.31'	

Hours	minutes	DEPTH TO WATER LEVEL	REMARKS
			79.7 gal = 4x Evac.
			= 1.45 bbls
			1.5 bbls evacuate

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 8608
Well-site Location Ellsworth Ave O.G. So.	Well # 6S
Contractor Marine Pollution	Representative
Consultant R.E. Pastorino, P.C.	Representative RAY GLOVER

Borehole Diameter ±11	Ground Elevation	Total Depth 47 ft
Type of PVC 3" 20 slot	Ground Water Level 24.42	Screen Depth 25.8 - 35.8
Volume of Water in Case 7.25 gal	Pump Rate (gal/min) ±1 gpm	

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	5	480	58	6.00	21	Sl. yel.
	14	442	57	6.43	14	"
	18	414	56	6.47	12	"
	26	440	58	6.19	10	Sl. yel.
Bailer	111	154	58	5.38	21	
Sample						
	112				40	Sl. turbid
					top of Water	

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 15 ft	Date
Lithology at Screen Sand & Gravel		Geologic Formation Up. Glacial Aq.
Reference Point TOP OF CASE		Height of Ref. above ground 2.88'

Hours	minutes	DEPTH TO WATER LEVEL	REMARKS
			29 gals = 4x EVAC.

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Project No. 86082F
Well-site Location Ellsworth Ave D Gradient S	Well # 6I
Contractor Marine Pollution	Representative Eric Tenne
Consultant R.E. Pustorino, P.C.	Representative RAY CLOVER
Borehole Diameter 8"	Ground Elevation
Type of PVC 3" 20 slot	Ground Water Level 24.7
Total Depth 90 FT	Screen Depth 79.4-89.4
Volume of Water in Case	Pump Rate (gal/min) ±1 gpm

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	15	878	59	6.67	11	clear slight
	30	994	59	6.74	6	tr sand
	40	1078	51	6.76	10	" "
	55	1098	57	6.65	12	" "
1	20	1099	57	6.72	"	sl. yellow
1	45	1062	57	6.88	20	
Bailer Sample		875	56	6.74	28	

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 10 FT
Date 11-15-90	
Lithology at Screen Sand	Geologic Formation Up. Glacial Ag.
Reference Point TOP OF CASE	Height of Ref. above ground 2.79'

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

98 gals (1.8 bbls) 4x EVAC.

4x Evac. 1.8 bbls

Field Permiability high

PURGING AND SAMPLING DATA

Project TOWN OF ISLIP SAYVILLE LANDFILL	Proje No. 86
Well-site Location Ellsworth Ave Downgrad. So.	Well # 6L
Contractor Marine Pollution	Representative Eric Ten
Consultant R.E. Pustorino, P.C.	Representative RAY C ER
Borehole Diameter 8"	Ground Elevation
Type of PVC 3" 20 slot	Ground Water Level 25.21
Volume of Water in Case	Pump Rate (gal/min) 1 gpm

Total ch 180Ft

Screen epth 172.2-17[illegible]

HOURS	MINUTES	Conductivity mhos	Temperature (°F)	Ph	Turbidity (NTU's)	Water Quality
	10	122	58	8.23	9	clear tr F snd
	30	107	56	7.43	16	"
1	00	106	56	6.95	16	clear
1	30	107	55	7.08	15	
2	–	109	59	7.05	13	clear
2	15	108	58	6.86	12	"
2	30	109	57	6.66	12	clear
Bailer	#1	119	58	8.41	12	clear
Sample	#2	120	50	6.88	12	

VARIABLE HEAD TEST DATA

Type of Test N/A	Length of Screen 4 ft
Date 11-16-90	
Lithology at Screen Sand and Silt	Geologic Formation top of Magothy Sr Fc.
Reference Point TOP OF CASE	Height of Ref. above ground 3.42

Hours	minutes	DEPTH TO WATER LEVEL

REMARKS

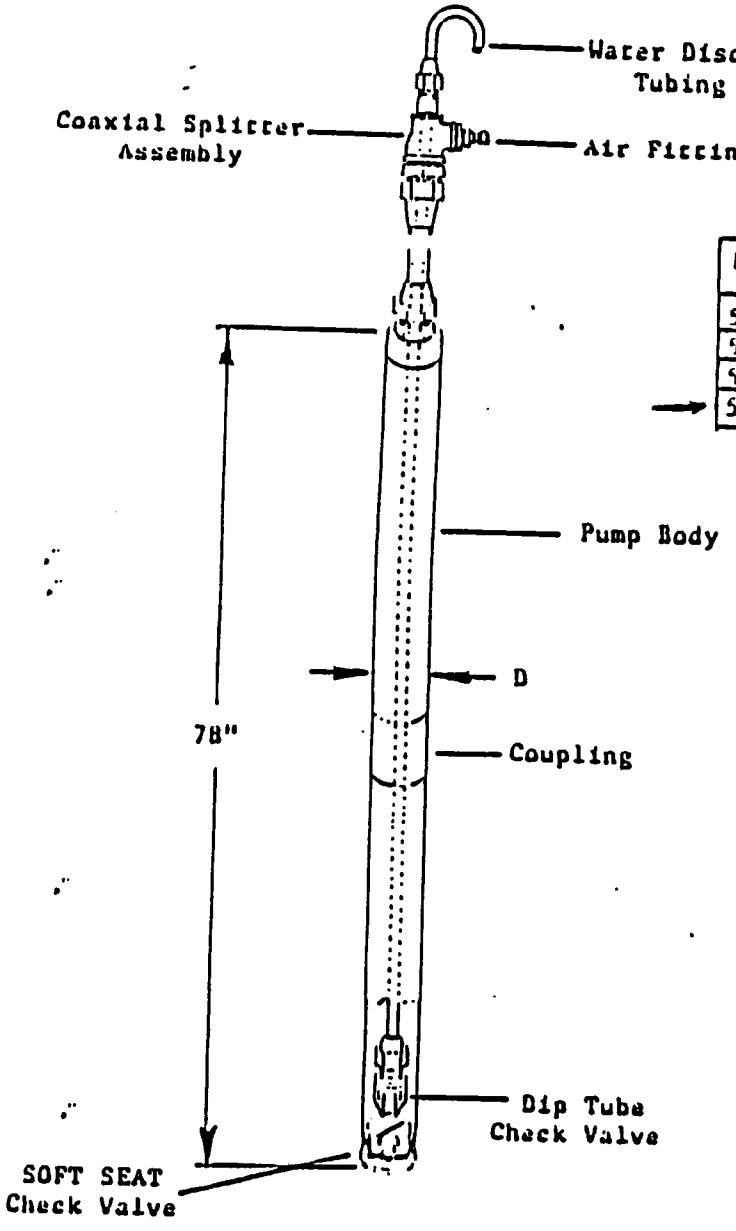
230 gals = 4 x [illegible]
≈ 4 bbls

Field Permiability high-mod.

AMERICAN SIGMA

GEOGUARD

Gas-Drive Pump



Model	Material	D	WT	Capacity
5602	SS-TFE	1.38	6.8	.4
5612	SS-TFE	1.66	9.2	.6
5622	PVC	1.66	3.2	.5
5632	PVC	1.90	3.8	.6

Pump Model	Bailer Adapter
5602	5349
5612	5255
5622	5342
5632	5262

*Coupling allows pumps to be shortened to 40" L version for bent well casings, or to be converted to 40" L bladder pump.

ONE ELIZABETH ST. P.O. BOX 300, MIDDLEPORT, N.Y. 14105-0300 (716) 735-3315

Description

The gas drive pump is comprised of the following major components:

1. Bottom check valve assembly
2. Pump body
3. Dip tube check valve
4. Top fitting assembly

The tubing assembly is delivered fully assembled. Ready for attachment the gas drive pump, the tubing assembly consists of the following:

1. Polyethylene water discharge tubing
2. Polyethylene air tubing
3. Coaxial tubing splitter assembly

The tubing assembly is coaxially arranged such that the water discharge tubing is contained within the air tubing.

The coaxial splitter assembly is used to segregate the two tubes at the well head. It is equipped with a quick-connect air fitting through which the compressed gas is delivered to and exits from the pump. Also included are two compression fittings, one for attachment to the outer air tubing, and one which is used to seal the water discharge tubing.

Operation of the GEOGUARD Gas Drive Pump

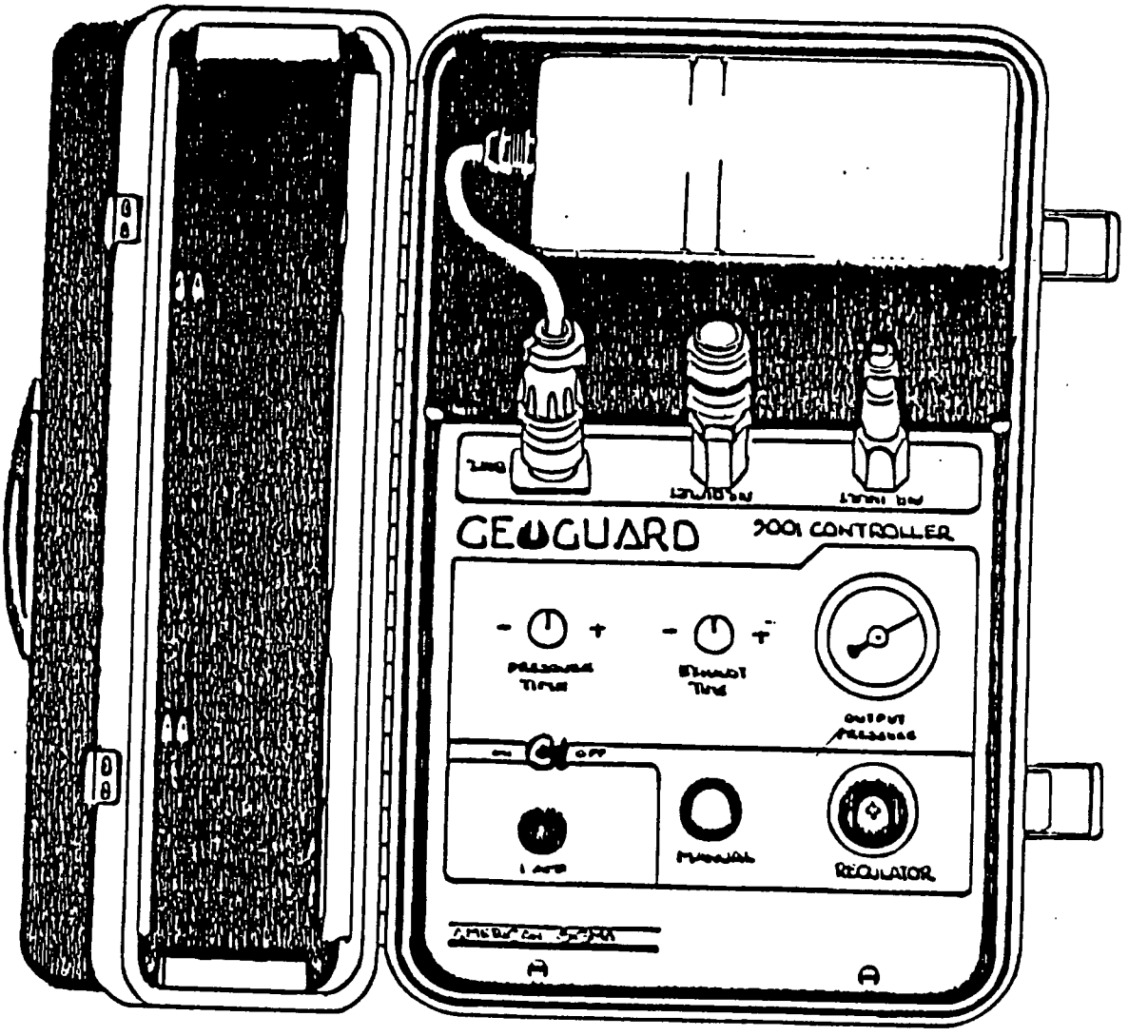
The gas drive pump is actuated by compressed gas (air or nitrogen). The pump must be allowed to fill, by venting the air line to atmosphere. The hydrostatic pressure above the pump intake will cause the pump body to fill. To cause the pump to discharge, compressed gas is applied to the body via the air tubing. This action will cause the water within the body to discharge to the ground surface through the water discharge tubing. After the body has been evacuated, the compressed air is allowed to vent back to atmosphere which will allow the body to refill. Continuous operation relies upon this pressure/vent cycling of compressed gas. The control of the pressure/vent cycle is accomplished by a cycle controller. (Refer to the description of the GEOGUARD Model 5001 Automatic Controller).

To actuate the gas drive pump, attach the female quick-connect fitting on the air line from the controller to the corresponding male quick-connect fitting on the side of the splitter assembly (see Figure 1). Adjust the automatic controller timers as described in the controller section.

Note:

The gas drive pump operates with direct air/water contact. Therefore, if the pressure timer on the controller is adjusted such that too much pressure time is applied to the body, air will escape through the water discharge tubing after the body has been fully evacuated of water. Optimum performance (pumping rate) is achieved when the pressure timer switches to exhaust just before the body is fully evacuated of water, which means that air will not be observed discharging from the water discharge tubing.

GEOGUARD



GEOGUARD Model 5001 Automatic Controller

The GEOGUARD Model 5001 controller is a highly portable and convenient means of cycling the compressed drive air to the GEOGUARD pump. It is housed in a light weight, yet rugged molded polyethylene case. The 5001 Controller is equipped with a pressure gauge which indicates the pressure inside the pump, a flow adjustment which is used to increase or decrease the flow rate of the pump and two timer adjustments, one for intake and one for discharge. The internal timer board is 100% solid state and is coated with polyurethane for rugged, dependable field use.

The Model 5001 Controller is powered by a 6 amp-hour 12 VDC battery. The controller will operate for approximately 40 hours on a fully charged battery. It is also equipped with a mechanical manual override which allows the controller to be actuated without the battery.

The GEOGUARD Model 5001 is standardly equipped with the following accessories:

- 6 Amp-hour 12 VDC gel cell battery
- Battery charger
- 25 feet of 3/8" I.D. air line, with fittings for connecting the controller to the drive air source
- 10 feet of 3/8" I.D. air line, with quick exhaust valve and fittings for connecting the controller to the pump tubing

The controller is rated for a maximum working pressure of 150 psi, which will operate a bladder pump, gas drive pump or Two-Stage pump at lift conditions to 325 feet.

Controller Operation

The controller is attached between the compressed air source and the pump splitter. Its function is to regulate the flow of compressed air to the pump. The controller essentially has two systems. One system controls the necessary cycling of the drive air from pressure (discharge) to vent (refill). On the left half of the controller panel are two adjustable knobs. The left knob, marked "Pressure Time", adjusts the time that compressed air is delivered to the pump. Rotating this knob to the left decreases the amount of time that the drive air is allowed to flow into the pump and rotating this knob to the right increases the time of the drive air delivery.

The right knob, marked "Exhaust Time", adjusts the time that the pump is vented to atmosphere. This venting allows the pump to refill after discharging. Rotating this knob to the left decreases fill/vent time, rotating this knob to the right increases fill/vent time.

The second system is located on the right side of the controller panel. At the top right is a pressure gauge which has a range of from 0 to 160 psi. Immediately below the gauge is a large knob used to regulate pressure of the drive air. The function of this knob is to increase or decrease drive air pressure which in turn controls the flow rate of the pump. Rotating this knob all the way to the right will cause the pump to discharge as rapidly as possible in any given situation. Rotating this knob to the left will decrease flow rate.

APPENDIX F

APPENDIX F

HYDROGRAPHS - ISLIP SITE

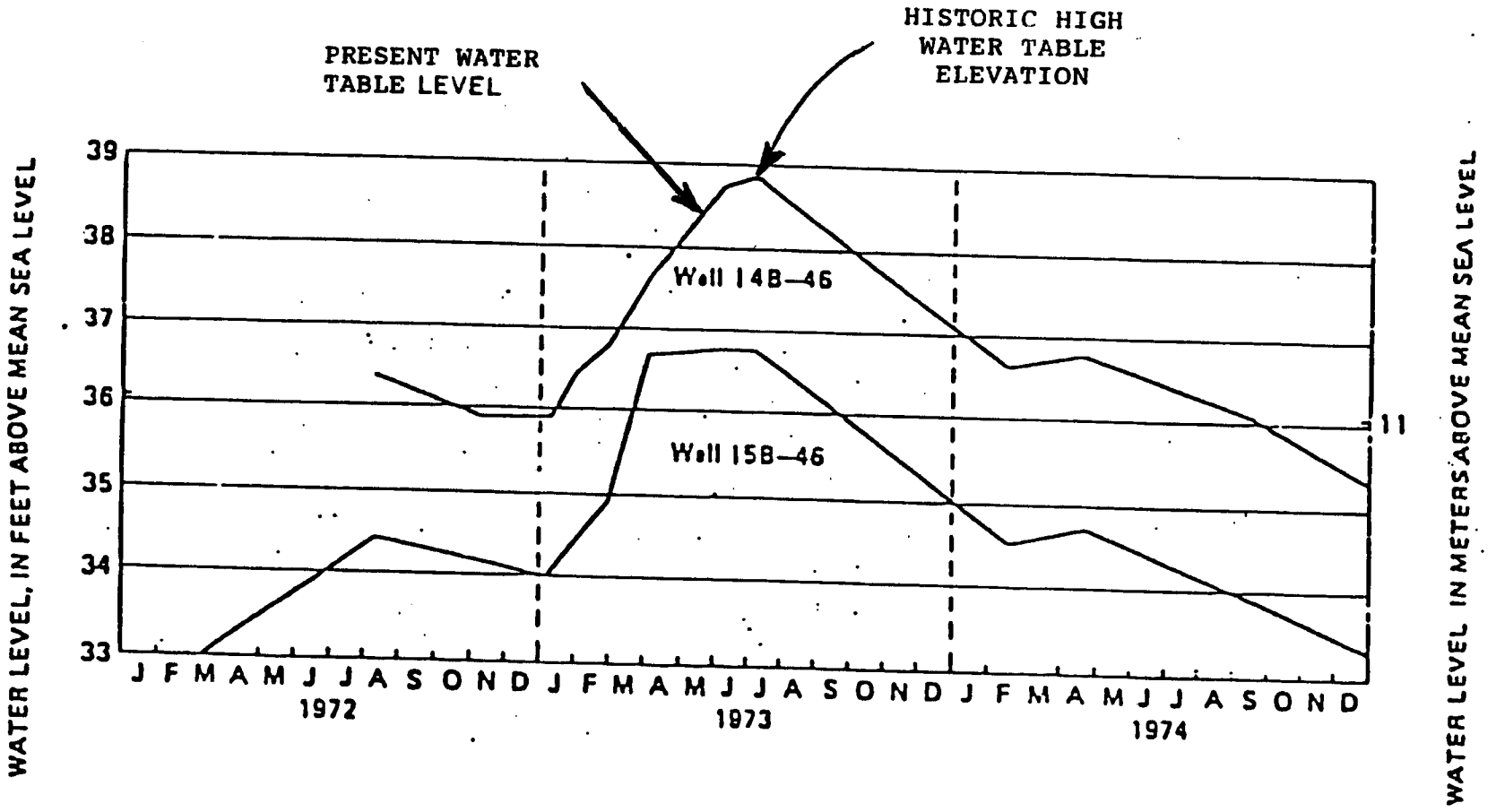
SPECIFIC CONDUCTIVITY - USGS RESULTS & PHASE II

MONITORING WELL LOCATIONS (METHANE)

METHANE MONITORING RESULTS

METHANE WELL DETAILS

MSA GAS INDICATOR (SPECS)

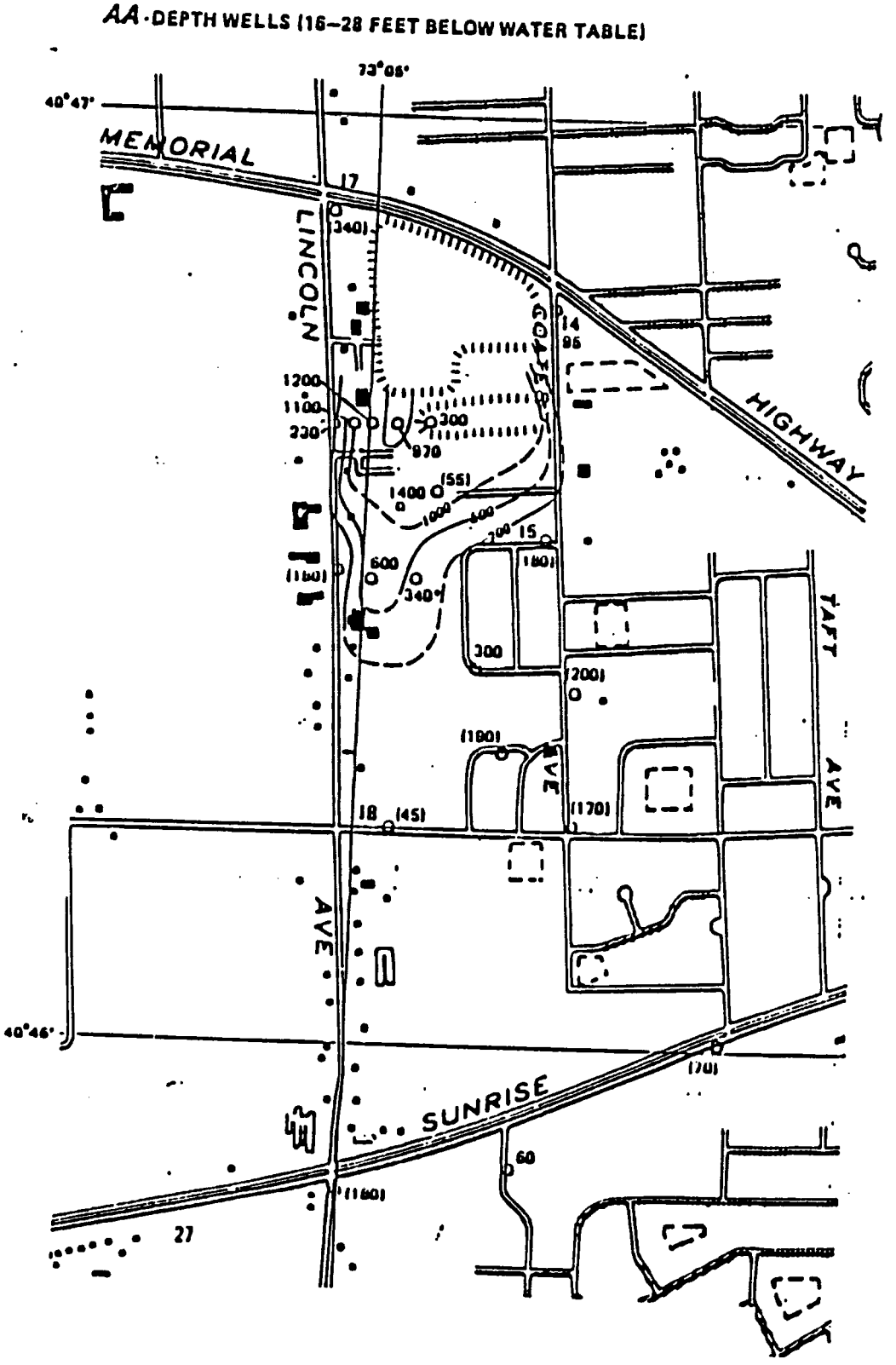


(Kimmel and Braids, 1980).

HYDROGRA[illegible] OF
WATER LEVELS IN WELLS

ISLIP LANDFILL AREA

R. E. PUSTORINO, P.C.



LINES OF EQUAL SPECIFIC CONDUCTANCE
(16-28 FEET BELOW WATER TABLE)

USGS STUDY RESULTS

R.E. PUSTORINO, P.C.

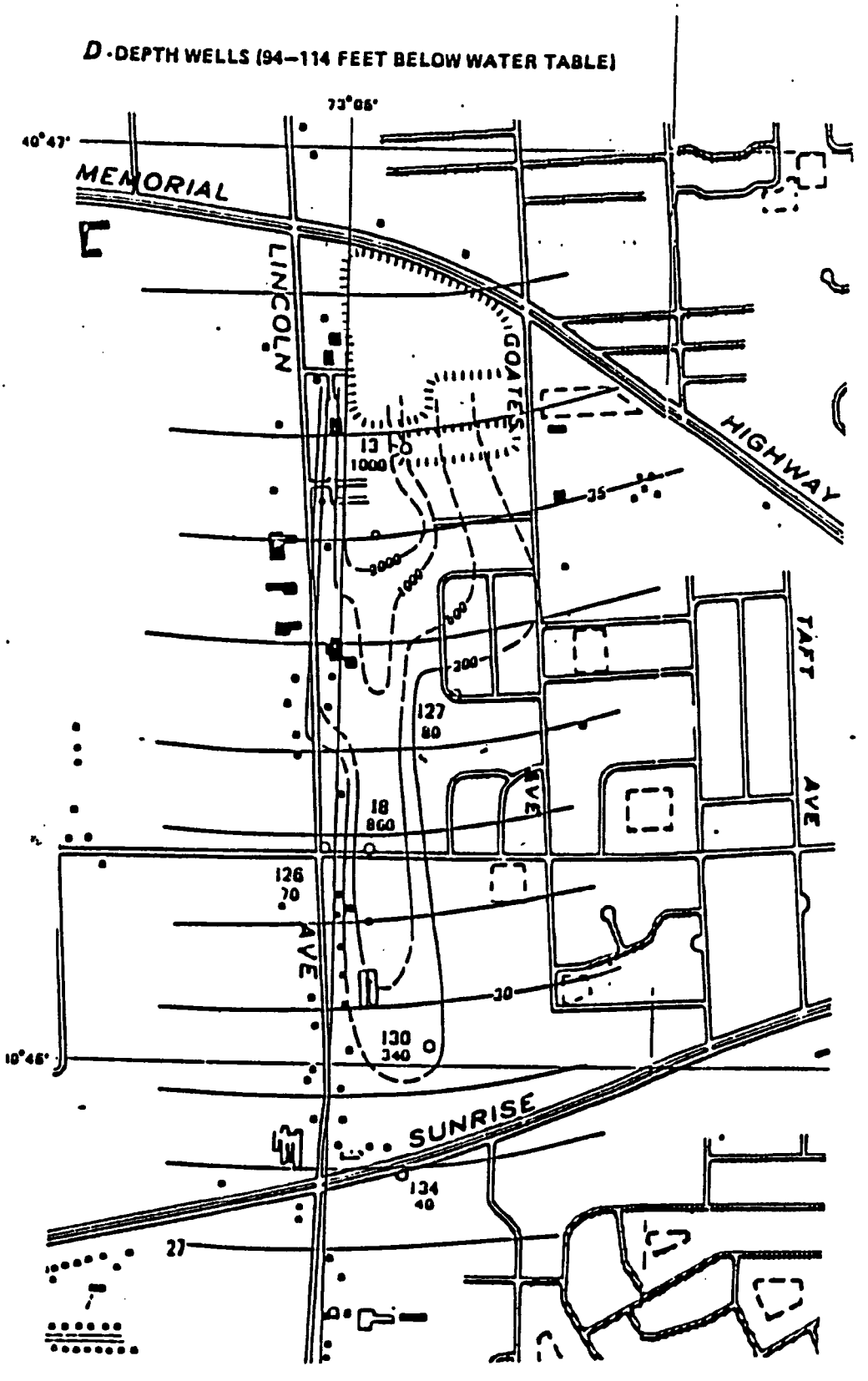
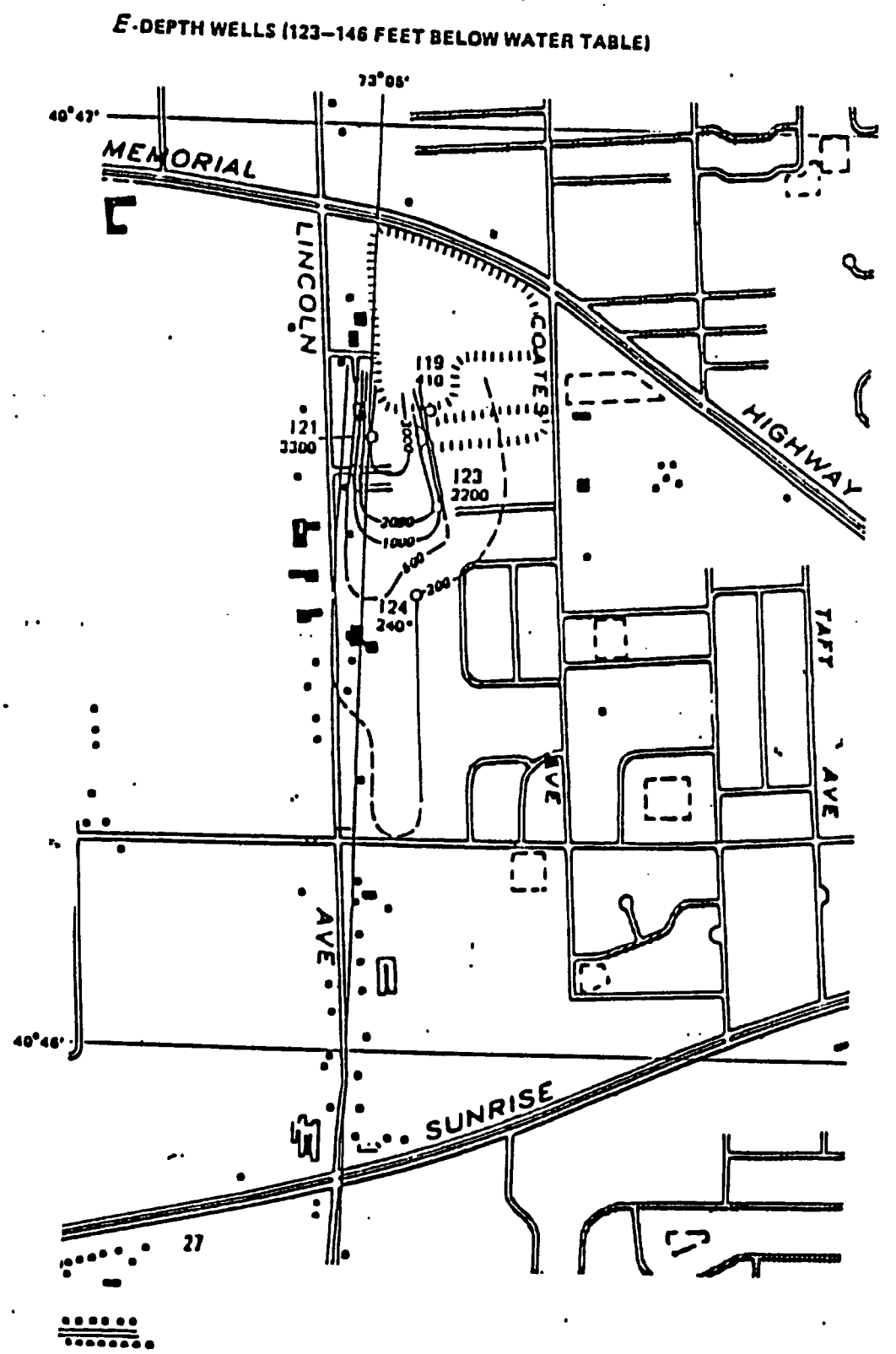


FIGURE
LINES OF EQUAL SPECIFIC CONDUCTANCE
(94-114 FEET BELOW WATER TABLE)

USGS STUDY RESULTS

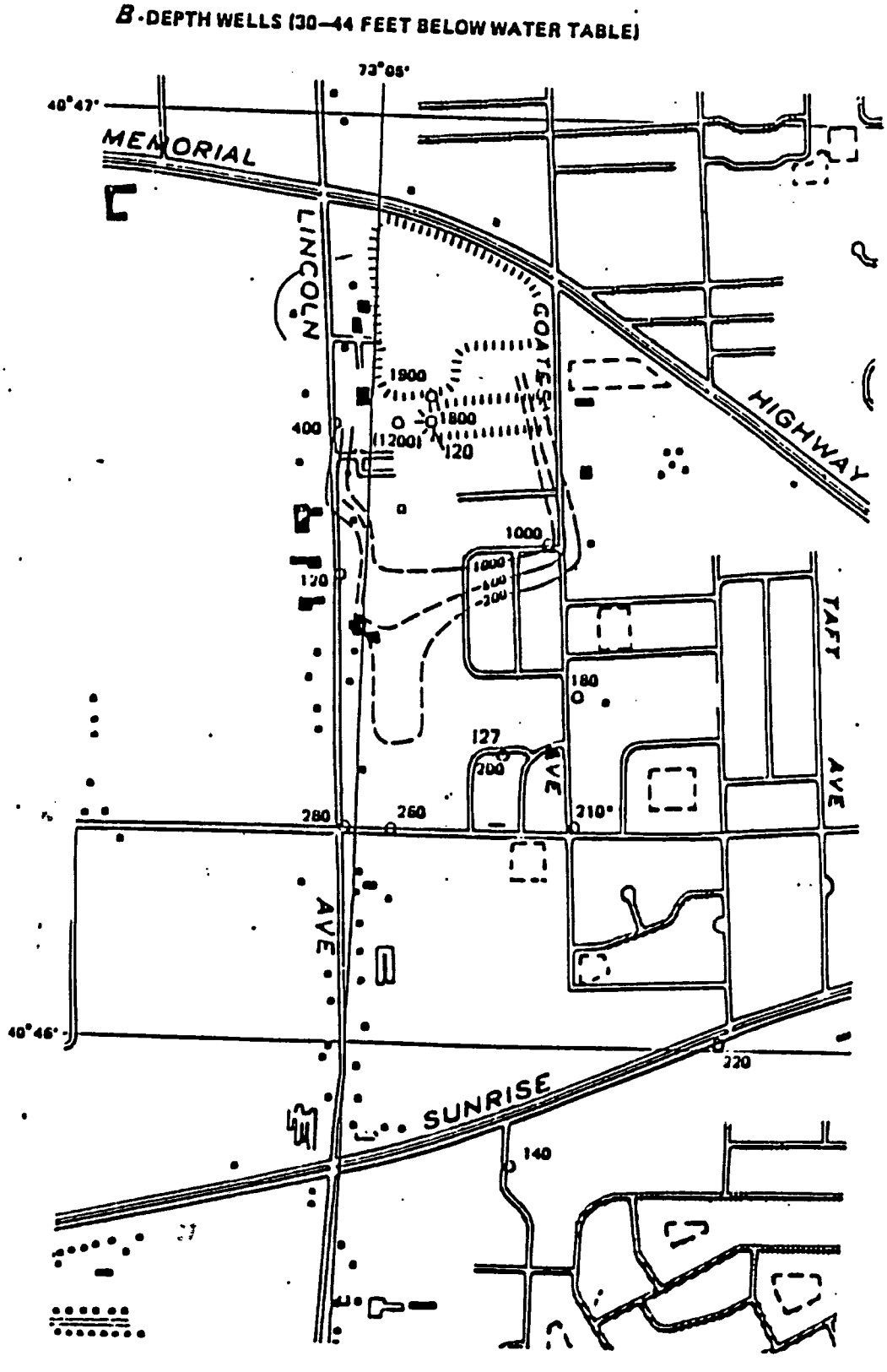
R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS



USGS STUDY RESULTS

LINES OF EQUAL SPECIFIC CONDUCTANCE
(123-146 FEET BELOW WATER TABLE)

R.E. PUSTORINO, P.C.

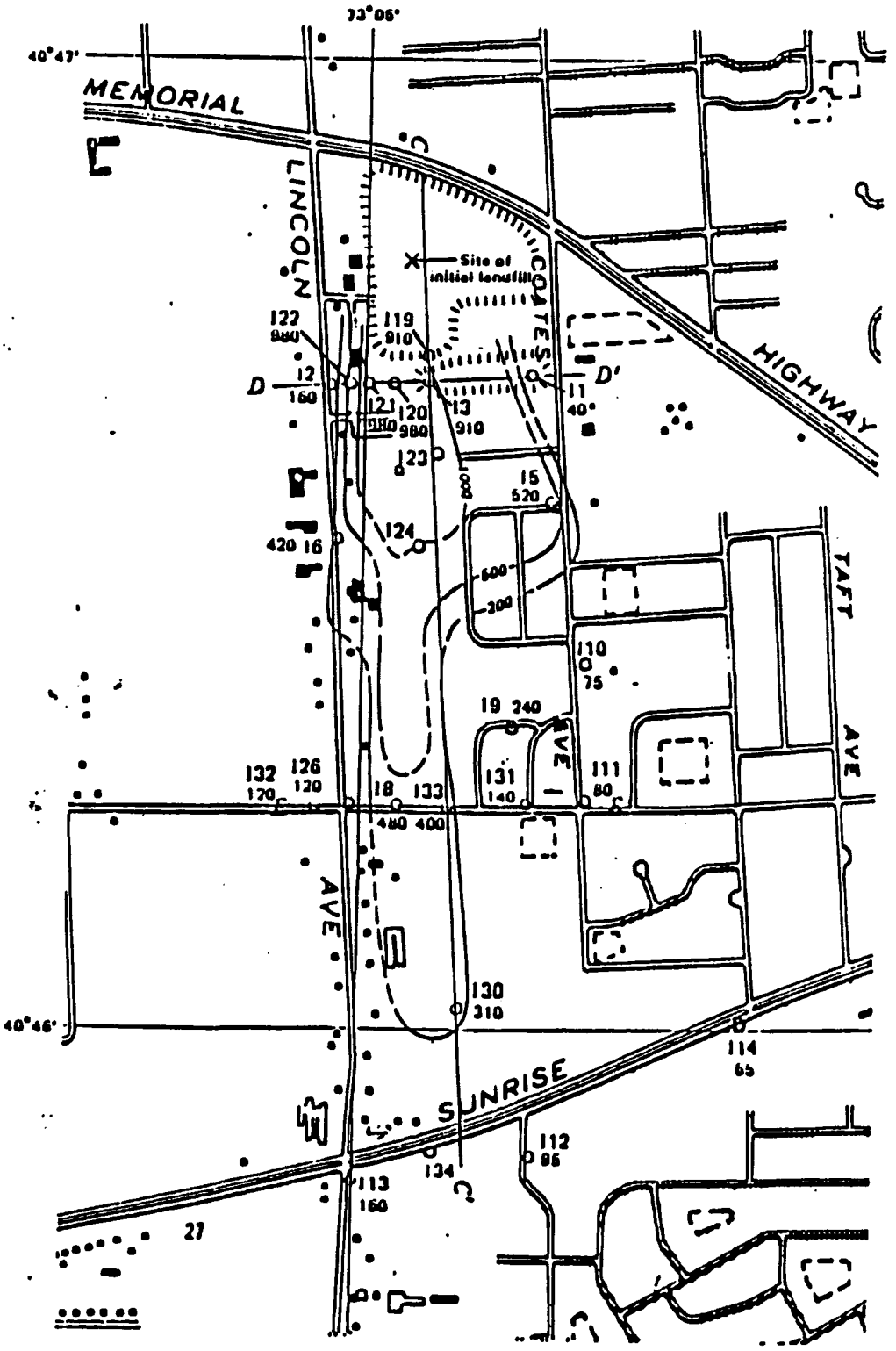


LINES OF EQUAL SPECIFIC CONDUCTANCE
(30-44 FEET BELOW WATER TABLE)

USGS STUDY RESULTS

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

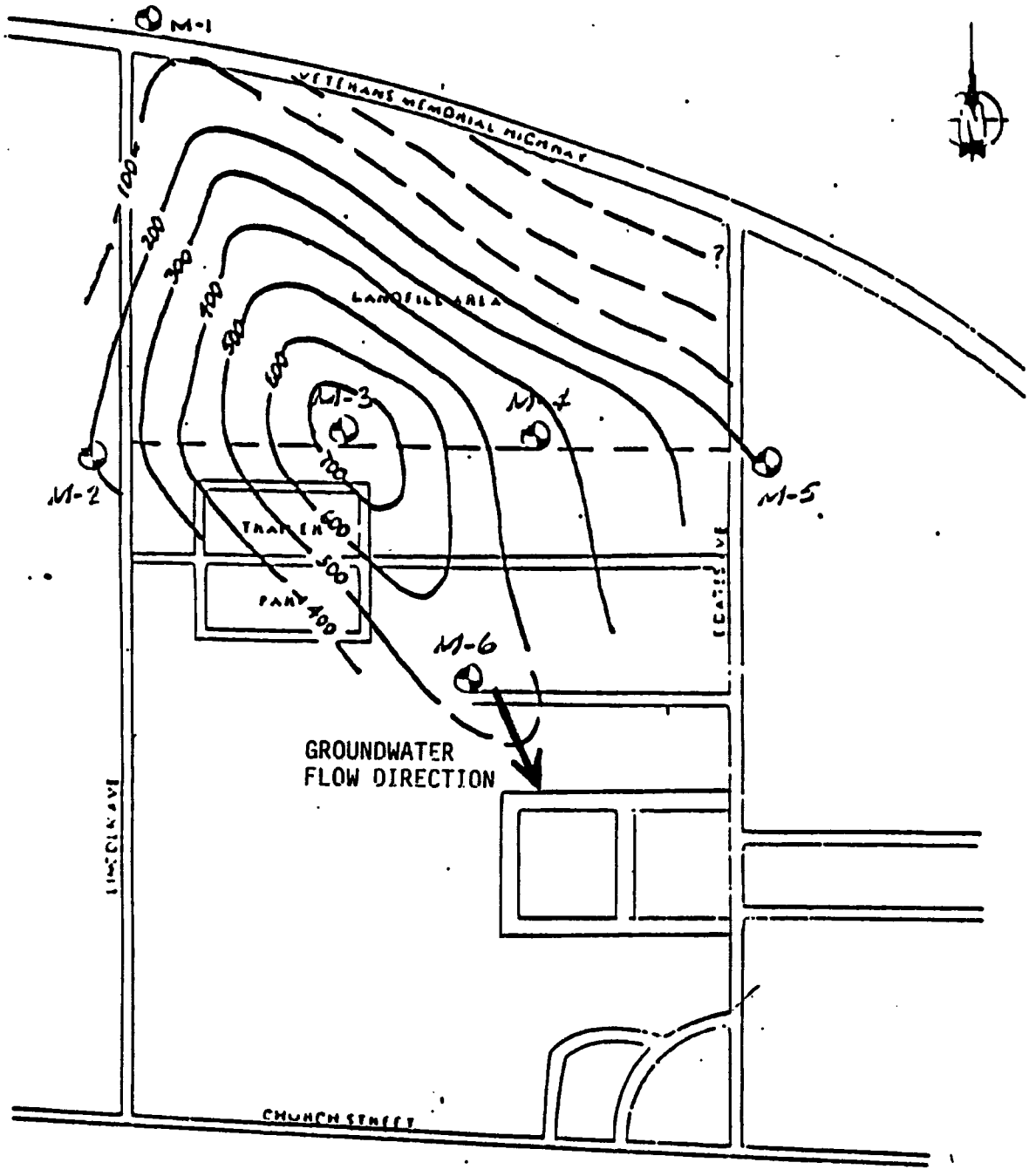
C-DEPTH WELLS (65–87 FEET BELOW WATER TABLE)



LINES OF EQUAL SPECIFIC CONDUCTANCE
(65-87 FEET BELOW WATER TABLE)

USGS STUDY RESULTS

R.E. PUSTORINO, P.C.

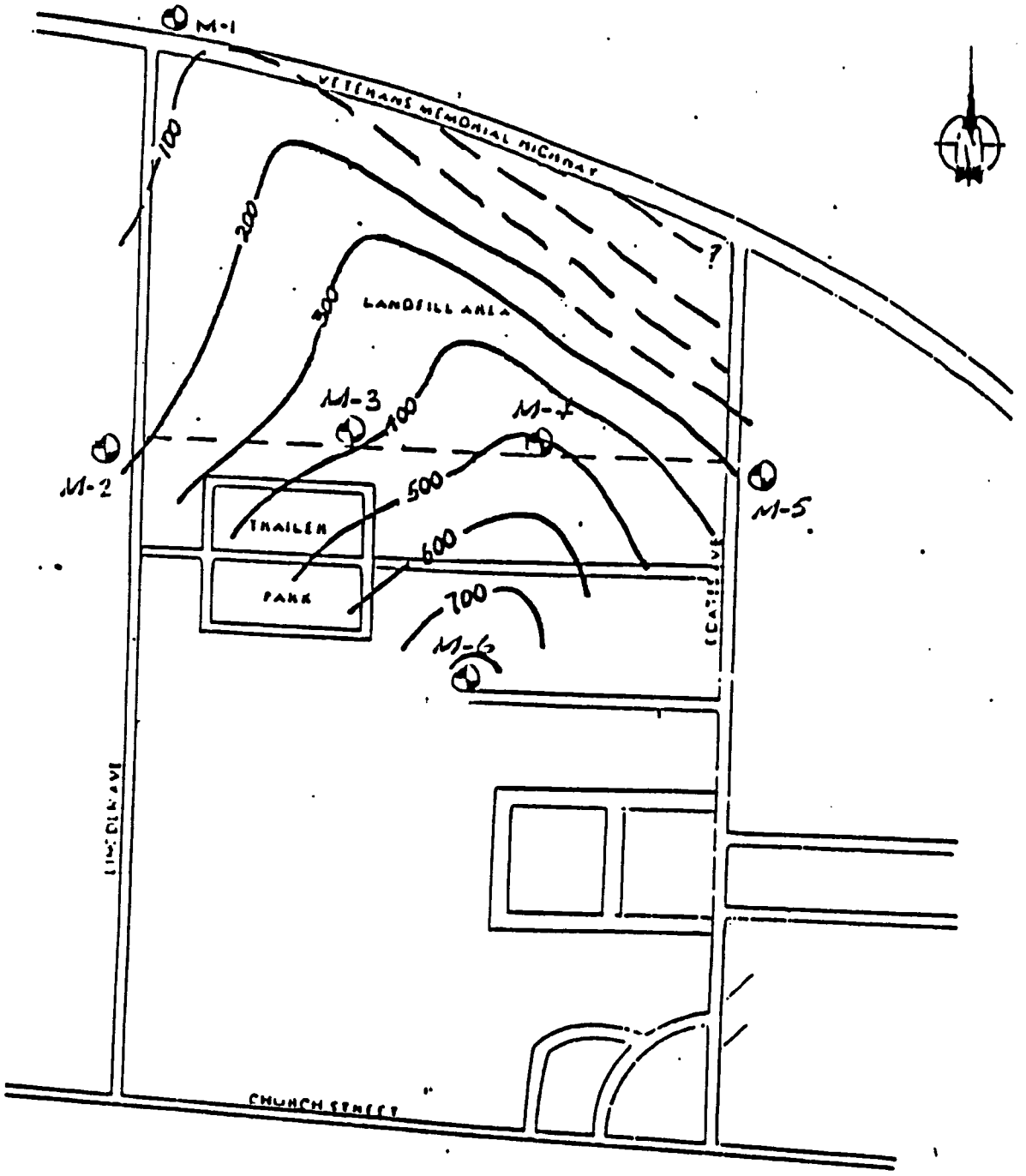


LEGEND

GROUNDWATER MONITORING WELL CLUSTER LOCATION

LEVEL D
60-75 FT. BELOW WATER TABLE
LINES OF EQUAL SPECIFIC CONDUCTANCE

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

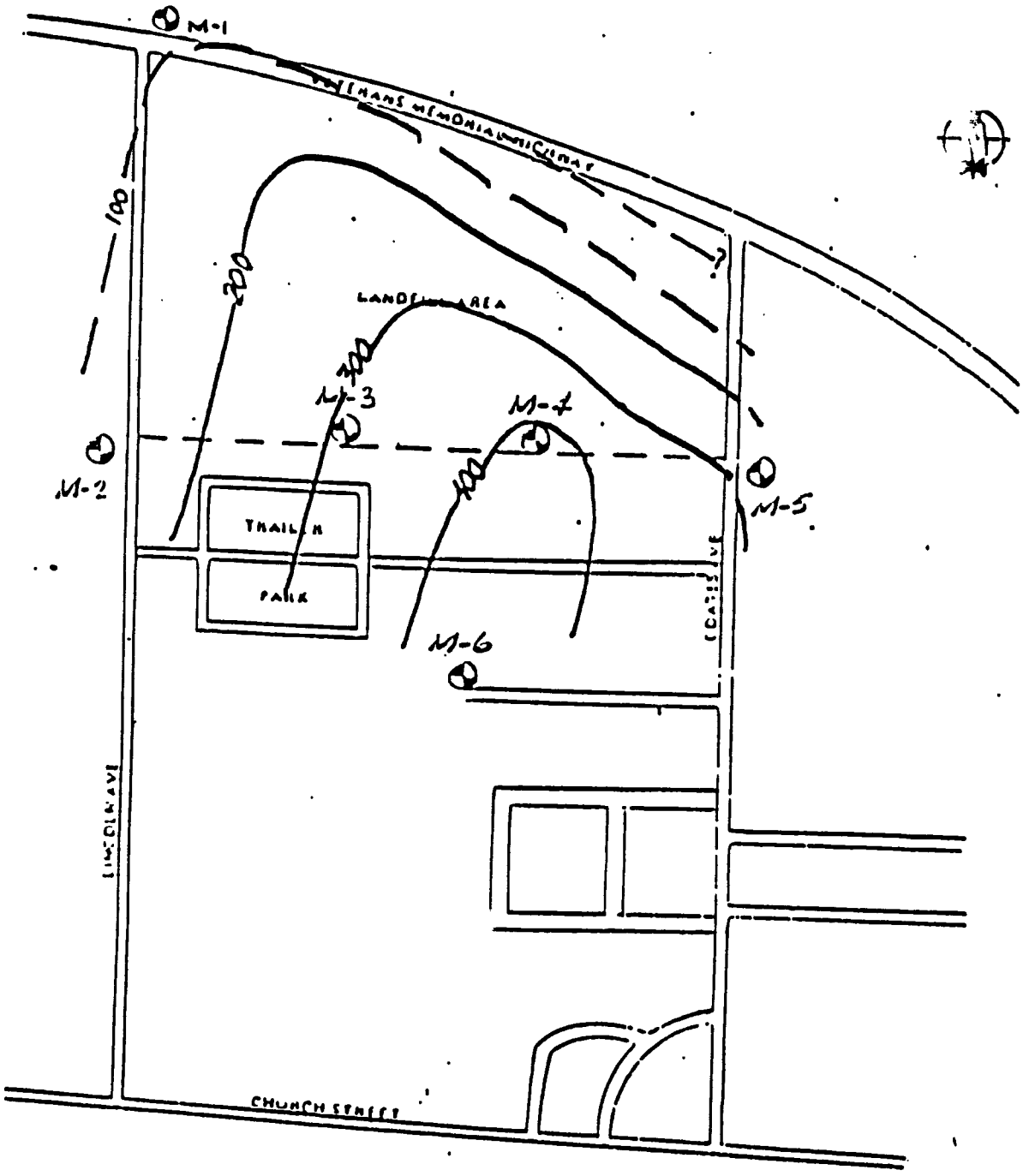


LEGEND

GROUNDWATER MONITORING WELL CLUSTER LOCATION

LEVEL C
45-60 FT. BELOW WATER TABLE
LINES OF EQUAL SPECIFIC CONDUCTANCE

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

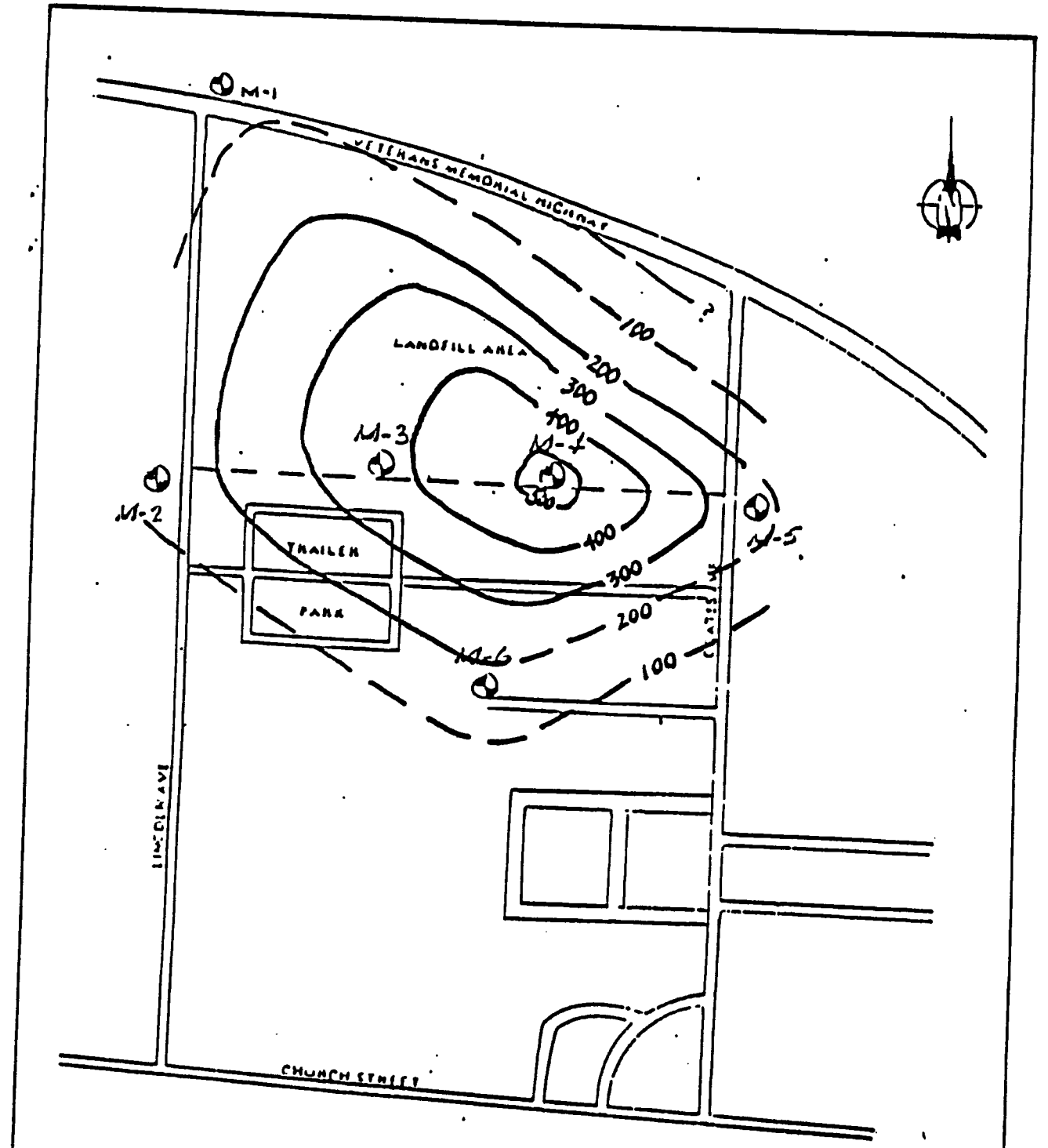


LEGEND

GROUNDWATER MONITORING WELL CLUSTER LOCATION

LEVEL B
30-45 FT. BELOW WATER TABLE
LINES OF EQUAL SPECIFIC CONDUCTANCE

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

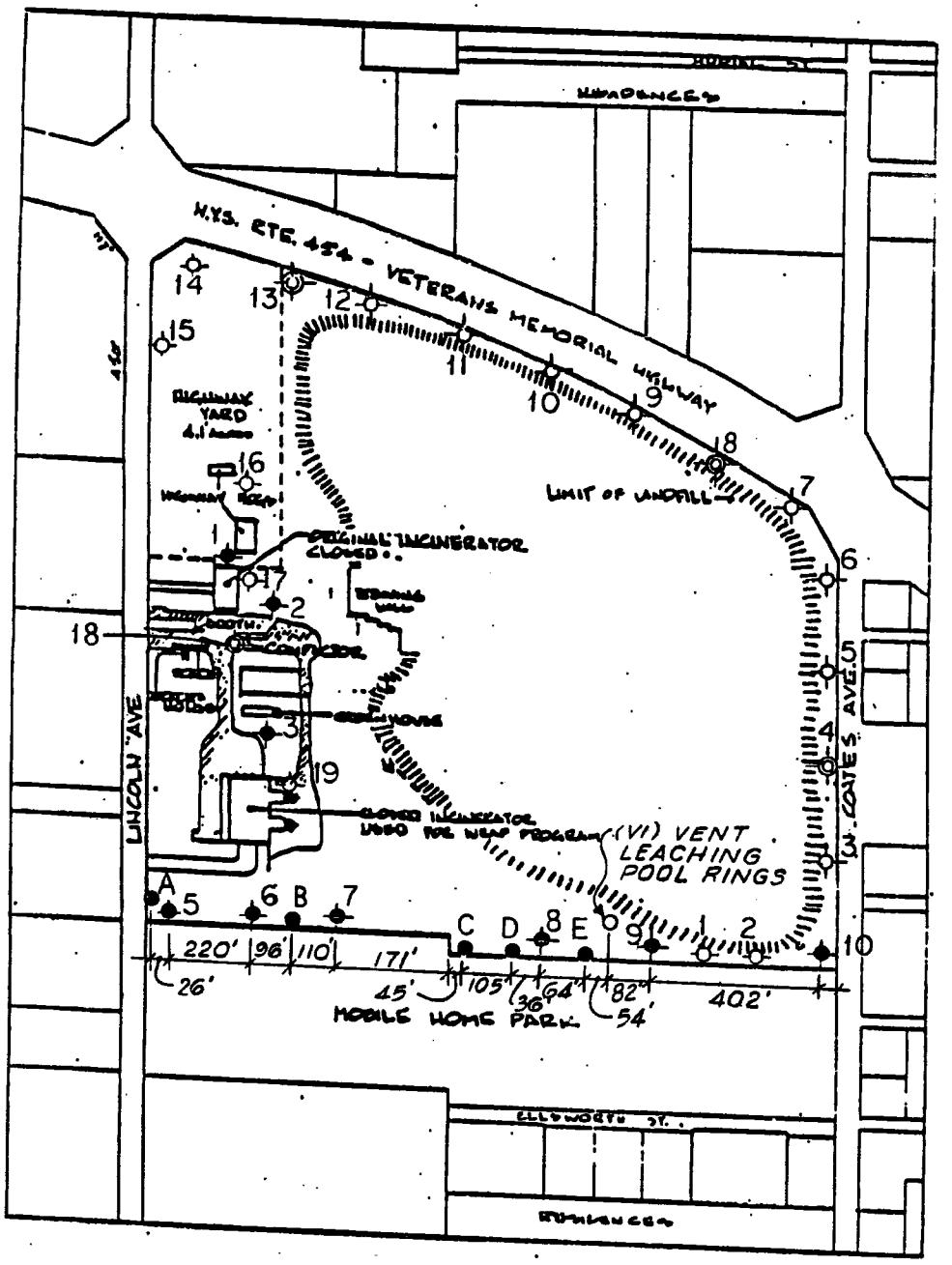


LEGEND

GROUNDWATER MONITORING WELL CLUSTER LOCATION

LEVEL 0
5-15 FT. BELOW WATER TABLE
LINES OF EQUAL SPECIFIC COUNUCTANCE
(μ Mhos / cm)

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS



LEGEND

- 1 1/4" PROBES INSTALLED IN 1975
- 4" PVC MONITORING WELLS INSTALLED IN 1984
- 4" PVC MONITORING WELLS - 1987 (19)
- 4" PVC MONITORING WELLS (SCREEN IN GROUNDWATER)

FIGURE

LOCATION OF MONITORING WELLS (METHANE)

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

BY M. S. Mone DATE 3-25-88
CHKD. BY _____ DATE _____
SUBJECT Town of Islip
Lincoln Ave

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS
2171 JERICHO TPKE.
COMMACK, NEW YORK 11725
(516) 499-1666

SHEET NO. 1 OF 2
JOB. NO. P6062

SUMMARY

WELL NO.	METHANE GAS MONITORING RESULTS					
	9:15 A	11:20 A	1:00 P	3:30 P	3/24/88 12:30 PM	3/17/88 11:15 AM
5-OLD	0%	0%	0%	0%	0%	0%
6-OLD	0%	0%	0%	0%	0%	0%
7-OLD	0%	0%	0%	0%	0%	0%
8-OLD	2% LEL	2% LEL	0%	2%	0%	0%
9-OLD	0%	0%	0%	0%	0%	30% LEL
1-NEW	4% GAS	4% GAS	4% GAS	4% GAS	8% G	8% G
2-NEW	8% GAS	8% GAS	8% GAS	8% GAS	8% G	12% G
10-OLD	12% LEL	12% LEL	2% GAS	12% LEL	6% G	4%
3-NEW	0%	0%	0%	0%	0%	0%
4-NEW	30% LEL	30% LEL	6% GAS	30% LEL	10% G	4% G
5-NEW	6% GAS	6% GAS	20% GAS	26% GAS	24% G	8% G
6-NEW	38% GAS	36% GAS	40% GAS	36% GAS	40% G	40% G
7-NEW	28% GAS	26% GAS	30% GAS	36% GAS	26% G	32% G
8-NEW	6% GAS	6% GAS	18% GAS	16% GAS	14% G	28% G
9-NEW	6% GAS	6% GAS	8% GAS	6% GAS	10% G	16% G
10-NEW	24% LEL	22% LEL	6% LEL	22% LEL	30% LEL	32% LEL
11-NEW	2% LEL	2% LEL	0%	2% LEL	0%	0% LEL
12-NEW	0%	0%	0%	0%	0%	0% LEL
13-NEW	0%	0%	0%	0%	0%	4% LEL
14-NEW	0%	0%	0%	0%	0%	0%
15-NEW	0%	0%	0%	0%	0%	0%

BY N. SIMONE DATE 3-25-88
CHKD. BY _____ DATE _____
SUBJECT TOWN OF ISLIP
LINCOLN AVE

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS
3171 JERICHO TPKE.
COMMACK, NEW YORK 11725
(516) 499-1866

SHEET NO. 2 OF 2
JOB. NO. 86052

WELL NO.	METHANE GAS MONITORING RESULTS					
	9:15 A	11:20 A	1:00 P	3:30 P	3/24/88 12:30 P	3/28/88 :15 A
16-NEW	32% GAS	30% GAS	35% GAS	30% GAS	42% G	22% G
17-NEW	0%	0%	0%	0%	0%	0%
1-OLD	0%	0%	0%	0%	0%	0%
18-NEW	0%	0%	0%	0%	0%	0%
19-NEW	0%	0%	0%	0%	0%	0%

BY R.G. Glen DATE 5/15/89

CHKD. BY DATE

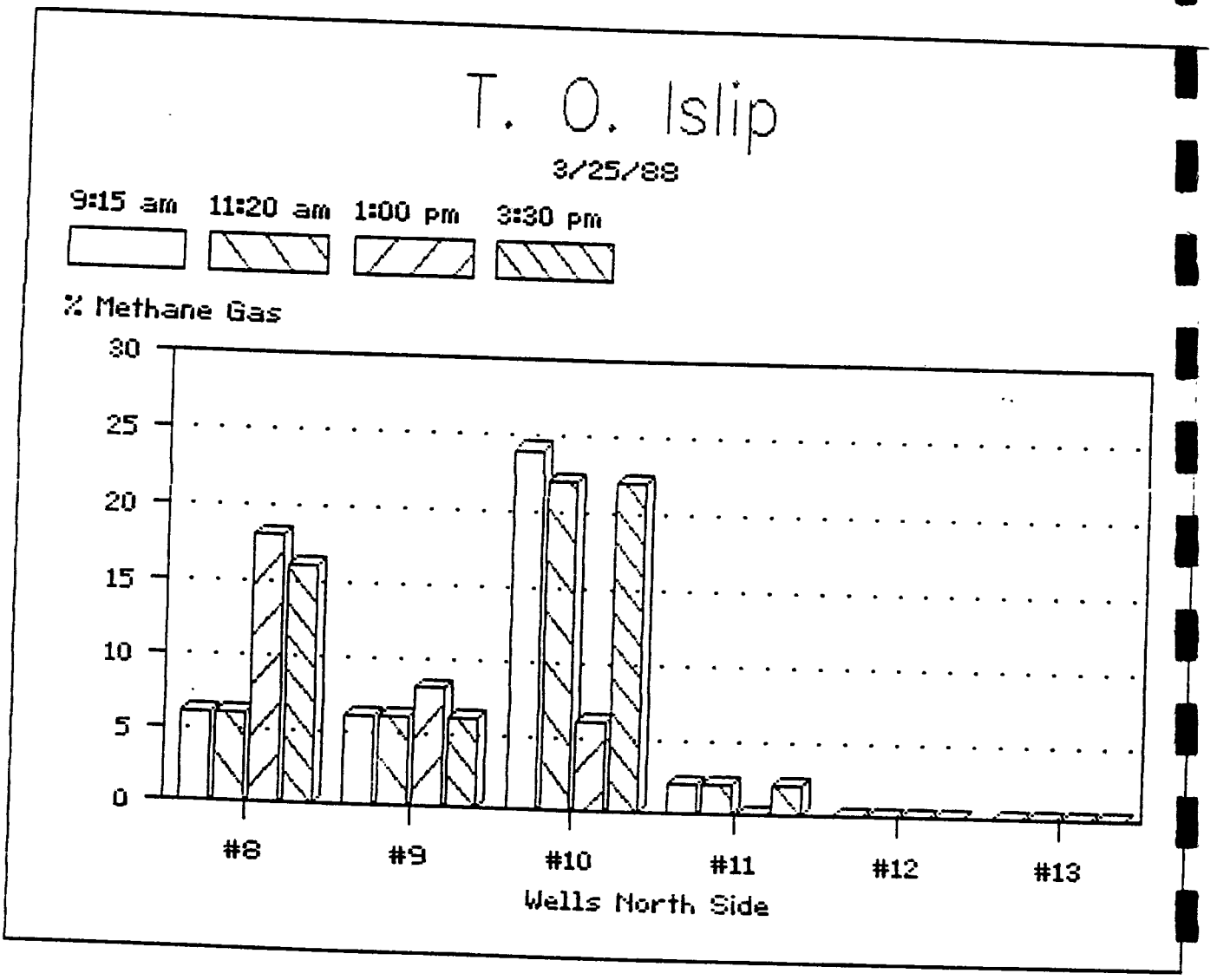
SUBJECT Methane Gas Monitoring at the Sayville Landfill (SUMMARY)

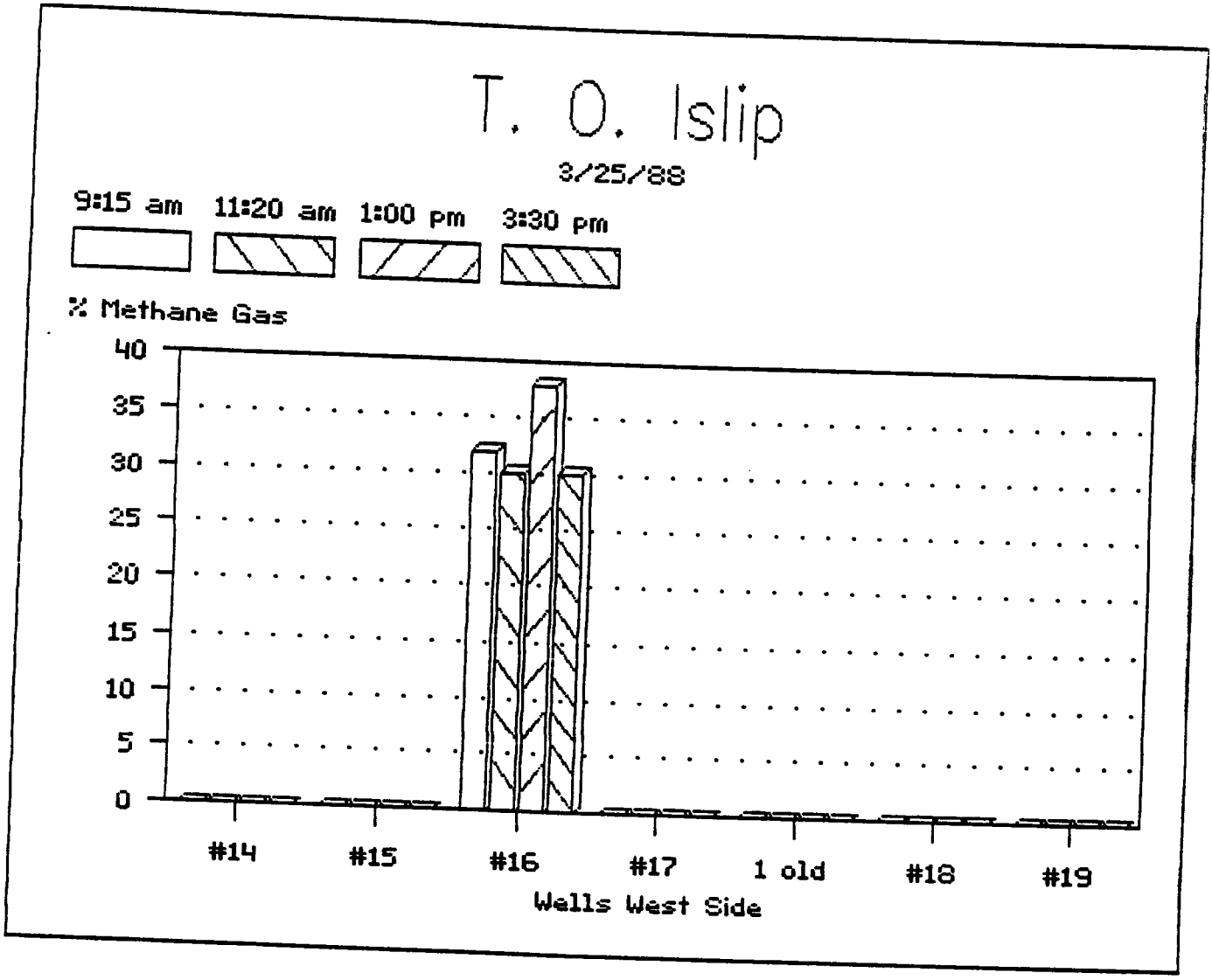
R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS
2171 JERICHO TPKE.
COMMACK, NEW YORK 11725
(516) 499-1666

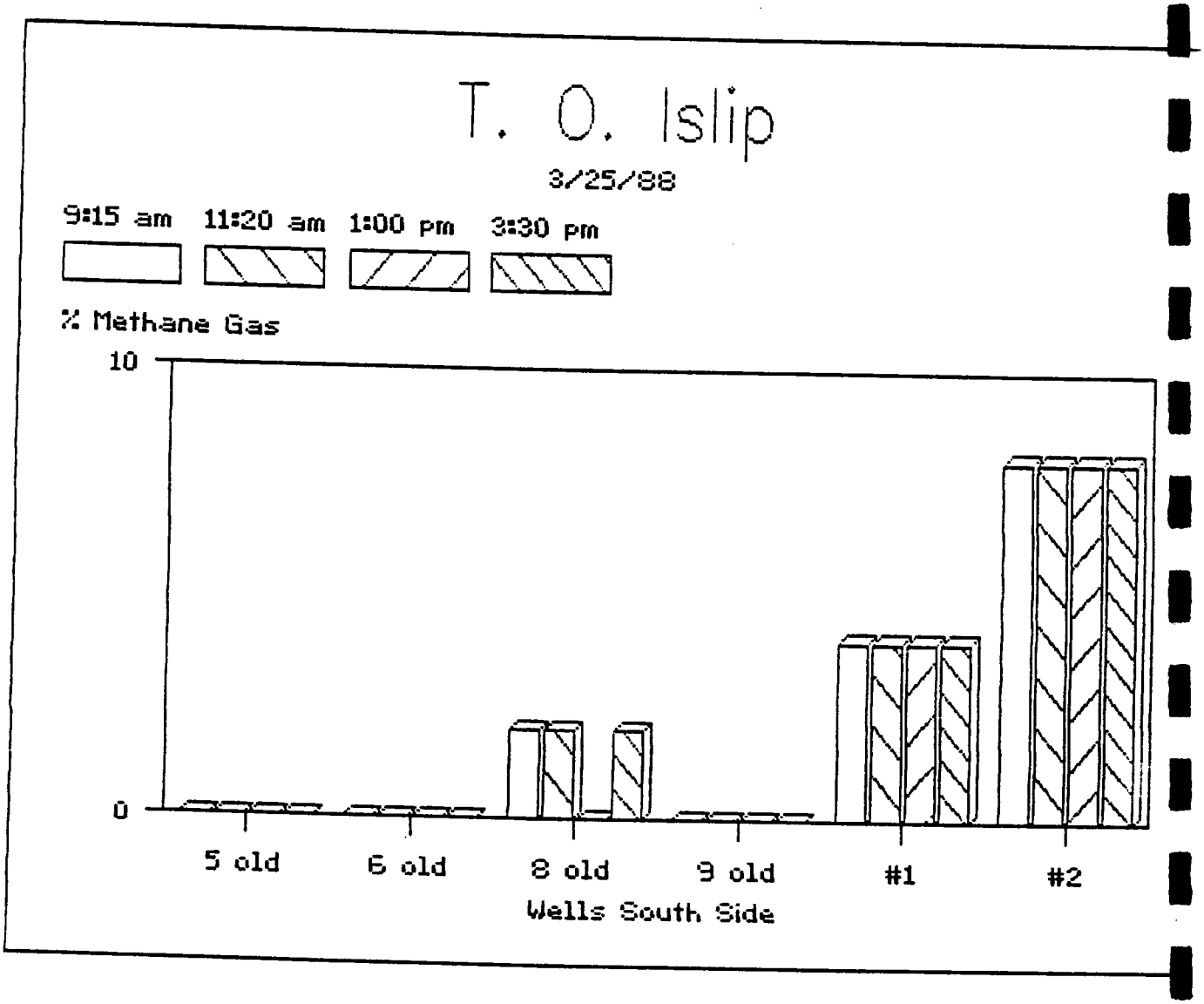
SHEET NO 1 OF 1

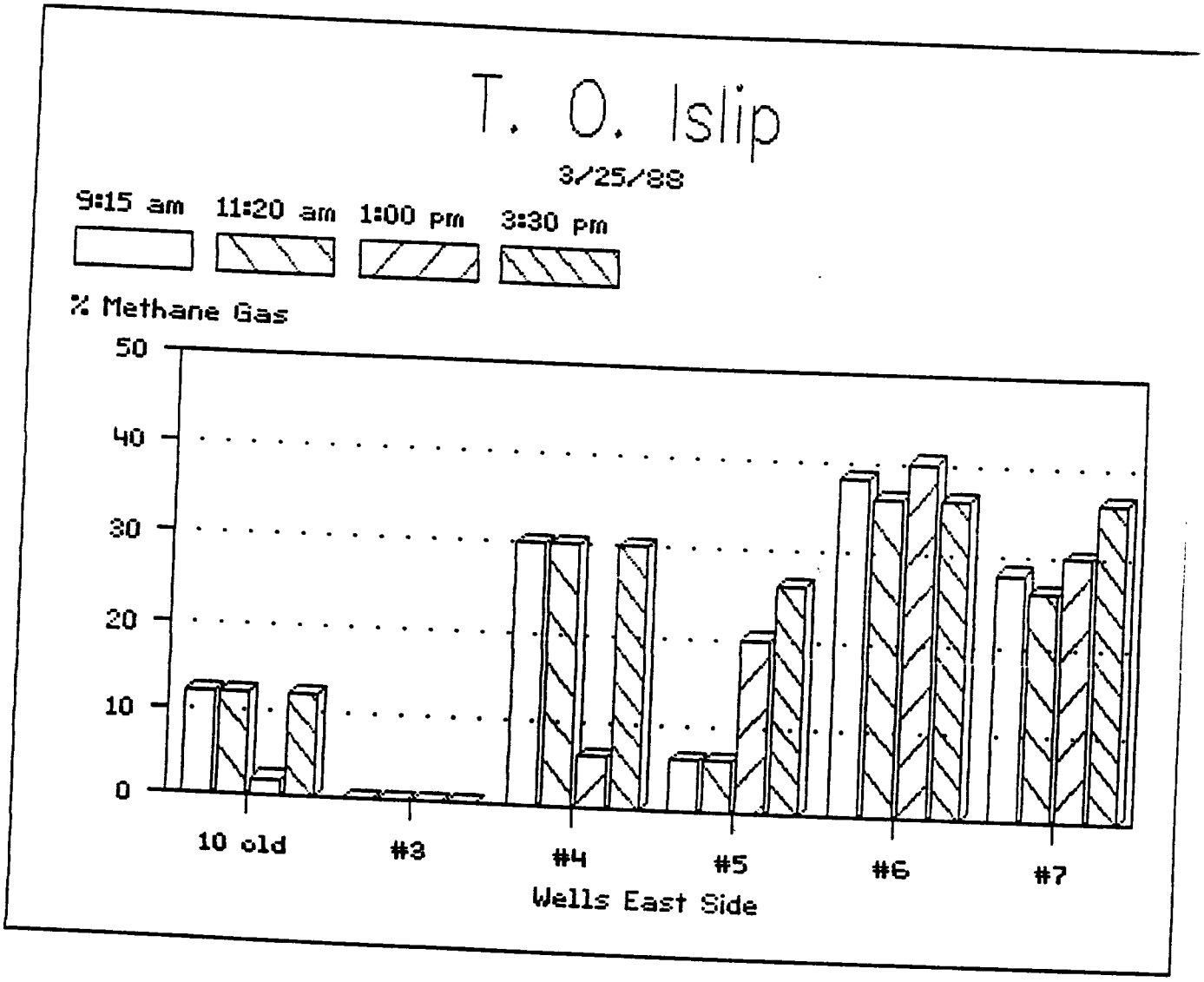
JOB NO 8602F

WELL NO.	METHANE GAS MONITORING RESULTS				
	% Gas May '89	LEL% May '89	% Gas March '88	LEL% March '88	Remarks
old 5	0	0	0	0	May '89 latest reading by Consultant
old 6	0	0	0	0	
old 7	0	0	0	0	March '88 Previous readings
old 8	0	0	2	—	no LEL reading '88
old 9	6	80	0	0	
1	5	90	4	—	no LEL "
2	7	100	8	—	no LEL "
old 10	23	100	0	12	
3	0	0	0	0	
4	22	100	0	30	
5	21	100	26	—	no LEL "
6	32	100	36	—	no LEL "
7	22	100	36	—	no LEL "
8	18	100	16	—	no LEL "
9	10	100	6	—	no LEL "
10	8	100	0	22	
11	0	0	0	2	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	26	100	30	—	no LEL "
17	0	0	0	0	
old 1	0	0	0	0	
18			0	0	Cap would not open
19	0	0	0	0	


T. O. Islip
3/25/88
9:15 am
11:20 am
1:00 pm
3:30 pm
% Methane Gas
30
25
20
15
10
5
0
#8
#9
#10
#11
#12
#13
Wells North Side


T. O. Islip
3/25/88
9:15 am
11:20 am
1:00 pm
3:30 pm
% Methane Gas
40
35
30
25
20
15
10
5
0
#14
#15
#16
#17
1 old
#18
#19
Wells West Side


T. O. Islip
3/25/88
9:15 am
11:20 am
1:00 pm
3:30 pm
% Methane Gas
10
0
5 old
6 old
8 old
9 old
#1
#2
Wells South Side

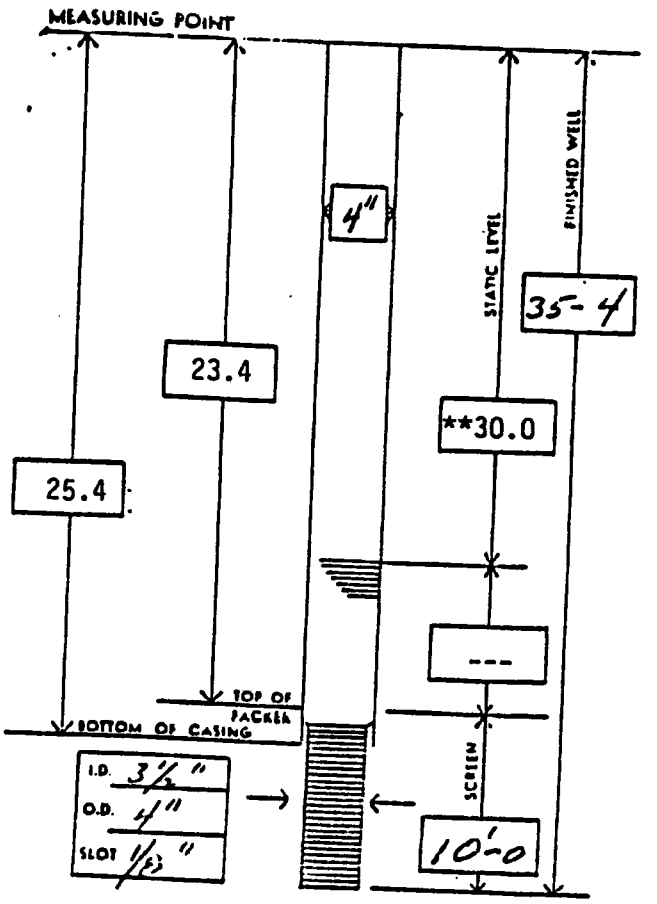

T. O. Islip
3/25/88
9:15 am
11:20 am
1:00 pm
3:30 pm
% Methane Gas
50
40
30
20
10
0
10 old
#3
#4
#5
#6
#7
Wells East Side

ISLIP RESOURCE RECOVERY AGENCY
METHANE RELIEF WELLS
LINCOLN AVENUE LANDFILL
IRRA 3-87

TABLE NO. 1

All Measurements in Feet

Well No.	Field Measurements		Rounded Measurement	
	Below Grade	Above Grade	Below Grade	Above Grade
1	27.97	3.61	28.00	3.00
2	28.71	3.15	29.00	3.00
*3	35.28	3.41	35.00	3.00
4	30.44	3.52	30.00	3.00
5	33.01	3.24	33.00	3.00
6	33.57	3.10	34.00	3.00
7	33.79	3.52	34.00	3.00
8	37.54	3.48	38.00	3.00
9	29.65	3.10	30.00	3.00
10	29.01	3.73	29.00	3.00
11	26.39	3.10	26.00	3.00
12	26.52	3.00	27.00	3.00
13	32.73	4.10	33.00	3.00
14	26.00	3.56	26.00	3.00
15	26.51	3.08	27.00	3.00
16	25.90	3.45	26.00	3.00
17	25.29	4.30	25.00	3.00
18	34.56	3.20	35.00	3.00
19	14.59	5.10	15.00	3.00



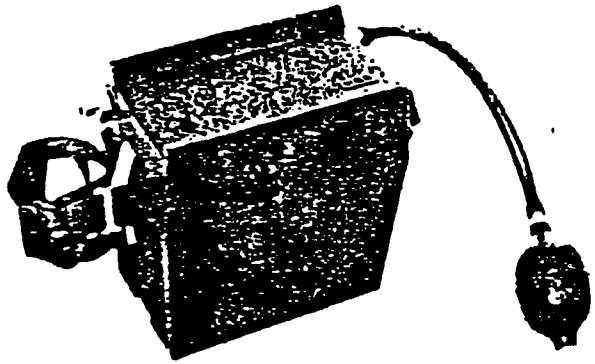
WELL #3

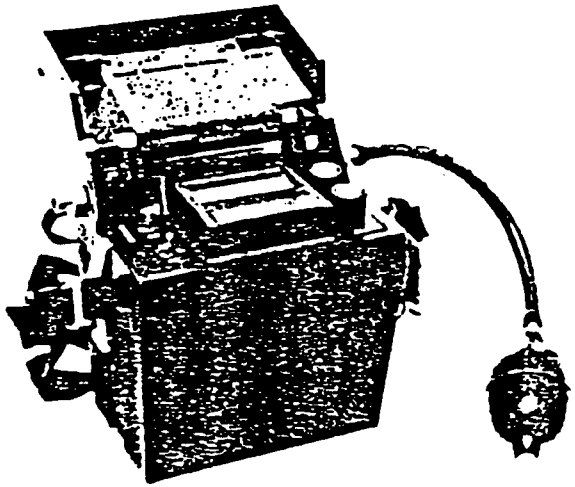
**as of 5/15/89

Typical Methane Monitoring Well (Screen in Groundwater)

APPENDIX G

MINE SAFETY APPLIANCES COMPANY
PITTSBURGH, PENNSYLVANIA, U.S.A., 15208





MSA

Gascope®
COMBUSTIBLE GAS INDICATOR
INDUSTRIAL MODEL 62S

Table 1-1. General Specifications

ELECTRICAL CHARACTERISTICS

Accuracy: Factory calibrated to ± 5 % of fullscale on pentane or other specific gas (for example, methane or natural gas)

Power supply life: 8 hours min. continuous usage with fresh batteries at normal ambient temperature

Power supply: Eight carbon-zinc "D" cells (Eveready 950 or Burgess 800)

Range: 0 to 100 % LEL and 0 to 100 % gas (calibration gas marked on label inside cover)

PHYSICAL CHARACTERISTICS

Sample flow rate: 0.03 to 0.05 cfm (0.8 to 1.4 Lpm)

Construction: Plastic case with stainless steel hardware

Dimensions: 6-1/2 × 7-1/4 × 4 in.

Weight: 5 lb 2 oz

APPENDIX G

FIELD QA/QC DOCUMENTATION

CHAIN OF CUSTODY FORMS

Soil/Quality Control Samples - 1988

Groundwater Samples - 1989

Groundwater Samples - 1990

nytest environmental inc

Traffic Reports

Soil Samples:

Sample I.D.	LAB #
MW-4D	Y85767
MW-2D	Y85768
MW-01 (C)	Y86345
MW-01	Y86344
MW-5D (S)	Y86341
MW-5D	Y86342
MW-6D	Y86343
METHOD BLANK	8815193
MW-3C	Y86472
MW-3	Y86473
FIELD BLANK	Y86474
MW-D	Y86641
MW-4DC	Y87155
MW-6IC	Y87275
MW-5DC	Y87416
FIELD BLANK	Y87156
MW-4D	Y87152
MW-4DS	Y87153
MW-5D	Y87415
MW-6I	Y87276
FIELD BLANK	Y87154

CHAIN OF CUSTODY RECORD

PROJECT NO: 86082

PROJECT NAME: TOWN OF ISLIP SAYVILLE LANDFILL PHASE II

AGENT NAME:

LAB:

SAMPLE I.D. NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	ADDITIONAL REQUIREMENTS
MW-2D 100'	11/16	4:00 P.M.		X	MONITORING WELL MW-2D 100' SOIL SAMPLES (2) 40 ml VIALS (2) PINT MASON JARS	4												PRIORITY POLLUTANT ANALYSIS

Shipped Via:

Received By (Signature): James Debis
Printed Name: JAMES DEBIS
Date/Time: 11/16/88 6:30 P.M.
Agent of: R.E. PUSTORINO

Received By (Signature):
Printed Name:
Date/Time:
Agent of:

Received By (Signature):
Printed Name:
Date/Time:

Received for Laboratory By (Signature): [illegible]
Printed Name: [illegible]
Samplers Name (Print): [illegible]

Rec'd By (Signature): Edward J. Reilly
Printed Name: EDWARD J. REILLY
Date/Time: 11/16/88 6:30 P.M.
Agent of: R.E. PUSTORINO

Rec'd By (Signature):
Printed Name:
Date/Time:
Agent of:

Date/Time: 11/18 5:00

Remarks: Received By: Brian Lovgren
Brian Lovgren
11-18-88 5:00

FIGURE 17
CHAIN-OF-CUSTODY RECORD FORM

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

Project No: 86082
Project Name: TOWN OF ISLIP SAYVILLE LANDFILL PHASE II
Client Name:
Lab:

Sample No	Date	Time	Comp	Grab	Sample Location	No. of Containers	Nitrogen	Oil & Grease	Cyanide	Phenol	Volatile	Metals	Organics	Bacterial	TOC COD	Other	Unpreserved	Remarks / Additional Requirements
MW4D 95-97'	11/17 2:32 PM			X	Monitoring Well MW4-D SOIL SAMPLES (2) 40ml VIALS (1) Pint Mason Jar	3												PRIORITY POLLUTION ANALYSIS

Shipped Via:

Relinquished By (Signature) / Printed Name	Date/Time	Agent of	Received By (Signature) / Printed Name	Date/Time	Agent of
Raymond Glover / RAYMOND GLOVER	11/17/88 6:00 PM	R.E. Pustorino	Edward J. Reilly / EDWARD J. REILLY	11/17/88 6:00 P.M.	R.E. PUSTORINO
	Date/Time	Agent of	Rec'd By (Signature) / Printed Name	Date/Time	Agent of
	Date/Time	Received for Laboratory By (Signature) / Printed Name	Date/Time	Remarks	
		Sampler's Name (Print)	11/18 5:00	Received By Brian Lougen Brian Lougen 11-18-88 5:00	

FIGURE 17
CHAIN-OF-CUSTODY RECORD FORM

R. E. PUSTORINO, I
CONSULTING ENGINEI

0002

CHAIN OF CUSTODY RECORD

PROJECT NO: 86082F
PROJECT NAME: ISLIP LANDFILL, PHASE II
CLIENT NAME: R.E. PUSTORINO, P.C.
LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MWSD soil sample	11/18/88	NOON?			MWSD 35-37 Ft. screen interval (shallow screen)	1 Jar 2 vials												See Joe Dickery
					1 VIAL	TRIP BL												

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
			Edward J. Reilly / Edward J. Reilly	11/18	REP
		Received for Laboratory by (Signature) / Printed Name: Christine Supple	Date/Time: 12/2 4:30	Remarks:	

Sampler (Signature): Raymond F. Glover Jr. for: Samplers Name (Print): TOM FOX

FIGURE 17
CHAIN-OF-CUSTODY RECORD FORM

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO: 86082F
PROJECT NAME: ISLIP LANDFILL, PHASE II
CLIENT NAME: R.E. PUSTORINO, P.C.
LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MW5D	11/19/85	3:30 PM			MW5D 95-100 screen interval	1 Jar												SEE JOE DOCKERY
Soil sample						2 vials												

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
			[signature] / Richard J Reilly	11/19	REP
		Received for Laboratory by (Signature) / Printed Name: [signature]	12/2 4:30	Remarks	

Sampler's Name (Print): Raymond F. Glover Jr. For: TOM FOX

FIGURE 17
CHAIN-OF-CUSTODY RECORD FORM

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO: 86082F
PROJECT NAME: Islip, Sayville Landfill, Phase II
CLIENT NAME: Pustorino, P.C.
LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MWGD Soil Sample	11/19/83	10 AM			MWGD 179-181' Depth; approx screen interval	2 Jar 2 vials												SEE JOE DUCKERY
					1 VIAL	Trip B												
					1 VIAL	Fld B.												

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
			[signature] / [signature]	11 19	REP
		Received for Laboratory (Signature) / Printed Name: [signature]	12/2 4:30	Remarks	

Sampler (Signature): Raymond J. Glover
Sampler's Name (Print): RAYMOND GLOVER

FIGURE 17
CHAIN-OF-CUSTODY RECORD FORM

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO: 86082F
PROJECT NAME: ISLIP LANDFILL (SAYVILLE) PHASE II
CLIENT NAME: R. E. PUSTORINO, P.C.
LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MWD1	11/24	10:00 AM			MWD1 90-100' Screen Int.	3 Jars								\				SEE JOE DOCKERY
						1 VIAL												
					1 VIAL	FED B.												

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
			[signature] / Reilly; Edward J. Reilly	11/24	RED
		Received for Laboratory by (Signature) / Printed Name: [signature]	Date/Time: 12/2 4:30	Remarks:	

Sampler (Signature): Raymond F. Glover Jr.
Sampler's Name (Print): RAYMOND GLOVER

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

0002

CHAIN OF CUSTODY RECORD

PROJECT NO: 86082F

PROJECT NAME: TOWN OF ISLIP (SAYVILLE LANDFILL) PHASE II

CLIENT NAME: R.E. PUSTORINO, P.C.

LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MWD1	11/23	VARIABLE			MWD1 – Composite Sample For 0-90' Depths	4 Jars 3 Vials												SEE JOE DOCKERY

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
			Edward J. Reilly / EDWARD J. REILLY	11/23	REP
		Received for Laboratory by (Signature) / Printed Name: Christine Suppl	Date/Time: 12/2 4:30	Remarks:	

Sampler (Signature): Raymond J. Glover Jr.

Samplers Name (Print): RAYMOND GLOVER

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

0001

CHAIN OF CUSTODY RECORD

PROJECT NO:

PROJECT NAME: TOWN OF ISLIP (SAYVILLE) BLYDENBURGH PHASE II

AGENT NAME: R.E. PUSTORINO, P.E.

LABS:

SAMPLE NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	ADDITIONAL REQUIREMENTS
MW3C	12/3	2:30			MW3 Composite 0-60	3 Jars												RCRA EP Tox Complete
MW3C	12/5	10:30			feet. (to be combined													IGNITABILITY
					for 1 test)													CORROSIVITY
																		REACTIVITY

Shipped Via:

Relinquished by (Signature)	Date/Time	Agent of	Rec'd by (Signature)	Date/Time	Agent of
Printed Name			Printed Name	12/7 11:00	
Relinquished by (Signature)	Date/Time	Agent of: REP	Rec'd by (Signature) Robert Lombardo	Date/Time 12-7-88 11:10	Agent of NYTEST
Relinquished by (Signature): Robert Lombardo	Date/Time 12-7-88 5 pm	Received for Laboratory By (Signature)	Date/Time 12/7 5 pm	Remarks	

Sampler (Signature): RAYMOND F. GLOVER, JR.

Sampler's Name (Print): Raymond F. Glover Jr.

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

0001

CHAIN OF CUSTODY RECORD

Project No.:

Project Name: TOWN OF ISLIP, BYDENSBURGH LANDFILL

Client Name: R.E. PUSTORINO, P.C.

Lab: PHASE II

Sample No.	Date	Time	Comp	Grab	Sample Location	No. of Containers	Nitrogen	Oil & Grease	Cyanide	Phenol	Volatile	Metals	Organics	Bacterial	TOC COD	Other	Unpreserved	Remarks / Additional Requirements
MW3	12/05	2:00PM			MW3 Screened Interval 90-100 feet	2 Jars												CLP - TCL + 30
						1 Vial												
						1 FLD BL												

Shipped Via:

Relinquished by (Signature)	Date/Time	Agent of	Received by (Signature)	Date/Time	Agent of
Printed Name			Printed Name		
Relinquished by (Signature) / Printed Name	12/7 11:10	Agent of: REP	Received by (Signature) / Printed Name	12/7 11:10	Agent of
Relinquished by (Signature) / Printed Name: Robert Lombardo	12-7-88 5PM	Received for Laboratory By (Signature) / Printed Name	12/7 5PM	Remarks:	

Raymond F. Glover, Jr.

Complete Name (Print): Raymond F. Glover

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO:

PROJECT NAME: TOWN OF ISLIP, SAYUILLE LANDFILL

CONTACT NAME: R.E. Pustorino, P.E.

USE: PHASE II

SAMPLE NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS: ADDITIONAL REQUIREMENTS
MW0	12/09/88	10:00 AM			SAYUILLE LANDFILL, water used for drilling deep water monitoring wells	2 pints												CLP - TCL + 30
						1 quart												
						1/2 gal												
						3 vials												
						5 total												

Shipped Via:

Relinquished By (Signature)	Date/Time	Agent of	Received By (Signature)	Date/Time	Agent of
Printed Name: RAYMOND GLOVER	12/8 12:30	REP	Printed Name: EDWARD J. REIDY	12/8	REP
Relinquished By (Signature): Edward J. Reidy			Received By (Signature): Robert Lombardo		
Printed Name: EDWARD J. REIDY	12/9 12:00	REP	Printed Name: Robert Lombardo	12-9-88 12:00	NYTEST
Relinquished By (Signature): Robert Lombardo			Received By (Signature): [illegible]		
Printed Name: Robert Lombardo	12-9-88 5PM		Printed Name: [illegible]	12/9 5PM	

Sampler's Name (Print): RAYMOND GLOVER

Signature: Raymond F. Glover Jr.

Remarks:

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO:

PROJECT NAME: TOWN OF ISLIP, SAYVILLE LANDFILL PHASE II

AGENT NAME: R.E. Pustorino, P.E.

LAB:

SAMPLE NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	ADDITIONAL REQUIREMENTS
MW4D Composite	12/12	10:30/12			Composite Soil Sample: 60-70 depth	1/2 pt												RCRA EP Tox Contaminants
					70-80 depth	1/2 pt												CORROSIVITY
					80-90 depth	1/2 pt												IGNITABILITY
					90-95 depth	1/2 pt												REACTIVITY
					1 Gl > Field blanks													
					1 Pt > (Plastic)													

Shipped Via:

Relinquished by (Signature)	Date/Time	Agent of	Rec'd by (Signature)	Date/Time	Agent of
Printed Name			Printed Name	12/12	
Relinquished by (Signature)	Date/Time 12/12	Agent of REP	Rec'd by (Signature) Toniann Siliato	Date/Time	Agent of
Printed Name			Printed Name Toniann Siliato	12/16	REP
Toniann Siliato	Date/Time 12/16 4:45	Received for Laboratory by (Signature)	Date/Time 12/16 4:45	Remarks:	
Printed Name		Printed Name			
Signature Raymond T. Glover		Sampler's Name (Print) RAYMOND GLOVER			

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO.:

PROJECT NAME: Town of Islip (Sayville Landfill)

CLIENT NAME: R.E. Pustorino, P.C.

LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MWEI Composite	12/19	1000 AM to 2:00 PM			Composite samples MWEI 20-40' 40-60' 60-70' 70-80' depth	4 8oz glass Jars (1 each)												RCRA EP Tox Complete Corrosivity Ignitability Reactivity

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
Edward J. Reilly	12/22 9:30	REP	Edward J. Reilly	12/20 5:00	REP

Relinquished by (Signature) / Printed Name	Date/Time	Received for Laboratory by (Signature) / Printed Name	Date/Time	Remarks
		Christine Supple	12/22 1:30	

Sampler (Signature): Raymond Glover

Sampler's Name (Print): RAYMOND GLOVER

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO	PROJECT NAME
86082F	TOWN OF ISLIP / SAYVILLE LANDFILL

CLIENT NAME: R.E. Pustorino, PC

LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MW5D Composite	12/22	11:20AM 3:00PM			Composite Sample @ 0-20' 20-40' 40-55 55-65'	4 pint (glass jar)												RCRA EP Tox Comp Ignitability Corrosivity Reactivity

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
[illegible] / Edward J. Reilly	12/23 12:00	REP	Edward J. Reilly	12/22 5:00	REP
Toniann Siliato / Toniann Siliato	12/23	Received for Laboratory by (Signature) / Printed Name: Christine Supple	Toniann Siliato / Toniann Siliato	12/23 12:00	REP
Sampler (Signature): RAYMOND GLOVER		Sampler's Name (Print): Raymond J. Glover	Date/Time: 12/23 3:45	Remarks:	

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME					NO. OF CONTAINERS	ANALYSIS											REMARKS
	TOWN OF ISLIP SAYVILLE LANDFILL PHASE II																	
CLIENT NAME: R.E. Pustorino					LAB #													
SAMPLE NO.	DATE	TIME	COMP	GRAB	SAMPLE LOCATION		NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	ADDITIONAL REQUIREMENTS
[illegible]	12/12	11:30 AM			62' Feet Interval (Soil Sample)	1 QT 2 90 in [illegible]												~~[illegible]~~ CCP 701-30

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
[illegible]			[illegible]	12/12	REP
[illegible]	12/[illegible]	REP	Tomiann Siliato / Tomiann Siliato	12/16	REP
Tomiann Siliato	12/16 4:45	Received for Laboratory by (Signature) [illegible] / Printed Name [illegible]	12/16 4:45	Remarks:	

Sampler (Signature): Raymond F. Glover

Samplers Name (Print): RAYMOND GLOVER

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME					NO. OF CONTAINERS	ANALYSIS											REMARKS
	TOWN OF ISLIP, SAYVILLE LANDFILL (PHASE II)																	
CLIENT NAME: R. E. Pustorino, P.E.					LAB #													
SAMPLE NO.	DATE	TIME	COMP	GRAB	SAMPLE LOCATION		NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	ADDITIONAL REQUIREMENTS
MVAD Screen	12/12	1:30 PM			Screen Interval 9.5' depth (Soil Sample)	1 QT (glass) 2 40ml vials												[illegible]
					1/2 gal. glass 2 plastic pt 2 40ml vials — Field Blanks													

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
[illegible]			[illegible] / Edward [illegible]	12/12	REP
[illegible] / Edward [illegible]	12/16	REP	Tomann Siliato / Tomann Siliato	12/16	REP
Tomann Siliato	12/16 4:45	Received for Laboratory by (Signature) Christine Supple / Printed Name Christine Supple	12/16 4:45	Remarks:	

Owner (Signature): Raymond J. Glover

Sampler's Name (Print): RAYMOND GLOVER

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO:

PROJECT NAME: Town of Islip (Sayville Landfill)

AGENT NAME: R.E. Pustorino, P.C.

LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MPGI	12/19	2:00 PM			Screened Interval 80-90 Ft. 12/19/83 2:00 PM	1 Gal glass 2 40 ml vials												CLP - TCL+30

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
Edward J. Reilly	12/22 9:30	REP	Edward J. Reilly / Edward J. Reilly	12/20 5:00	REP

Relinquished by (Signature) / Printed Name	Date/Time	Received for Laboratory by (Signature) / Printed Name	Date/Time	Remarks
		Christine Suppl / Christine Suppl	12/22 1:30	

Sampler (Signature): Raymond F. Glover Jr.

Sampler's Name (Print): RAYMOND GLOVER

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

CHAIN OF CUSTODY RECORD

PROJECT NO: 86082F
PROJECT NAME: TOWN OF ISLIP SAYVILLE LANDFILL
CLIENT NAME: R.E. Pustorino
LAB #:

SAMPLE ID NO	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS / ADDITIONAL REQUIREMENTS
MW5D	12/22	3:00PM			Screen Interval 65-75' depth	1 Qt (glass) 3 40ml vials												10 LP - TCL + 30

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of	Rec'd by (Signature) / Printed Name	Date/Time	Agent of
[illegible]			[illegible]	12/12 5:00	REP
[illegible] / Edward J. Kelly	12:00 12/23	REP	Tonianx Siliato / Toniann Siliato	12/23 12:00	REP
Tonianx Siliato / Toniann Siliato		Received for Laboratory by (Signature) [illegible] / Printed Name Catherine Suppl	12/23 5:45		

Remarks:

Sampler (Signature): Raymond J. Glover Jr.
Sampler's Name (Print): RAYMOND GLOVER

FIGURE 10

R. E. PUSTORINO, P.C.
CONSULTING ENGINEERS

00009

nytest environmental inc

Traffic Reports

Groundwater Samples:

Sample I.D.	LAB #
MW-1D	N97516
MW-1S	N97515
MW-2S	N97517
FIELD BLANK	N97158
MW-2D	N97665
MW-3S	N97663
MW-3D	N97664
FIELD BLANK	N97666
MW-4D	N97770
MW-4S	N97699
FIELD BLANK	N97701
MW-6D	N97779
MW-6I	N97780
FIELD BLANK	N97782
MW-5D	N97833
MW-5S	N97832
MW-6S	N97834
FIELD BLANK	N97835

nytest environmental inc.

Project No.: 89-15841

SAMPLE IDENTIFICATION	LABORATORY NUMBER	TYPE OF SAMPLE	DATE AND TIME OF SAMPLE COLLECTION
MW-1S	N9-7515	WATER	5/30/89 2:30
MW-2D	N9-7665	WATER	5/31/89 10:00 AM
MW-2S	N9-7517	WATER	5/30/89 3:30
MW-3D	N9-7664	WATER	5/31/89 3:00
MW-3S	N9-7663	WATER	5/31/89 12:45
MW-4D	N9-7700	WATER	6/1/89 11:00
MW-4S	N9-7699	WATER	6/1/89 2:00
MW-5D	N9-7833	WATER	6/5/89 10:00 AM
MW-5S	N9-7832	WATER	6/5/89 11:00 AM
MW-6D	N9-7779	WATER	6/2/89 11:30-12:00 PM
MW-6I	N9-7780	WATER	6/2/89 2:45
MW-6S	N9-7834	WATER	6/5/89 1:45
MW-10	N9-7516	WATER	5/30/89 12:45
FIELD BLANK	N9-7518	WATER	5/30/89 ----
FIELD BLANK	N9-7666	WATER	5/31/89 ----
FIELD BLANK	N9-7701	WATER	6/1/89 11:00
FIELD BLANK	N9-7782	WATER	6/2/89 11:30
FIELD BLANK	N9-7835	WATER	6/5/89 ----
TRIP BLANK	N9-7519	WATER	5/30/89 ----
TRIP BLANK	N9-7667	WATER	5/31/89 ----
TRIP BLANK	N9-7702	WATER	6/1/89 ----
TRIP BLANK	N9-7783	WATER	6/2/89 ----
TRIP BLANK	N9-7836	WATER	6/5/89 ----

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page 1 of 1

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name R.E. Postorino
Address Jericho Tpke.
Commack NY
Phone (516) 499-1888
Attn. Ed Bailly or Ray Glover

Project No.	Project Name	Date Shipped	Carrier
86082F	Sayville Landfill, Town of Islip		
Sampler: (Signature)	**Analytical Protocol**	**Air Bill No.**	**Cooler No.**
Raymond F. Glover	CLP		C48

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW-3S	5/31/89	12:45	Water (24-39 Ft)	2-1/2 gal	TCL + 30
		AM	-Shallow Screen	2 pts	
				2 40ml	
MW-3D	5/31/89	3:00	Water (86-96 Ft)	2-1/2 g.	TCL + 30
		PM	- Deep Screen	2-pts	
				2-40ml	
MW-2D	5/31/89	10:00 AM	Water (84-94')	2-1/2 g	TCL + 30
			- Deep Screen	2-pts	
				2-40ml	
FIELD BLANK	5/31/89		(run through bailer)	2-1/2 g	
				2 pts 240ml	
TRIP BLANKS	5/31/89			2-40ml	

Relinquished by (Signature)	Date	Time	Rec'd By (Signature)	Date	Time
Raymond F. Glover	5/31	4:00	Jean Marie Janos	5/31	4:00
Print Name: Raymond F. Glover Jr.			Print Name: JEAN-MARIE JANOS		
Relinquished by (Signature): Jean-Marie Janos	5/31	5:15	Received by (Signature): Christine Supple	5/31	5:15
Print Name: JEAN-MARIE JANOS			Print Name: CHRISTINE SUPPLE		
Relinquished by (Signature)	Date	Time	Received for Laboratory by (Signature)	Date	Time
Print Name			Print Name		

Special Instructions/Comments

Client Retains Yellow Copy Only

nytest environmental inc

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME
86082F	SAYVILLE LANDFILL

CLIENT NAME: R.E. Pustorino

LAB.#

SAMPLE I.D. NO.	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	NITROGEN	OIL & GREASE	CYANIDE	PHENOL	VOLATILE	METALS	ORGANICS	BACTERIAL	TOC COD	OTHER	UNPRESERVED	REMARKS: ADDITIONAL REQUIREMENTS
MW-1S	5/30	2:30			Monitoring Well Shallow screen 24-34'	2-1/2 gal 2-40ml 1 pnt-plastic												TCL + 30 DEC CLP PROTOCOL
MW-1D	5/30	12:45			Monitoring Well Deep Screen 86-96'	2-1/2 gal 2-40ml 1-pnt-plastic												TCL + 30 DEC CLP PROTOCOL
MW-2S	5/30	3:30			Monitoring Well Shallow Screen 17-32'	2-1/2 gal 2-40ml 1 pnt-plastic												TCL + 30 DEC CLP PROTOCOL
Field Blank	5/30				2 1/2 gal - 2 40ml 2 plastic pnts													
1 trip Blank					1-40ml													

Shipped Via:

Relinquished by (Signature) / Printed Name	Date/Time	Agent of:	Rec'd. by (Signature) / Printed Name	Date/Time	Agent of:
Kay Glover Raymond Glover	4:30 5/30/89	R.E. Pustorino	Joniann Siliato Joniann Siliato	5/30 4:30	R.E. PUSTORINO
Joniann Siliato Joniann Siliato	5/30 5:15	R.E. PUSTORINO	[signature] Ralph Pezella	5/30 5/15	NYTEST
[signature] Ralph Pezella	5/30 5:15	Christine Supple Christine Supple	5/30 5:15		

Sampler (Signature): Kay Glover

Samplers Name (Print): Raymond Glover

Remarks: Bottles marked 5/31 actually sampled on 5/30/89

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page ____ of ____

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name R.E. Pustarino
Address Jericho Thpke
Commack NY
Phone 499-1888
Attn. Ed Reilly - Ray Glover

Project No.	Project Name	Date Shipped	Carrier
86082F	SAVILLE LANDFILL - TOWN OF ISLIP		
Sampler: (Signature)	**Analytical Protocol**	**Air Bill No.**	**Cooler No.**
Raymond Glover	CLP		#1

Sample I.D.	Date/Time Sampled	Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW4S	6/1/89 2:00pm	Water (32-42') Shallow Screen	2-1/2g 2-pint 2-40 ml	TCL +30
MW4D	6/1/89 1:00pm	Water (87-97) Deep Screen	2-1/2g 2-pint 2-40 ml	TCL +30
FIELD BLANK	6/1/89 11AM	Water run through bailer	2-1/2g 2-pints 2-40 ml	TCL +30
TRIP BLANK	6/1/89		1-40ml	
MW3S	6/1/89 1:00pm	Retake Water	1-1/2g	TCL +30 (Replacement)

Relinquished by (Signature) / Print Name	Date	Time	Rec'd By (Signature) / Print Name	Date	Time
Raymond T. Glover / RAYMOND GLOVER	6/1	4:00	Jean Marie Janos / JEAN MARIE JANOS	6/1	4:00
Jean Marie Janos / JEAN-MARIE JANOS	6/1	450			
Relinquished by (Signature) / Print Name	Date	Time	Received for Laboratory by (Signature) / Print Name	Date	Time
			Christine Supple / CHRISTINE SUPPLE	6/1	450

Special Instructions/Comments

Client Retains Yellow Copy Only

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page ____ of ____

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name R.E. Pastorino
Address Jericho Tpke
Commack NY
Phone 516 499 1888
Attn. Ed Reilly or Ray Glover

Project No.	Project Name	Date Shipped	Carrier
86682F	SAYVILLE LANDFILL	6/2/89	
Sampler: (Signature) Raymond F. Glover Jr	Analytical Protocol CLP	Air Bill No.	Cooler No. 040

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW 6D	6/2	11:30	Water 172-176'	2-1/2 g	TCL + 30
		12 noon	Deep Screen	2-pints	
				2-40 ML	
FIELD	6/2	11:30 AM	Water run	2-1/2 g	TCL + 30
BLANK			through bailer	2-pints	
				2-40 ml	
TRIP					
BLANKS	6/2			1-40 ml	

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
Ray Glover / Raymond Glover	6/2/89	4:00	Toniann Siliato / Toniann Siliato	6/2	4:00
Relinquished by (Signature) / Print Name			Rec'd. by (Signature) / Print Name		
Relinquished by (Signature) / Print Name			Received for Laboratory by (Signature) / Print Name: Michael Brennan	6/3/89	8:20

Special Instructions/Comments

Client Retains Yellow Copy Only

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

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CHAIN OF CUSTODY RECORD

Page ____ of ____

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name R.E. Pastorino
Address Jericho Tpke
Commack NY
Phone
Attn.

Project No.	Project Name Sayville Landfill	Date Shipped	Carrier
Sampler: (Signature) Kay Glover	Analytical Protocol CLP	Air Bill No.	Cooler No. 29

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW 6I	6/2/89	2:45	Water 79-89	2-1/2g	TCL +30
			Internal Screen	2-pints	
				2 40/ml	
MW 3D	6/2/89	3:45	Water 86-96	1-pint	TCL +30 (Replacement)
			Deep Screen (Retake)	cyanide	
2 TRIP BLANKS					

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
Kay Glover / Raymond Glover	6/2	4:00	Toniann Siliato / Toniann Siliato	6/2	4:00
Relinquished by (Signature) / Print Name			Rec'd. by (Signature) / Print Name		
Relinquished by (Signature) / Print Name			Received for Laboratory by (Signature) / Print Name: Michael Brennan	6/2/89	8:00

Special Instructions/Comments

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page ____ of ____

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name R.E. Pustorino
Address Jericho Tpke
Commack, NY
Phone (516) 499-1888
Attn. Ray Glover

Project No.	Project Name	Date Shipped	Carrier
	Sayville Landfill (Town of Islip)		
Sampler: (Signature) Raymond Glover	Analytical Protocol CLP	Air Bill No.	Cooler No.

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW 5S	6/5/89	11 AM	WATER: 29-39'	2-1/2g	TCL + 30
			Shallow-Screen	2-pnt	Metals
					Cyanide
				2-40/ml	
MW5D	6/5/89	10AM	Water 66-76	2-1/2g	TCL + 30
			~~Shallow~~ Screen Deep	2-pnt	Metals
					Cyanide
				2-40/ml	
MW6S	6/5/89	1:45PM	Water 24-39	2-1/2g	TCL + 30
			Shallow-Screen	2pnt	Metals
					Cyanide
				2-40/ml	
FIELD BLANK	6/5/89			2-1/2gal	TCL + 30
				2pnt	Metals
				2-40/ml	Cyanide
TRIP BLANKS				3	

Relinquished by (Signature)	Date	Time	Rec'd. By (Signature)	Date	Time
Raymond F. Glover	6/5/89	4:00	Toniann Siliato	6/5	4:00
Print Name: Raymond Glover			Print Name: Toniann Siliato		
Relinquished by (Signature)	Date	Time	Rec'd. by (Signature)	Date	Time
Print Name			Print Name		
Relinquished by (Signature) Toniann Siliato	Date 6/5/89	Time 4:45	Received for Laboratory by (Signature) [illegible]	Date 6/5/89	Time 4:45
Print Name Toniann Siliato			Print Name [illegible]		

Special Instructions/Comments

Client Retains Yellow Copy Only

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CHAIN OF CUSTODY

GROUNDWATER SAMPLES - 1990

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page 1 of 1

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joseph Dockery

REPORT TO: Client Name R.E. Pustorino P.C
Address 2171 Jericho TPKE
Commack NY 11725
Phone 516-499-1888
Attn. ED Reilly - Project Manager

Project No.	Project Name	Date Shipped	Carrier
86082-F	TOWN OF ISLIP LINCOLN AVE (Sayville) LANDFILL	11/9/90	REP

Sampler (Signature)	Analytical Protocol	Air Bill No.	Cooler No.
[signature]	ASP / PART 360 Water Quality	N/A	#1

Sample I.D. (Pump) NW-15	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANK	11/9/90	9:00AM	DI WATER (Pump)	2-40 ml VIALS	VOA BOTTLE # 0216801B
FIELD BLANK	"	"	DI WATER (Pump)	2-1/2 gal GLASS	BNA PEST. PCB # 0221501B
FIELD BLANK	"	"	DI WATER (Pump)	1 PNT. PLASTIC	METALS # 0119801B
FIELD BLANK	"	"	DI WATER (Pump)	1 PNT PLASTIC	CYANIDE # 0119801B
FIELD BLANK	"	"	DI WATER (Pump)	1 QT GLASS	TKN, NH3 ETC # 0650001B
FIELD BLANK	"	"	DI WATER (Pump)	1 QT PLASTIC	BOD, TDS, ETC # 0810601B

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
[signature] / Raymond Glover	11/9/90	2:15PM			
Steven Schwab / STEVEN SCHWAB	11/9/90	2:15PM			
			Received for Laboratory by (Signature) / Print Name: Robert Fletcher	11/15/90	315

Special Instructions/Comments COOLER #1 FIELD BLANK RUN Through Pump at NW-15

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page 1 of 1

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joseph Dockery

REPORT TO: Client Name R.E Pustorino P.C
Address 2171 Jericho TPKE
Commack NY 11725
Phone (516) 499-1888
Attn. ED Reilly: Project Manager

Project No.	Project Name	Date Shipped	Carrier
86082-F	Town of Islip Lincoln Ave (Sayville) Landfill	11/9/90	REP

Sampler (Signature)	Analytical Protocol	Air Bill No.	Cooler No.
[signature]	ASP/Part 360 Water Quality	N/A	#20

Sample I.D. NW-1D Bailer	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
Field Blank	11/9/90	11:45 am	DI Water (Bailer)	2-40 ml Vials	VOA Bottle #0216801B
Field Blank	11/9/90	11:45	DI Water (Bailer)	2-1/2 gal glass	BNA, Pest, PCB #0221501B
Field Blank	11/9/90	11:45	DI Water (Bailer)	1 pint plastic	Metals #0119801B
Field Blank	11/9/90	11:45	DI Water (Bailer)	1 pint plastic	Cyanide #0119801B
Field Blank	11/9/90	11:45	DI Water (Bailer)	1 qt glass	TKN, NH3 etc #0200801A
Field Blank	11/9/90	11:45	DI Water (Bailer)	1 qt plastic	BOD, TDS, etc #0810601B

Relinquished by (Signature) / Print Name	Date / Time	Rec'd. By (Signature) / Print Name	Date / Time
[signature] / Raymond Glover	11/9/90 2:15 PM		
Relinquished by (Signature) / Print Name: Steve Schiavo	11/9/90 2:15 PM	Rec'd. by (Signature) / Print Name	
Relinquished by (Signature) / Print Name		Received for Laboratory by (Signature) / Print Name: Robert Fletcher	11/9/90 315

Special Instructions/Comments: Field Blank run Through BAILER Prior To Sampling NW-1D

Client Retains Yellow Copy Only

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page 1 of 1

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name R.E. Dustman, P.C.
Address 2171 Jericho Tnpke
Commack NY
Phone (516) 499-1888
Attn. Ed. Reilly - Proj Mngr

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	11-13-90	REP
Sampler (Signature) Ray Glover	Analytical Protocol ASP / Part 360 Water Qlty	Air Bill No. N/A	Cooler No. #12

Sample I.D. MW-2s	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANK	11/14/90	9:00 AM	DI Water - Pump	2 sealed vials	VOA Bottles
FIELD BLANK	"	"	DI Water Pump	2-1/2 glass	BNA, Pest, PCB
FIELD BLANK	"	"	DI Water - Pump	1 pnt plast.	Metals
FIELD BLANK	"	"	DI Water - Pump	1 pnt plast.	Cyanide
FIELD BLANK	"	"	DI Water - Pump	1 qt. glass	TKN, NH_3, etc.
FIELD BLANK	"	"	DI Water Pump	1 qt plast.	BOD, TDS, etc

Relinquished by (Signature) / Print Name	Date / Time	Rec'd. By (Signature) / Print Name	Date / Time
Raymond Glover / RAYMOND GLOVER	11/13/90 3:30 PM		
Steve Schwab / Steve Schwab	11/13/90 3:30	Steve Schwab / Steve Schwab	11/13/90 4:30
		Received for Laboratory by (Signature) / Michael Brennan	11/13/90 4:30 pm

Special Instructions/Comments Field Blank run through pump prior to sampling MW-2s

Client Retains Yellow Copy Only

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

Page 1 of 1

REPORT TO: Client Name R.E. Pustorino, P.C
Address 2171 Jericho Tnpke
Commack NY 11725
Phone (516) 499-1888
Attn. Ed Reilly - Proj. Mngr

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	11-13-90	RED
Sampler: (Signature) Ray Glover	Analytical Protocol ASP/Part 360 Water Qlty	Air Bill No. N/A	Cooler No. #11

Sample I.D. MW-2d Bailer	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANK	11/13/90	1:30 PM	DI WATER-BAILER	2-40ml vials	VOA
"	"	"	" "	2-1/2g glass	BNA, Pest, PCB
"	"	"	" "	1Pnt plstc	Metals
"	"	"	" "	1Pnt plstc	Cyanide
"	"	"	" "	1-Qt glass	TKN, NH_3, etc.
"	"	"	" "	1-Qt plstc	BOD, TDS, etc.

Relinquished by (Signature) / Print Name	Date / Time	Rec'd. By (Signature) / Print Name	Date / Time
Ray Glover / RAYMOND F. GLOVER	11/13/90 3:30 PM		
Steve Schwal / Steve Schwal	11/13/90 3:30	Steve Schwal / Steve Schwal	11/13/90 4:20 pm
Relinquished by (Signature) / Print Name	Date / Time	Received for Laboratory by (Signature) / Print Name: Michael Brennan	11/13/90 4:30 pm

Special Instructions/Comments DI water run through bailer prior to sampling MW-2d

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

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REPORT TO: Client Name T.E. Pustorino P.C.
Address 2171 Jericho Tnpke
Commack NY 11725
Phone (516) 494-1888
Attn. Ed. Kielly - Proj. Mngr

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN of ISLIP Lincoln Ave (Sayville) Land Fill	11/13/90	T.E.P.
Sampler: (Signature) Ray Clover	**Analytical Protocol** ASP Part 360 Water Qlty	**Air Bill No.** N/A	**Cooler No.** #13

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
PUMP MW-5S					
FIELD BLANK	11/13/90	3:15	D.I. WATER-PUMP	2-40ml vials	VOA
" "			" "	2-1/2 gl glass	BNA, Pest, PCB
" "			" "	1 Pint plastic	Metals
" "			" "	1 Pint plastic	Cyanide
" "			" "	1 Qt glass	TKN, NH_3 etc.
" "			" "	1 Qt plstc	BOD, TDS, etc.

Relinquished by (Signature) / Print Name	Date / Time	Rec'd. By (Signature) / Print Name	Date / Time
Ray Clover / RAYMOND CLOVER	11/13/90 3:30		
Relinquished by (Signature) / Print Name: Steve Schub	11/13/90 3:30	Rec'd. by (Signature) / Print Name: Steve Schub	11/13/90 4:30
Relinquished by (Signature) / Print Name		Received for Laboratory by (Signature) / Print Name: Michael Brennan	11/13/90 4:30 pm

Special Instructions/Comments: Field Blank run through pump prior to purging MW-5S

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

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REPORT TO: Client Name R.E. Pustorino C.
Address 217 Jericho Tn. 2
Commack NY
Phone (516) 499-1888
Attn. Ed. Reilly - Proj Mngr

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	11-13-90	DEP
Sampler: (Signature) [signature]	Analytical Protocol ASP/Part 360 Water Qlty	Air Bill No. N/A	Cooler No. [illegible]

Sample I.D. MW-2s/2d	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW-2s	11/1/90	11:30 pm	Groundwater	2-40ml vials	VOA Bottle #0216801B
MW-2s	"	"	Groundwater	2-1/2g glass	BNA, Pest, PCB #0221501B
MW-2s	"	"	Groundwater	1 Pnt. plastic	Metals #0119801B
MW-2s	"	"	Groundwater	1 pnt plastic	Cyanide #0119801B
MW-2s	"	"	Groundwater	1 Qt glass	TKN, NH_3, etc #0630001B
MW-2s	"	"	Groundwater	1 Qt. plastic	BOD, TDS, etc. #0810601B
MW-2d	11/1/90	2:00 pm	Groundwater	2-40ml vials	VOA
MW-2d	"	"	Groundwater	2-1/2g glass	BNA, Pest, PCB
MW-2d	"	"	Groundwater	1 pnt plastic	Metals
MW-2d	"	"	Groundwater	1 Pnt plstic	Cyanide
MW-2d	"	"	Groundwater	1-Qt Glass	TKN, NH_3, etc
MW-2d	"	"	Groundwater	1-Qt plstc	BOD, TDS, etc.

Relinquished by (Signature) / Print Name	Date / Time	Rec'd. By (Signature) / Print Name	Date / Time
[signature] RAYMOND F GLOVER	11/13/90 3:30		
Relinquished by (Signature) [signature] Print Name STEVE Schwab	11/13/90 3:30	Rec'd. by (Signature) [signature] Print Name Steve Schwab	11/13/90 4:30 pm
Relinquished by (Signature) Print Name		Received for Laboratory by (Signature) [signature] Print Name Michael Brennan	11/13/90 4:30 pm

Special Instructions/Comments Includes Trip Blank for VOAs

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

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REPORT TO: Client Name R.E. Pastorino, P.C.
Address 2171 Jericho Tnpke
Commack, NY 11725
Phone (516) 499-1888
Attn. Ed Reilly - Proj. Mngr

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	11/13/90	RE.P
Sampler: (Signature) Ray Glover	Analytical Protocol ASP/Part 360 Water Qlty	Air Bill No. N/A	Cooler No. 14

Sample I.D. MW-5s	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW-5s	11/13/90	3:30PM	Groundwater	2-40ml vials	VOA
MW-5s	"	"	"	2-1/2g glass	BNA, Pest, PCB
MW-5s	"	"	"	1 Pnt plstc	Metals
MW-5s	"	"	"	1-Pnt plstc	Cyanide
MW-5s	"	"	"	1 Qt. glass	TKN, NH_3, etc.
MW-5s	"	"	"	1 Qt plstc	BOD, TDS, etc
FIELD BLANK	11/13/90	3:30PM	DI WATER BAILER	2-40ml vials	VOA's

Relinquished by (Signature) / Print Name	Date / Time	Rec'd. By (Signature) / Print Name	Date / Time
[signature] / Raymond Glover	11/13/90 3:30PM		
Relinquished by (Signature) / Print Name	Date / Time	Rec'd. by (Signature) / Print Name	Date / Time
Relinquished by (Signature) / Print Name	Date / Time	Received for Laboratory by (Signature) / Print Name: Michael Brown	Date / Time: 11/13/90 4:30 pm

Special Instructions/Comments INCLUDES FIELD BLANK RUN through bailer prior to sampling MW-5s for volatiles, includes 1 trip blank

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

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Attn. Joe Dockery

REPORT TO: Client Name R.E. Pustorino, P.C.
Address 2171 Jericho Tnpke
Commack, NY 11725
Phone (516) 499-1888
Attn. Ed Reilly - Proj. Mngr

Page 1 of 1

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN of ISLIP Lincoln Ave (Sayville) Landfill	11/14/90	R.E.P
Sampler: (Signature) Kay Glover	Analytical Protocol ASP/Part 360 Water Qlty	Air Bill No. N/A	Cooler No. 21

Sample I.D. MW-5D Pump	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANK	11-14-90	8:30 AM	D.I. WATER - Pump	2-40ml vials	VOA
" "	"	"	" "	2-1/2g glass	BNA, Pest, PCB
" "	"	"	" "	1 Pnt plastic	Metals
" "	"	"	" "	1 Pnt plstc	Cyanide
" "	"	"	" "	1 Qt glass	TKN, NH_3, etc.
" "	"	"	" "	1 Qt plstc	BOD, TDS, etc.
	11/14	1:30 PM			

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
Kay Glover / Raymond Glover	11-14-90	3:30 PM	Steve Schub / Steve Schub	11/14/90	3:30
Relinquished by (Signature) / Print Name	Date	Time	Rec'd. by (Signature) / Print Name	Date	Time
Steve Schub / Steve Schub	11/14/90	4:30	Received for Laboratory by (Signature) / Print Name Robert Fletcher	11/14	4:30

Special Instructions/Comments Field Blank run through PUMP prior to sampling MW-5D

+1 Trip Blank

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page 1 of 1

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Attn. Joe Dockery

REPORT TO: Client Name R.E. Pustorino, P.C.
Address 2171 Jericho Turke
Commack, NY 11725
Phone (516) 499-1888
Attn. Ed Reilly - Proj Mngr

Project No. 86082F	Project Name TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	Date Shipped 11-14-90	Carrier R.E.P
Sampler: (Signature) Ray Glover	Analytical Protocol ASP/Part 360 Water Qlty	Air Bill No. N/A	Cooler No. 20

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW-5D	11-14-90	10:45AM	Groundwater	2-40ml vials	VOA
MW-5D	"	"	"	2-1/2g glass	BNA, Pest, PCB
MW-5D	"	"	"	1-Pnt plstc	Metals
MW-5D	"	"	"	1-Pnt plstc	Cyanide
MW-5D	"	"	"	1-Qt glass	TKN, NH_3, etc.
MW-5D	"	"	"	1-Qt. plstic	BOD, TDS, etc.
FIELD BLANK	11-14-90	10:45AM	DI WATER-BAILED	2-40ml vials	VOA
FIELD BLANK	"	"	" "	2-1/2g glass	BNA, Pest, PCB
FIELD BLANK	"	"	" "	1-Pnt plstic	Metals
FIELD BLANK	"	"	" "	1-Qt plstic	Cyanide
FIELD BLANK	"	"	" "	1 Qt glass	TKN, NH_3, etc
FIELD BLANK	"	"	" "	1 Qt plst	BOD, TDS, etc

Relinquished by (Signature) Ray Glover	Date 11/14/90	Time 3:30 PM	Rec'd. By (Signature) Steve Schwab	Date 11/14	Time 3:30
Print Name RAYMOND F. GLOVER			Print Name Steve Schwab		
Relinquished by (Signature) Steven Schwab	Date 11/14/90	Time 4:30	Rec'd. by (Signature)	Date	Time
Print Name Steve Schwab			Print Name		
Relinquished by (Signature)	Date	Time	Received for Laboratory by (Signature) Robert Fletcher	Date 11/14	Time 4:30
Print Name			Print Name Robert Fletcher		

Special Instructions/Comments D.I. water was through bailer prior to sampling MW-5D; state representative split this sample for his own analysis + TRIP BLANK

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

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Attn. Joe Dockery

REPORT TO: Client Name R.E. Pustorino D.C.
Address 2171 Jericho, Tpk
Commack, NY
Phone (516) 494-1888
Attn. Ed Reilly - Proj. Mgr

Page ___ of ___

Project No.	Project Name	Date Shipped	Carrier
86082F	Town of Islip Lincoln Ave (Sayville) Landfill	11/9/90	REP
Sampler: (Signature) [signature]	Analytical Protocol: ASP/Part 360 Water Qty	Air Bill No. N/A	Cooler No. #21/#3

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED	
MW-1S	11/9/90	11:00 AM	Groundwater	2-40ml vials	VOA	Bottle #08[illegible]
MW-1S	"	"	Groundwater	2-1/2g glass	BNA, Pest, PCB	#02[illegible]
MW-1S	"	"	Groundwater	1 Pnt. plastic	Metals	#0119801B
MW-1S	"	"	Groundwater	1 Pnt. plastic	Cyanide	#0119801B
MW-1S	"	"	Groundwater	1 Qt. Glass	TKN, NH3, etc	#0630001B
MW-1S	"	"	Groundwater	1 Qt. plastic	BOD, TDS, etc.	#0810601B
MW-1d	11-9-90	2:00 PM	Groundwater	2-40ml vials	VOA	Bottle #0216801B
MW-1d	"	"	Groundwater	2-1/2g glass	BNA, Pest, PCB	#0221501B
MW-1d	"	"	Groundwater	1 Pnt. plastic	Metals	#0119801B
MW-1d	"	"	Groundwater	1 Pnt. plastic	Cyanide	#0119801B
MW-1d	"	"	Groundwater	1 Qt. glass	TKN, NH3, etc.	#0630001B
MW-1d	"	"	Groundwater	1 Qt. plastic	BOD, TDS, etc.	#0810601B

Relinquished by (Signature) / Print Name	Date / Time	Rec'd. By (Signature) / Print Name	Date / Time
[signature] / Kaymond Chaney	11/9/90 2:15PM		
Steven Schwab / Steven Schwab	11/9/90 2:15 PM		
		Received for Laboratory by (Signature) / Robert Fletcher	11/9/90 3:15

Special Instructions/Comments Includes TRIP BLANK For VOA's in each cooler

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

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REPORT TO: Client Name R.E. Pushrino, P.C.
Address 2171 Jericho Tnpke
Commack NY 11725
Phone (516) 499-1888
Attn. Ed Reilly - Proj. Mngr

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	11/14/90	REP

Sampler: (Signature)	Analytical Protocol	Air Bill No.	Cooler No.
Ray Glover	ASP/Part 360 Water Qty	N/A	22

Sample I.D. Bailer MW-3D	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANK	11-14-90	1:30pm	DI WATER-BAILER	2-40m vials	VOA
" "	"	"	" "	2-1/2g glass	BNA, Pest, PCB
" "	"	"	" "	1-Pnt plstic	Metals
" "	"	"	" "	1-Pnt plastic	Cyanide
" "	"	"	" "	1-Qt glass	TKN, NH3, etc
" "			" "	1-Qt plstic	BOD, TDS, etc.

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
Ray Glover / RAYMOND GLOVER	11/14/90	3:30	[signature] / Steve Schaal	11/14/90	3:30
Relinquished by (Signature) / Print Name	Date	Time	Rec'd. by (Signature) / Print Name	Date	Time
Relinquished by (Signature) / Print Name: Steve Schaal	11/14/90	4:30	Received for Laboratory by (Signature) / Print Name: Robert Fletcher	11/14/90	4:30

Special Instructions/Comments D.I. water run through bailer prior to sampling MW-3d

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

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REPORT TO: Client Name R.E. Pasterino, P.C.
Address 2171 Jericho Turnpike
Commack NY 11725
Phone (516) 499-1888
Attn. Ed Reilly - Proj. Mgr.

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	11-14-90	R.E.P.
Sampler: (Signature)	**Analytical Protocol**	**Air Bill No.**	**Cooler No.**
Cary Glover	ASP/CLP Water Quality Anlys	N/A	23

Sample I.D. MW-3s, 3d	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW-3s	11/14/90	2:30PM	Groundwater	2-40ml vials	VOA
MW-3s	"	"	"	2-1/2g glass	BNA, Pest, PCB
MW-3s	"	"	"	1 Pint Plast	Metals
MW-3s	"	"	"	1 Pint Plstc	Cyanide
MW-3s	"	"	"	1 Qt glass	TKN, NH_3, etc.
MW-3s			"	1 Qt plastic	BOD, TDS, etc.
MW-3d	11/14/90	1:30PM	Groundwater	2-40ml vials	VOA
MW-3d	"	"	"	2-1/2g glass	BNA, Pest, PCB
MW-3d	"	"	"	1-Pint plstic	Metals
MW-3d	"	"	"	1 Pint plstc	Cyanide
MW-3d	"	"	"	1-Qt glass	TKN, NH_3, etc.
MW-3d	"	"	"	1-Qt Plastic	BOD, TDS, etc.

Relinquished by (Signature)	Date	Time	Rec'd. By (Signature)	Date	Time
Cary Glover	11-14-90	3:30pm	[illegible]	11/14/90	3:30
Print Name: RAYMOND A. GLOVER			Print Name: [illegible]		
Relinquished by (Signature)	**Date**	**Time**	**Rec'd. by (Signature)**	**Date**	**Time**
Steve Schwab	11/14/90	4:30			
Print Name: Steve Schwab			Print Name		
Relinquished by (Signature)	**Date**	**Time**	**Received for Laboratory by (Signature)**	**Date**	**Time**
			[illegible]	11/14/	4:30
Print Name			Print Name: Robert Fletcher		

Special Instructions/Comments 1 Trip Blank

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

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CHAIN OF CUSTODY RECORD

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REPORT TO: Client Name R.E. Pusterna
Address 2171 Jericho Tnpke
Commack NY 11725
Phone (510) 499-1888
Attn. Ed Reilly - Proj. Mngr

Project No.	Project Name	Date Shipped	Carrier
86.082F	TOWN OF ISLIP Lincoln Ave (Saxville) Lumkill	11/15/90	REP
Sampler: (Signature) Kay Moser	Analytical Protocol ASP/CLP Water Qlty	Air Bill No. N/A	Cooler No. 30

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANK	11-15-90	8:45 AM	D.I WATER-PUMP	2-40ml vials	VOA
" "	"	"	" "	2 1/2 g glass	BNA, Pest, PCB
" "	"	"	" "	1-Pnt plstc	Metals
" "	"	"	" "	1-Pnt plstc	Cyanide
" "	"	"	" "	1 Qt glass	TKN, NH_3, etc
" "	"	"	" "	1 Qt plstc	BOD, TDS, etc. 2 pnts.

Relinquished by (Signature) / Print Name	Date	Time	Rec'd By (Signature) / Print Name	Date	Time
[signature] / [illegible]	11-15-90	4:00 PM	Steve Schwab / Steve Schwab	11/15/90	7:00 PM
Relinquished by (Signature) / Print Name	Date	Time	Rec'd. by (Signature) / Print Name	Date	Time
Relinquished by (Signature) / Print Name: Steve Schwab	10/15/90	5:15	Received for Laboratory by (Signature) / Print Name: Michael Brennan	11/15/90	5:15 pm

Special Instructions/Comments Field Blank run through Pump prior to purging MW-4D + Trip blank

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

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REPORT TO: Client Name R.E. Pastorino, P.C
Address 2171 Jericho Tnpke
Commack, NY 11725
Phone (516) 499-1888
Attn. Ed Reilly - Proj. Mngr

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	11-15-90	R.E.P
Sampler: (Signature) [signature]	Analytical Protocol ASP/Part 360 Water QHy	Air Bill No. N/A	Cooler No. 30

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANK	11-15	11:15 am	D.I. WATER BAILER	2-40ml vials	VOA
" "	"	"	" "	2-1/2g glass	BNA, Pest, PCB
" "	"	"	" "	1-Pnt plastic	Metals
" "	"	"	" "	1-Pnt plastic	Cyanide
" "	"	"	" "	1-Qt glass	TKN, NH3, etc
" "	"	"	" "	~~1-Plastic~~ gt.	BOD, TDS, etc. 2 pnt.

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
[signature] RAYMOND F. CLOVER	11-15-90	4:00 PM	[signature] Steve Schwab	11/15/90	4:00 PM
Relinquished by (Signature) / Print Name			Rec'd. by (Signature) / Print Name		
[signature] Steve Schwab	11/15/90	5:15	Received for Laboratory by (Signature) / Print Name: Michael Brennan	11/15/90	5:15 pm

Special Instructions/Comments D.I. water run through bailer prior to sampling
MW-~~4S~~ 4s + Trip blank

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

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Attn. Jim Dockery

REPORT TO: Client Name P.E. Postiglione P.C.
Address 2171 Jericho Turnpike
Commack, NY 11725
Phone (516) 499-1888
Attn. Ed Kelly - Proj. Mngr

Project No. 8.002F	Project Name TOWN OF ISLIP Lincoln Ave Sayville Landfill	Date Shipped 11-15-90	Carrier REP
Sampler: (Signature) Gary Glover	Analytical Protocol ASP Part 360 Water Qlty	Air Bill No. N/A	Cooler No. 13

Sample I.D. MW-4S, 4D	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW-4S	11-15-90	1:00PM	Groundwater	2-40ml vials	VOA
MW-4S		"	"	2-1gal glass	BNA, Pest, PCB
MW-4S		"	"	1-pint plastic	Metals
MW-4S		"	"	1-pint plastic	Cyanide
MW-4S		"	"	1-QT glass	TKN, NH3, etc
MW-4S		"	"	1-QT plastic	BOD, TDS, etc
MW-4d	11-15-90	11AM	Groundwater	2-40ml vials	VOA
MW-4d		"	"	2-1gal glass	BNA, Pest, PCB
MW-4d		"	"	1-pint plastic	Metals
MW-4d		"	"	1-pint plastic	Cyanide
MW-4d		"	"	1-QT glass	TKN, NH3, etc
MW-4d		"	"	1-QT plastic	BOD, TDS, etc

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
Gary Glover / Gary Glover	11-15-90	4:00 PM	Steve Schwab / STEVE SCHWAB	11/15/90	
Relinquished by (Signature) / Print Name	Date	Time	Rec'd. by (Signature) / Print Name	Date	Time
Relinquished by (Signature) / Print Name	Date	Time	Received for Laboratory by (Signature) / Print Name	Date	Time
Steve Schwab / Steve Schwab	11/15/90	5:15	Michael Brennan / Michael Brennan	11/15/90	5:15

Special Instructions/Comments ~~Trip Blank Bottles~~ NO TRIP BLANK IN SET

Client Retains Yellow Copy Only

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page 1 of 1

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name P.E. Pustorino, P.C
Address 2171 Jericho Turnpike
Commack NY 11725
Phone (516) 499-1888
Attn. EJ Reilly - Proj. Mngr

Project No.	Project Name	Date Shipped	Carrier
8882F	TOWN OF ISLIP Lincoln Ave (Sayville) LandFill	11-15-90	P.E.P.
Sampler: (Signature)	**Analytical Protocol**	**Air Bill No.**	**Cooler No.**
Ray Glover	ASP Part 360 Water Qlty	N/A	58

Sample I.D. MW 6I/GW	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANKS	11-15	1:35PM	D.I. WATER PUMP	2-40ml vials	VOA's
" "	"	"	" "	2-1/2 glass	BNA, Pest, PCB
" "	"	"	" "	1-Pint plastic	Metals
" "	"	"	" "	1-Pint plastic	Cyanide
" "	"	"	" "	1-Qt glass	TKN, NH_3, etc
" "	"	"	" "	1-Qt plastic	BOD, TDS, etc
MW-6I	11-15-90	9:00 AM	Groundwater	6-40ml 2-vials	VOA's
" "	"	"	"	2-1/2 glass	BNA Pest, PCB
" "	"	"	"	1-Pint plastic	Metals
" "	"	"	"	1-Pint plastic	Cyanide
" "	"	"	"	1 Qt glass	TKN, NH_3, etc.
" "	"	"	"	1 Qt. plastic	BOD TDS, etc.

Relinquished by (Signature) / Print Name	Date / Time	Rec'd. By (Signature) / Print Name	Date / Time
Ray Glover / RAYMOND F. Glover	11-15-90 / 9:05 PM	Steve Schul / STEVE SCHUL	11/15/90 / 4:10
Relinquished by (Signature) / Print Name	Date / Time	Rec'd. by (Signature) / Print Name	Date / Time
Relinquished by (Signature) / Print Name: Steve Schul / Steve Schul	11/15/90 / 5:15	Received for Laboratory by (Signature) / Print Name: Michael Brennan / Michael Brennan	11/15/90 / 5:15

Special Instructions/Comments D.I water run through pump prior to purging MW-6I + Trip blank

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

Page 1 of 1

REPORT TO: Client Name R.E. PUSTORINO
Address 2171 Jericho Tnpke
Commack NY
Phone (516) 499-1888
Attn. Rro J. Mngr. Ed Reilly

Project No.	Project Name	Date Shipped	Carrier
86082F	TOWN OF ISLIP Lincoln Ave (SAYVILLE) LANDFILL	11-16-90	R.E.P
Sampler: (Signature) Kay Glover	Analytical Protocol ASP/Part 360 Water Quality	Air Bill No. N/A	Cooler No. 23

Sample I.D.	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
FIELD BLANK	11-16-90	11 AM	D.I. Water-Bailer	2-40ml vials	VOA's
Field BLANK	"	"	" "	2-1/2g glass	BNA, Pest, PCB's
FIELD BLANK	"	"	" "	1pnt plastic	Metals
FIELD BLANK	"	"	" "	1pnt plastic	Cyanide
FIELD BLANK	"	"	" "	2-pnt plastic	BOD, TDS, etc
FIELD BLANK	"	"	" "	1Qt glass	TKN, NH_3, etc
MW-6D	11-16-90	11:10 PM	Groundwater	2-40ml vials	VOA's
MW-6D	"	"	Groundwater	2-1/2g glass	BNA, Pest, PCB's
MW-6D	"	"	"	1-pnt plastic	Metals
MW-6D	"	"	"	1pnt plastic	Cyanide
MW-6D	"	"	"	2pnts plastic	TKN, NH_3, etc.
MW-6D	"	"	"	1Qt glass	BOD, TDS, ets

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
Kay Glover / Gwendy Glover	11-16-90	12:45 PM	Steve Schwab / Steve Schwab	11/16/90	12:45 PM
Relinquished by (Signature) / Print Name	Date	Time	Rec'd. by (Signature) / Print Name	Date	Time
Steve Schwab / Steve Schwab	11/16/90	2:00	Received for Laboratory by (Signature) / Print Name: Pier Pierides	11/16/	1:45

Special Instructions/Comments Field blank taken by running deminized water through bailer prior to sample MW-6D, includes #1 Trip Blank for VOA's

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TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

Page 1 of 1

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name R.E. PUSTORINO, P.C.
Address 2171 Jericho Tnpke
Commack, NY
Phone (516) 499-1888
Attn. Proj Mngr - Ed Reilly

Project No.	Project Name	Date Shipped	Carrier
06082F	TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	11-16-90	R.E.P.
Sampler: (Signature) Kay Glover	Analytical Protocol ASP/Part 360 Water Qlty	Air Bill No. N/A	Cooler No. 24

Sample I.D. MS/MSD Sp Blk	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MS/MSD	11-16-90	11:45 AM	Groundwater	2-40ml vials	VOA's
MS/MSD	"	"	"	2-1/2g glass	BNA, Pest, PCB's
MS/MSD	"	"	"	1-pnt plstc	Metals
MS/MSD	"	"	"	1-pnt plst	Cyanide
MS/MSD	"	"	"	2-pnts plstc	BOD, TDS, etc
MS/MSD	"	"	"	1 Qt glass	TKN, NH_3, etc
Spiked Blank	11-16-90	11:30 AM	Groundwater	2-40ml vials	VOA's
Spiked Blank	"	"	"	2-1/2g glass	BNA, Pest, PCB's
Spiked Blank	"	"	"	1-pnt plstc	Metals
Spiked Blank	"	"	"	1-pnt plstc	Cyanide
Spiked Blank	"	"	"	2-pnts plstc	BOD, TDS, etc
Spiked Blank	"	"	"	1 Qt glass	TKN, NH_3, etc

Relinquished by (Signature) / Print Name	Date	Time	Rec'd. By (Signature) / Print Name	Date	Time
Kay Glover / Raymond Glover	11-16-90	12:45 PM	Steve Schul / Steve Schul	11/16/90	11:45
Relinquished by (Signature) / Print Name			Rec'd. by (Signature) / Print Name		
Steve Schul / Steve Schul	11/16/90	2:00	Received for Laboratory by (Signature) / Print Name: Kevin Pierds	11/16	1:45

Special Instructions/Comments MS/MSD (Matrix Spike/Matrix Spike duplicate) and Spiked blank taken from MW-6D after well sample MW-6D.

Client Retains Yellow Copy Only

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

CHAIN OF CUSTODY RECORD

SHIP TO: Nytest Environmental Inc.
60 Seaview Blvd.
Port Washington, NY 11050
(516) 625-5500
Attn. Joe Dockery

REPORT TO: Client Name R.E. Pastorino, P.C.
Address 2171 Jericho Triple
Commack, NY 11725
Phone (516) 499-1888
Attn. E.L. Reilly - Proj. Mngr.

Page 1 of 1

Project No. 86082F	Project Name TOWN OF ISLIP Lincoln Ave (Sayville) Landfill	Date Shipped 11-16-90	Carrier RET
Sampler: (Signature) Ray Glover	Analytical Protocol ASP/Part 360 Water Qlty	Air Bill No. N/A	Cooler No. 26

Sample I.D. MW-6S	Date/Time Sampled		Sample Description	No. Of Containers	ANALYSIS REQUESTED
MW-6S	11-16-90	12:00 PM	Groundwater	2-40ml vials	VOA's
MW-6S	"	"	"	2 1/2 g glass	BNA, Pest, PCB
MW-6S	"	"	"	1-Pnt plstc	Metals
MW-6S	"	"	"	1-Pnt plstc	Cyanide
MW-6S	"	"	"	1-Qt glass	TKN, NH_3, etc.
MW-6S	"	"	"	1-Qt plstic	BOD, TDS, etc

Relinquished by (Signature)	Date	Time	Rec'd. By (Signature)	Date	Time
Ray Glover	11-16-90	12:45 PM	Steve Schwab	11/16/90	[illegible]
Print Name RAYMOND F. GLOVER			Print Name Steve Schwab		
Relinquished by (Signature)	Date	Time	Rec'd. by (Signature)	Date	Time
Print Name			Print Name		
Relinquished by (Signature) Steve Schwab	Date 11/16/90	Time 2:00	Received for Laboratory by (Signature) [illegible]	Date 11/16	Time 1:45
Print Name STEVE SCHWAB			Print Name Pierre Pavides		

Special Instructions/Comments #2. Trip Blank included

Client Retains Yellow Copy Only

SAMPLE CONTAINER, PRESERVATIONS

AND HOLDING TIMES

1988 - 1990

TABLE 4

SUMMARY OF SAMPLE COLLECTION AND ANALYSIS
LINCOLN AVE (SAYVILLE) LANDFILL SUPPLIMENTAL SAMPLING (1990)
PHASE II GROUNDWATER MONITORING WELLS

Sample ID #	Lab ID #	Date/Time* of Collection		Matrix** of Sample	Method of Collection	Interval Sampled	Analysis*** Performed
FBMW-1SP	6496004	11/09/90	9:00AM	DI Water (deionized)	run through (pump)	--	TCL+30
MW-1S	6496001	11/09/90	11:00AM	GW (groundwater)	grab (bailer)	Shallow Screen (water table)	TCL+30/ Part 360 GW Quality
TB-2	6496005	--	--	DI Water	--	--	TCL+30 Volatiles
FBMW-1DB	6496003	11/09/90	11:45AM	DI Water	run through (bailer)	--	TCL+30
MW-1D	6496002	11/09/90	2:00PM	GW	grab (bailer)	Deep Screen (63'below WT)	TCL+30/ Part 360 GW Quality
TB-3	6496006	--	--	DI Water	--	--	TCL+30 Volatiles
FBMW-2SP	6527006	11/13/90	9:00AM	DI Water	run through (pump)	--	TCL+30
MW-2S	6527001	11/13/90	11:30AM	GW	grab (bailer)	Shallow Screen (water table)	TCL+30/ Part 360 GW Quality
FBMW-2DB	6527005	11/13/90	1:30PM	DI Water	run through (bailer)	--	TCL+30
MW-2D	6527002	11/13/90	2:00PM	GW	grab (pump)	Deep Screen (70'below WT)	TCL+30/ Part 360 GW Quality
TB-10	6527009	--	--	DI Water	--	--	TCL+30 Volatiles
FBMW-5SP	6527004	11/13/90	3:15PM	DI Water	run through (pump)	--	TCL+30
FBMW-5SB	6527007	11/13/90	3:30PM	DI Water	run through (bailer)	--	TCL+30
MW-5S	6527003	11/13/90	3:30PM	GW	grab (pump)	Shallow Screen (water table)	TCL+30/ Part 360 GW Quality
TB-14	6527008	--	--	DI Water	--	--	TCL+30 Volatiles
FBMW-5DP	6533006	11/14/90	8:30AM	DI Water	run through (pump)	--	TCL+30
FBMW-5DB	6533004	11/14/90	10:30AM	DI Water	run through (bailer)	--	TCL+30
MW-5D	6533003	11/14/90	10:45AM	GW	grab (bailer)	Deep Screen (50'below WT)	TCL+30/ Part 360 GW Quality
TB-20	6533008	--	--	DI Water	--	--	TCL+30 Volatiles
FBMW-3DB	6533005	11/14/90	1:30PM	DI Water	run through (bailer)	--	TCL+30
MW-3D	6533002	11/14/90	1:30PM	GW	grab (bailer)	Deep Screen (67'below WT)	TCL+30/ Part 360 GW Quality
MW-3S	6533001	11/14/90	2:30PM	GW	grab (bailer)	Shallow Screen (water table)	TCL+30/ Part 360 GW Quality
TB-23	6533007	--	--	DI Water	--	--	TCL+30 Volatiles

Continued...

TABLE 4 (CONTINUED)

SUMMARY OF SAMPLE COLLECTION AND ANALYSIS
LINCOLN AVE (SAYVILLE) LANDFILL SUPPLIMENTAL SAMPLING (1990)
PHASE II GROUNDWATER MONITORING WELLS
(Continued)

Sample ID #	Lab ID #	Date/Time* of Collection		Matrix** of Sample	Method of Collection	Interval Sampled	Analysis*** Performed
FBMW-4DP	6546006	11/15/90	8:45AM	DI Water (deionized)	run through (pump)	--	TCL+30
MW-4D	6546002	11/15/90	11:00AM	GW (groundwater)	grab (bailer)	Deep Screen (65'below WT)	TCL+30/ Part 360 GW Quality
TB-30A	6546008	--	--	DI Water	--	--	TCL+30 Volatiles
FBMW-4SB	6546005	11/15/90	11:15AM	DI Water	run through (bailer)	--	TCL+30
MW-4S	6546001	11/15/90	1:00PM	GW	grab (bailer)	Shallow Screen (water table)	TCL+30/ Part 360 GW Quality
TB-30B	6546009	--	--	DI Water	--	--	TCL+30 Volatiles
FBMW-6IP	6546004	11/15/90	1:45PM	DI Water	run through (pump)	--	TCL+30
MW-6I	6546003	11/15/90	4:00PM	GW	grab (bailer)	Intrad Screen (60'below WT)	TCL+30/ Part 360 GW Quality
TB-58	6546007	--	--	DI Water	--	--	TCL+30 Volatiles
FBMW-6DB	6559005	11/16/90	11:00AM	DI Water	run through (bailer)	--	TCL+30
MW-6D	6559002	11/16/90	12:00PM	GW	grab (bailer)	Deep Screen (150'below WT)	TCL+30/ Part 360 GW Quality
TB-23	6559007	--	--	DI Water	--	--	TCL+30 Volatiles
MW-6DMS	6559003	11/16/90	11:00AM	GW	grab (bailer)	Deep Screen	TCL+30
MW-6DMSD	6559004	11/16/90	11:30AM	GW	grab (bailer)	Deep Screen	TCL+30
MW-6S	6559001	11/16/90	11:45PM	GW	grab (bailer)	Shallow Screen (water table)	TCL+30/ Part 360 GW Quality
TB-25	6559006	--	--	DI Water	--	--	TCL+30 Volatiles

* For number and/or volume of containers collected, see Chain of Custody, App.G
** For required Types of Containers, Preservations, and Holding Times, see App.G
*** For Analytical Method used, see Summary of Methodology, App.H
TCL+30 (Target Compound List) includes Volatiles, Base Neutral/Acid Extractables, & Inorganics analyzed according to the 1989 NYSDEC ASP protocol

Groundwater Table reference November 1990 - 40ft. MSL (recent historic high water level)

APPENDIX H

APPENDIX H

CORNELL UNIVERSITY

SUMMARY REPORT

SUMMARY REPORT

Topo Quad: PATCHOGUE

Town: Islip City: Bohemia

Street Location: Lincoln Avenue

Site Classification: ML 12 Mined Area--Landfill

Description:

This site was well into dual operation before 1947 with sand mining in one section and landfilling in another; ponded water detected in both. An associated building with smoke stack (incinerator?), two other buildings and a conveyor all were part of this 8-9 acre operation, in an undisturbed setting of scrubby woodland. Both sand mining and landfill activity gradually expanded through 1953 to 1962 when it included 22 acres, open burning occurring within the pit. A mobile home park of 76 trailers had developed just south of the landfill. By 1972 the complete operation covered 35 acres, the covered landfill section mounded well above level of surrounding topography. Solid wastes along with barrels/drums were deposited on top of landfill surface in clumps. Lagoons, a slit trench, soil stains and active landfilling were located down within the only remaining open working section of the sand mine where the conveyor had been relocated. Between 1962 and 1972 other buildings associated with the site including a large one with three smoke stacks have been constructed along the front of the landfill. The mobile home park and the landfill now share a common boundary; number of mobile homes has increased to 118. By 1984 the sandmining had ceased and all of the site was incorporated into a large, mounded, covered, compacted landfill. The 1987 oblique indicates there continues to be open depositing of various wastes on the landfill as well as in low pockets around the edges. Under high magnification dispersed barrels/drums are also to be seen.

Call-In: Yes--Indicates that large dump trucks enter the property, and are weighed at entry and exit. Rats increasing.

Air Photos:

9/23/47	ASA-4D-28, 29	
4/7/54	4	51, 52
3/23/62	2023	20-272, 273
4/30/72	2393-22-539-540	
3/26/84	7053-33-221, 222	

April 1987 obliques

CLEARS

Topo: Patchogue
Site #: M 12, L 12

AIRPHOTO INVENTORY OF POTENTIAL HAZARDOUS DUMP SITES
In SUFFOLK COUNTY, NEW YORK

SITE DATA SHEET

	Year: 1947	Year: 1962	Year: 1972
Site Type:	Mined Area - Landfill	Mined Area - Landfill	Mined Area - Landfill
Approximate Size:	8 - 9 Acres	22 Acres	35 Acres
Site Description:	3 simultaneous activities in operation: sand extraction, landfilling in worked out pit sections, and incineration of wastes; groundwater detectable in lowest levels of excavation. Buildings, machinery and equipment detectable.	As in '47; expanded operation; open burning (smoke detectable); landfill portion even with roads.	As in '47; more than half total area is in landfill which is well mounded above roads; liquid waste disposal - black stains detectable - as well as barrels/drums.
Photo Number:	ASA - 4D - 29	2023 - 20 - 273	2393 - 22 - 539
Other Information:			

Site Location: Town Islip City Bohemia Street Lincoln Ave.

Field Visit: No __ Yes __ If yes, date of visit _____

SUFFOLK COUNTY LANDFILL ANALYSIS

Site: Patchogue L12, Lincoln Avenue, Bohemia

Soils: Deep, nearly level to gently sloping, well-drained and excessively drained, moderately coarse textured and coarse textured soils on the southern outwash plain; groundwater at 10'; pervious to 150'.

Airphoto Analysis:

1947

ASA 4D - 28,29

1. Sand & gravel mining with one section (#2) devoted to use as a waste disposal area; surrounded by woodland
   1a. Ponded water
2. Solid waste disposal area; uncovered wasted detectable at stipples
3. Conveyor
4. Cleared land
5. Service area with associated buildings
6. Large building with tall smoke stack accessed from wide ramp
7. Woodland
8. Access roadways, well trafficed

1958 4

VCQ 4 - 51,52

1. Sand & gravel mining expanded
   1a. Ponded water increased in occurrence and size
   1b. Large wet area at symbol
2. Waste disposal area; uncovered wastes at stipples; smoke from burning detectable
   2a. Working face of landfill
3. Conveyor
4. Cleared land at NE corner incorporated into pit; other clearing has increased in size
5,6,7. Service area, large building, woodland - no significant change
8. Access roads increased in number; pattern change
9. Storage area contains mounded, graded loose sand and gravel

1962

2023 20 - 272,273

1. Active sand & gravel mining continuing; increased in size; active section changed in location
   1a. No detectable ponded water
2. Waste disposal area
   2a. Working face of landfill
   2b. Mounded wastes
   2aa. Smoke detectable from open burning
3. Conveyor
4. Cleared land incorporated into #2aa, the open burning area
5,6. Service area, building - no significant change
7. Woodland decreasing as sandpit enlarges
8. Access roadways including ramps down into waste disposal area and sandpit as mapped
9. Storage area - no significant change
10. Mobile home park - 76 trailer homes at date

Airphoto Analysis, Patchogue L12, Con't.

1972

2393- 22-539, 540
~~2023-20 - 272,273~~

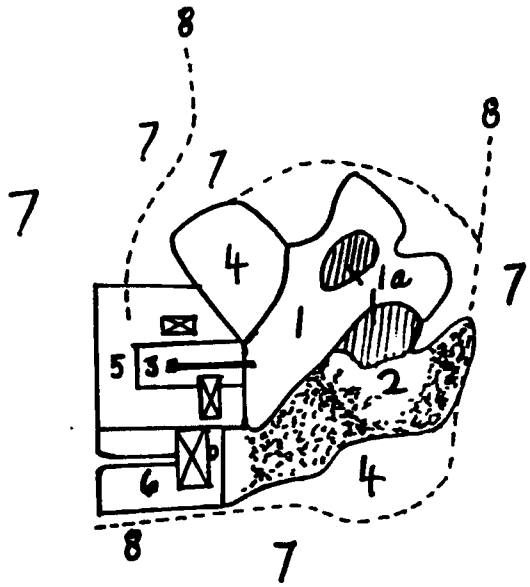
1. Sand & gravel mine, new section in operation
   1a. No ponded water
2. Waste disposal area
   2a. Working face of landfill well mounded above surface of surrounding topography
   2aa, 2b. Smoke, cover mounds no longer detectable
   2c. Clumps of solid wastes including barrels/drums on top of landfill
   2d. Bermed lagoons along sides of sandpit containing black bulk liquid
   2e. Slit trench from higher level to lagoon level
   2f. Black soil stains at slashes
3. Conveyor moved to new section of pit
4. No recent land clearing
5. Service area - conveyor removed
6. Large building - no change
7. Woodland - decreased
8. Access roadways, including ramps
   8a. At least 12 trucks coming and going at date
9. Storage area increased in area
10. Mobile home park increased in size, 118 mobile homes
11. Large building with 3 smoke stacks and wide access ramp
12. Small building at entrance to large facility at "x" - traffic control check point?

1984

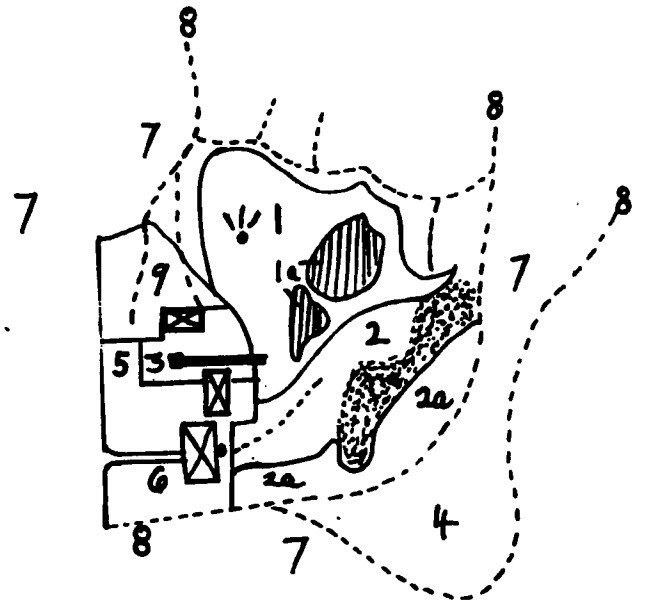
3815 33 - 221,222

1. Sand & gravel mine no longer in operation
2. Waste disposal area (including 2aa, 2b, 2c, 2d, 2e, 2f) incorporated into a large covered, compacted landfill
   2a. Working face of landfill
   2g. Control structures or "check dams" (berm-like)
   2h. Area of cover soil
3. Conveyor removed
4. Cleared land - not applicable
5,6. No significant change
7. Woodland greatly decreased
8. Access roads
9. Storage area - most of the sand/gravel mounds have been removed
10. Mobile home park unchanged
11,12. Buildings - no significant change

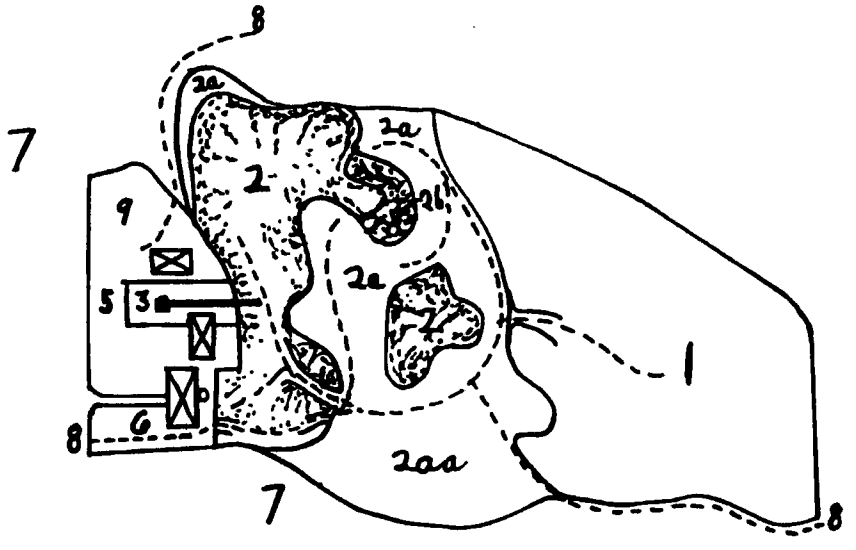
1987 - April Field Check
Landfill covered; however, open deposits of miscellaneous wastes present on top of landfill with some cover material; site mounded up above level of surrounding landscape



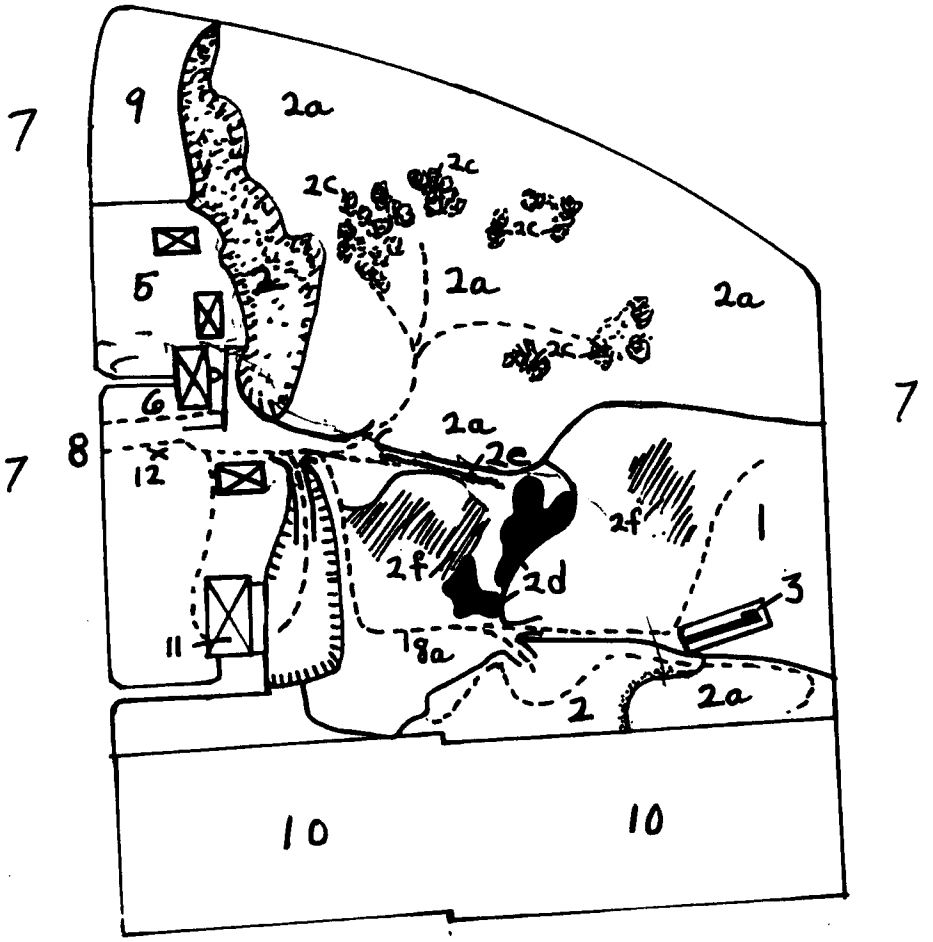
1947



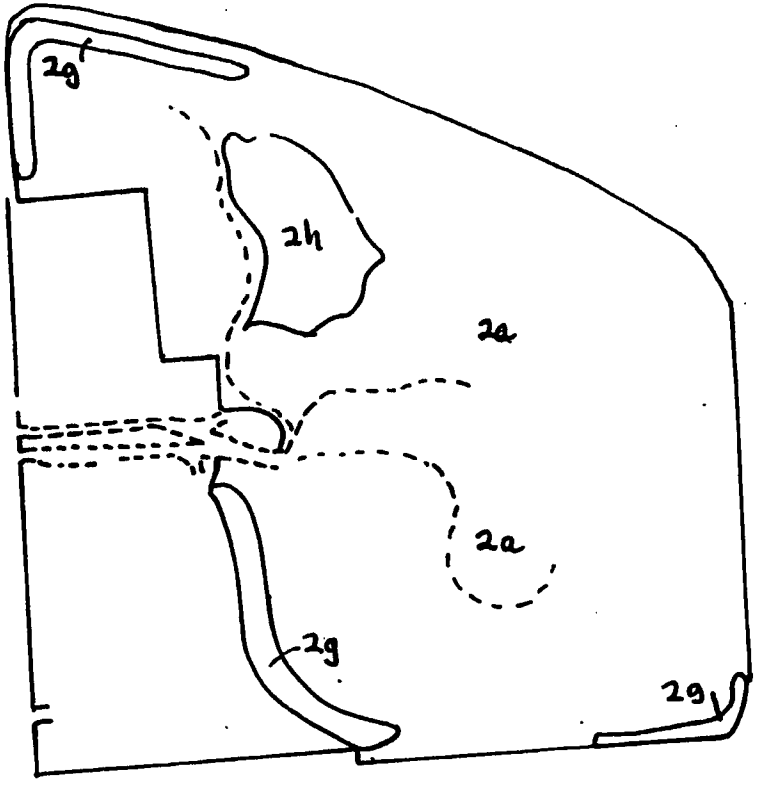
1954



10



1972



1984

APPENDIX I

APPENDIX I

QA/QC ANALYTICAL LABORATORY
SUPPORT DOCUMENTATION

- Traffic Reports/Quality Control - 1988
  - Soil Samples
  - Case Narrative
- Traffic Reports/Quality Control - 1989
  - Groundwater Samples
  - Case Narrative
- NYTEST Standard Operating Procedures
  - Sample Container, Preservations and Holding Times
  - Bailers/Rinsate Analyser
  - Cleaning and Sampling Equipment
- NYTEST Methodology
  - 1988 & 1989
  - 1990
- NYTEST 1990 ASP Protocol
- Contract Required Quantitation Limits
- NYTEST 1987 (Report Requirements)

nytest environmental inc

Sample I.D.	LAB #
MW-4D	Y85767
MW-2D	Y85768
MW-D1	Y86345
MW-D1	Y86344
MW-5D	Y86341
MW-5D	Y86342
MW-6D	Y86343

Traffic Reports

Soil Samples:

MW-3C	Y86472
MW-3	Y86473
FIELD BLANK	Y86474
MW-D	Y86641
MW-4DC	Y87155
MW-6IC	Y87275
MW-5DC	Y87416
FIELD BLANK	Y87156
MW-4D	Y87152
MW-4DS	Y87153
MW-5D	Y87415
MW-6I	Y87276
FIELD BLANK	Y87154

Laboratory Chronicle

Project No: 88-15193

Client Name: R.E. Pustorino

Date Recieved: 12/02/88
Sample ID: as per Chain of Custody (MWD 1, D1, 5D, 5D, 6D) NG

Organics Extraction:

1. Acids _____

2. Base/Neutrals _____
12/10/88

3. Pesticides/PCBs _____

4. Dioxin _____

Analysis:

1. Volatiles _____

2. Acids _____

3. Base/Neutrals _____
12/14/88

4. Pesticides/PCBs _____

5. Dioxin _____

Section Supervisor
Review & Approval D. Shelby

Inorganics:

12/13/88 - 12/28/88
1. Metals _____
12/27/88
2. Cyanides _____
12/21/88
3. Phenols _____

Other Analysis:

Other 12/21/88

_____

_____

_____

Section Supervisor
Review & Approval D. Shelby

Quality Control Supervisor
Review & Approval D. Shelby

If fractions are re-extracted and re-analyzed include dates for both.

Laboratory Chronicle

Project No: 83-15193

Client Name: R.E. Pustorino

Date Recieved: 12/07/83
Sample ID: Comp - MW3C

Organics Extraction:

1. Acids _____
2. Base/Neutrals _____
3. Pesticides/PCBs 12/14/83
4. Dioxin _____

Analysis:

1. Volatiles _____
2. Acids _____
3. Base/Neutrals _____
4. Pesticides/PCBs 01/03/89
5. Dioxin _____

Section Supervisor
Review & Approval _____

Inorganics:

1. Metals 12/20/83 + 12/28/83
2. Cyanides _____
3. Phenols _____

Other Analysis:

_____

_____

_____

Section Supervisor
Review & Approval _____

Quality Control Supervisor
Review & Approval _____

If fractions are re-extracted and re-analyzed include dates for both.

Laboratory Chronicle

Project No: 88-15193

Client Name: R.E. Pustorino

Date Recieved: 12/01/88
Sample ID: MW3, Field Blank

Organics Extraction:

1. Acids 12/12/88
2. Base/Neutrals 12/12/88
3. Pesticides/PCBs 12/12/88
4. Dioxin

Analysis:

1. Volatiles 12/08/88, 12/13/88, 12/14/88
2. Acids 01/04/89, 01/05/89
3. Base/Neutrals 01/04/89, 01/05/89
4. Pesticides/PCBs 12/20/88 - 12/23/88
5. Dioxin

Section Supervisor
Review & Approval

Inorganics:

1. Metals 01/10/89
2. Cyanides 01/04/89
3. Phenols

Other Analysis:

Section Supervisor
Review & Approval D. Shea

Quality Control Supervisor
Review & Approval D. Shea

If fractions are re-extracted and re-analyzed include dates for both.

nytest environmental inc.

Volatile in House Chain of Custody

Case No.: 1770 SDG:

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW 3	Y8-6473	PP 12/8/88	TP	21h 1/9/89 TP	PP
Field Blank	Y8-6474	PP 12/8/88	TP	1/9/89 TP	PP

nytest environmental inc.

Extraction Lab in House Chain of Custody

Case No.: 1770 SDG:

Sample ID	Lab ID	Received from Sample Custodian Received by Extraction Technician	Received from Extraction Technician Received by GC/GCMS Tech. Screening	Received from GC/GCMS Technician Received by Extraction Tech.	Received from Extraction Technician Received by GC/GCMS Tech. Final Ext.	Received from GC/GCMS Technician Received by Sample Custodia
MW3	Y8-6473	Hilliary Williams 12/12/88	—	—	12/15/88 12/15/88	
MW3 MS	Y8-6473	—	—	—	12/15/88 12/15/88	
MW3 MSD	Y8-6473	—	—	—	12/15/88 12/15/88	
Blank	—	—	—	—	12/15/88 12/15/88	

Laboratory Chronicle

Project No: 93-15193

Client Name: R.E. Pustorino

Date Recieved: 12/03/88
Sample ID: as per Chain of Custody (MW-D)

Organics Extraction:

1. Acids 12/13/89
2. Base/Neutrals 12/13/88
3. Pesticides/PCBs 12/13/88
4. Dioxin

Analysis:

1. Volatiles 12/12/88
2. Acids 01/13/89
3. Base/Neutrals 01/13/89
4. Pesticides/PCBs 01/04/89 - 01/05/89, 01/09/89 - 01/10/89
5. Dioxin

Section Supervisor Review & Approval D. Shealy

Inorganics:

1. Metals 01/13/89 - 01/17/89
2. Cyanides
3. Phenols

Other Analysis:

Section Supervisor Review & Approval D. Shealy

Quality Control Supervisor Review & Approval D. Cohen

If fractions are re-extracted and re-analyzed include dates for both.

nytest environmental inc.

Volatile in House Chain of Custody

Case No.: 1798 SDG:

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW-D	Y8-6641	12/12/88 [signature]	TP	TP 1/18/89	[signature]

nytest environmental inc.

Extraction Lab in House Chain of Custody

Case No.: 1798 SDG:

Sample ID	Lab ID	Received from Sample Custodian Received by Extraction Technician	Received from Extraction Technician Received by GC/GCMS Tech. Screening	Received from GC/GCMS Technician Received by Extraction Tech.	Received from Extraction Technician Received by GC/GCMS Tech. Final Ext.	Received from GC/GCMS Technician Received by Sample Custodia
MW-D	VG-idr41	R. Murphy 12/13/88			12/27/88 12/27/88	
Blank	—	—			12/27/88 12/27/88	

Laboratory Chronicle

Client Name: R.E. Pustorino

Project No: 83-15133

Date Recieved: 12/23/88 (4DC, 6IC, 5DC) NA
Sample ID: as per Cover Page

Organics Extraction:

1. Acids _____

2. Base/Neutrals _____

3. Pesticides/PCBs 12/23/88

4. Dioxin _____

Analysis:

1. Volatiles _____

2. Acids _____

3. Base/Neutrals _____

4. Pesticides/PCBs 01/07/89

5. Dioxin _____

Section Supervisor Review & Approval D. Shelly

Inorganics:

1. Metals 01/23/89

2. Cyanides _____

3. Phenols _____

Other Analysis:

_____

_____

_____

Section Supervisor Review & Approval D. Shelly

Quality Control Supervisor Review & Approval D. Shelly

If fractions are re-extracted and re-analyzed include dates for both.

000 3

Laboratory Chronicle

Project No: 89-15193

Client Name: R.E. Pustorino

Date Recieved: 12/19/88, 12/22/88, 12/23/88
Sample ID: as per Chain of Custody (4D, 4DS, 5D, 6I)

Organics Extraction:

1. Acids 12/23/88
2. Base/Neutrals 12/23/88
3. Pesticides/PCBs 12/23/88
4. Dioxin

Analysis:

1. Volatiles 12/19/88, 12/24/88, 12/26/88
2. Acids 01/16/89, 01/17/89
3. Base/Neutrals 01/16/89, 01/17/89
4. Pesticides/PCBs 01/17/89 - 01/18/89
5. Dioxin

Section Supervisor Review & Approval D. Schaly

Inorganics:

1. Metals 01/24/89
2. Cyanides
3. Phenols

Other Analysis:

Section Supervisor Review & Approval D. Schaly

Quality Control Supervisor Review & Approval D. Schaly

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If fractions are re-extracted and re-analyzed include dates for both.

nytest environmental inc.

Volatile in House Chain of Custody

Case No.: SDG:

Purgeable

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW-4D	Y8-7152	Robert Flatt 12/19/88	TP	TP 1/18/89	Robert Flatt
MW-4D Screen	7153	Robert Flatt 12/19/88	TP	TP 1/18/89	Robert Flatt
Field Blank	7154	Robert Flatt 12/19/88	TP	TP 1/18/89	Robert Flatt
MW-5D	7415	Robert Flatt 12/23/88	TP	TP 1/18/89	Robert Flatt
MW-6I	7276	Robert Flatt 12/23/88	TP	TP 1/18/89	Robert Flatt

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Extraction Lab in House Chain of Custody

Case No.: SDG:

Pivotering

Sample ID	Lab ID	Received from Sample Custodian Received by Extraction Technician	Received from Extraction Technician Received by GC/GCMS Tech. Screening	Received from GC/GCMS Technician Received by Extraction Tech.	Received from Extraction Technician Received by GC/GCMS Tech. Final Ext.	Received from GC/GCMS Technician Received by Sample Custodian
MW-4D	Y8-7152	Hilary Williams 12/23/88			[illegible] 1/13/89 1/13/89	
MW-4D screen	Y8-7153	Hilary Williams 12/23/88			[illegible] 1/13/89 1/13/89	
Field Blank	Y8-7154	Hilary Williams 12/23/88			[illegible] 1/13/89 1/13/89	
MW-5D	Y8-7415	Hilary Williams 12/23/88			[illegible] 1/13/89 1/13/89	
MW-6I	Y8-7276	Hilary Williams 12/23/88			[illegible] 1/13/89 1/13/89	
MW4DMS	Y8-7152	—			[illegible] 1/13/89 1/13/89	
MW4D MSD	Y8-7152	—			[illegible] 1/13/89 1/13/89	
(soil) Blank	—	—			[illegible] 1/13/89 1/13/89	
Blank	—	—			[illegible] 1/13/89	

nytest environmental inc.

Case Narrative

Soil Samples

MW3 Y86473
FIELD BLANK Y86474

CASE NARRATIVE

A. VOLATILE FRACTION:

I. SURROGATES:

All surrogate recoveries are within QC limits.

II. MS/MSD:

The MS/MSD submitted is from another project which was received the same day. All spiking recoveries and % differences are within QC limits. Corresponding QC data for the MS/MSD is included in this report.

III. BLANKS:

Methylene Chloride was found in VBLKV8 and VBLKV1. No compounds found in VBLKV2.

IV. INTERNAL STANDARD:

All internal standard area counts are within QC limits.

V. CALIBRATION:

Initial and continuing CCC and SPCC compounds are within QC limits.

VI. SAMPLES:

Sample MW3 was first run straight, 5g/5ml and acetone was found at a concentration above the calibration range. Since the concentraction of acetone in MW3 was 500 ppb, a dilution factor of 5 was required. The sample was rerun, MW3DL, at a 1:5 dilution. In this run, acetone was still outside the calibration range at 1400 ppb. This is due to the non-homogenitity of the sample and no further analysis of this sample was required. Both sets of data for MW3 are included in this data package. Mathylene Chloride was found in the field blank and most likely due to laboratory contamination.

B. SEMIVOLATILE FRACTION:

I. SURROGATES:

All surrogate recoveries are within QC limits, except for those in the blank. Since the blank was rerun and all surrogate recoveries are in QC limits. No further action is required.

II. MS/MSD:

In the MS/MSD, 2 out of 22 spiking recoveries and 1 out of 11 % differences are outside the QC limits.

III. BLANKS:

The blank was rerun since all surrogate recoveries in the first run SBLKF no compounds were found, in the rerun SBLKFRE bis (2-ethylhexyl) phthalate was found. This is due to laboratory contamination. This is most likely caused by the septa of the vials or a dirty syringe. Both sets of data are submitted.

IV. INTERNAL STANDARD:

All internal standard area counts are outside QC limits. However, since both the blank and MW3 were run more than once and the areas are out in both runs, no further action is required.

V. CALIBRATION:

Initial and Continuing calibration CCC and SPCC compounds are within QC limits.

VI. SAMPLES:

Sample MW3 was extracted as a low level soil. The only compound found was bis(2-ethylhexyl) phthalate at a concentration within the calibration range.

C. PESTICIDE FRACTION:

I. SURROGATES:

All surrogate recoveries are outside QC limits. Quantitation is from the confirmation analysis.

II. MS/MSD:

Four out of twelve spiking compound recoveries are outside QC limits. All % differences are within QC limits.

III. BLANKS:

No target compounds found.

IV. RETENTION TIME:

For both the primary and the confirmation analysis, retention time shifts for dibutylchlorendate in samples and standards are within QC limits. Other case number samples are analyzed between 12/20/88 23:31 and between 12/23/88 08:21 in the confirmation sequence.

V. SAMPLES:

No target compounds found.

VERBATIM:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his dusignee, as verified by the following signature.

Parag K. Shah, Ph.D

Organic Laboratory Manager

MWD

Y86641

Case Narrative

The MS/MSD which is submitted with this package if from another project which was received within 14 days of this job. All appropriate QC is included, if anything else is required please let us know.

A. Volatile Fraction:

I. Surrogates: All surrogate recoveries are within QC limits.

II. MS/MSD: All spiking compound recoveries are within QC limits. One out of five percent differences is outside QC limits.

III. Blanks: Methylene Chloride was found in the blank within QC limits.

IV. Internal Standard: All internal standard area counts are within QC limits.

V. Calibrations: Initial an continuing calibration CCC and SPCC compounds are within QC limits.

VI. Samples: Methylene Chloride was found in the sample, MW-D. This can be contributed to laboratory contamination since it was also found in the blank.

B. Semivolatile Fraction:

I. Surrogates: All surrogate recoveries meet QC requirements. As per protocol one surrogate is allowed to be outside QC limits as long as its above 10%.

II. MS/MSD: All spiking compound recoveries and percent differences are within QC limits.

III . Blanks: No target compounds found.

IV. Internal Standard: All internal standard area countss are within QC limits.

V. Calibration: Initial and continuing calibration CCC and SPCC compounds are wwithin QC limits.

VI. Samples: Bis(2-Ethylhexyl)Phthalate was found in the sample, MW-D. The concentration was within the calibration range.

C. Pesticides:

I. Surrogates: All surrogates recoveries are within QC limits. Quantitation is from the confirmation column.

II. MS/MSD: One out of twelve spiking compound recoveries are out side QC limits. Five out of six percent differences are outside QC limits.

III. Blank: No target compounds found.

IV. Retention Time: For both primary and confirmation analyses, retention time shifts for Dibutylchlorendate in samples and standards are within QC limits. Other case number samples are analyzed between 01/05/89 08:34 and 01/06/89 17:14 with the prrimary analysis, and between 01/09/89 21:23 and 01/10/89 15:02 with the confirmation analysis.

V. Samples: No target compounds found.

Verrbatim: I Certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the condditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Douglas Sheeley

Douglas Sheeley

Laboratory Director

nytest environmental inc

MW 4D Y87152
MW 4DS Y87153
MW 5D Y87415
MW 6I Y87276
FIELD BLANK

CASE NARRATIVE

Samples MW4D, MW4D Screen, 4W4D composite and field blank were collected on 12/12 but not received by the laboratory until 12/19/88. All holding times are based on the validated time of receipt. This data package contains results for samples received on 12/19, 12/22 and 12/23. A separate report is submitted for the samples requiring eptox analysis.

A. VOLATILE FRACTION:

I. SURROGATES:

All surrogate recoveries are within QC limits.

II. MS/MSD:

The MS/MSD submitted was done on a sample from another project which was received within 14 days of the first set of samples. All required QC for the MS/MSD is also included. All spiking compound recoveries and % differences are within QC limits.

III. BLANKS:

Methylene Chloride was found in VBLKV1 within QC limits. No targeted compounds were found in the other two blanks.

IV. INTERNAL STANDARD:

All internal standard area counts are within QC limits.

V. CALIBRATIONS:

Initial and Continuing calibration CCC and SPCC compounds are within QC limits.

VI. SAMPLES:

Samples contain phthalates which can most likely be contributed to laboratory contamination due to the low concentration.

C. PESTICIDE FRACTION:

I. SURROGATES:

All surrogate recoveries are outside QC limits due to phthalate interference. (Surrogate limits are for advisory purposes only).

II. MS/MSD:

Four out of twelve spiking compound recoveries are outside QC limits. All % differences are within QC limits.

III. BLANKS:

No target compounds found.

IV. RETENTION TIME:

Rentention time shifts for dibutylchlorendate in samples and standards are within QC limits for both primary and confirmation analyses.

V. SAMPLES:

No target compounds found.

D. INORGANIC

The raw QC data for the samples is separated into dates received and follow the result sheets. Each set of data is separated by a page which list the samples that the data pertains to.

VERBATIM:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Parak K. Shah, Ph.D

Organic Laboratory Manager

nytest environmental inc.

Traffic Reports

Groundwater Samples:

Sample I.D.	LAB #
MW-1D	N97516
MW-1S	N97515
MW-2S	N97517
FIELD BLANK	N97158
MW-2D	N97665
MW-3S	N97663
MW-3D	N97664
FIELD BLANK	N97666
MW-4D	N97770
MW-4S	N97699
FIELD BLANK	N97701
MW-6D	N97779
MW-6I	N97780
FIELD BLANK	N97782
MW-5D	N97833
MW-5S	N97832
MW-6S	N97834
FIELD BLANK	N97835

nytest environmental inc.

Project No.: 89-15841

SAMPLE IDENTIFICATION	LABORATORY NUMBER	TYPE OF SAMPLE	DATE AND TIME OF SAMPLE COLLECTION
MW-1S	N9-7515	WATER	5/30/89 2:30
MW-2D	N9-7665	WATER	5/31/89 10:00 AM
MW-2S	N9-7517	WATER	5/30/89 3:30
MW-3D	N9-7664	WATER	5/31/89 3:00
MW-3S	N9-7663	WATER	5/31/89 12:45
MW-4D	N9-7700	WATER	6/1/89 11:00
MW-4S	N9-7699	WATER	6/1/89 2:00
MW-5D	N9-7833	WATER	6/5/89 10:00 AM
MW-5S	N9-7832	WATER	6/5/89 11:00 AM
MW-6D	N9-7779	WATER	6/2/89 11:30-12:00 PM
MW-6I	N9-7780	WATER	6/2/89 2:45
MW-6S	N9-7834	WATER	6/5/89 1:45
MW-10	N9-7516	WATER	5/30/89 12:45
FIELD BLANK	N9-7518	WATER	5/30/89 ----
FIELD BLANK	N9-7666	WATER	5/31/89 ----
FIELD BLANK	N9-7701	WATER	6/1/89 11:00
FIELD BLANK	N9-7782	WATER	6/2/89 11:30
FIELD BLANK	N9-7835	WATER	6/5/89 ----
TRIP BLANK	N9-7519	WATER	5/30/89 ----
TRIP BLANK	N9-7667	WATER	5/31/89 ----
TRIP BLANK	N9-7702	WATER	6/1/89 ----
TRIP BLANK	N9-7783	WATER	6/2/89 ----
TRIP BLANK	N9-7836	WATER	6/5/89 ----

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements*					
		*VOA GC/MS	*BNA GC/MS	*VOA GC	*PEST PCB	*METALS	*OTHER
MW1S	N9-7515	✓	✓		✓	✓	✓
MW2D	N9-7664	✓	✓		✓	✓	✓
MW2S	N9-7517	✓	✓		✓	✓	✓
MW3D	N9-7664	✓	✓		✓	✓	✓
MW3S	N9-7663	✓	✓		✓	✓	✓
MW4D	N9-7706	✓	✓		✓	✓	✓
MW4S	N9-7699	✓	✓		✓	✓	✓
MW5D	N9-7833	✓	✓		✓	✓	✓
MW5S	N9-7832	✓	✓		✓	✓	✓
MW6D	N9-7779	✓	✓		✓	✓	✓
MW6I	N9-7780	✓	✓		✓	✓	✓
MW6S	N9-7834	✓	✓		✓	✓	✓
MW10	N9-7516	✓	✓		✓	✓	✓
FB 5/30	N9-7518	✓	✓		✓	✓	✓
FB 5/31	N9-7666	✓	✓		✓	✓	✓
FB 6/1	N9-7701	✓	✓		✓	✓	✓
FB 6/2	N9-7782	✓	✓		✓	✓	✓
FB 6/5	N9-7835	✓	✓		✓	✓	✓
TB 5/30	N9-7519	✓					
TB 5/31	N9-7667	✓					
TB 6/1	N9-7702	✓					
TB 6/2	N9-7783	✓					
TB 6/5	N9-7836	✓					

* Check Appropriate Boxes

* CLP, Non-CLP
* HSL, Priority Pollutant

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
B/N-A
ANALYSES

SAMPLE ID	MATRIX	DATE COLLECTED	DATE REC'D AT LAB	DATE EXTRACTED	DATE ANALYZED
MW1S	water	5/30/89	5/30/89	6/3/89	6/10/89
MW2D		5/31/89	5/31/89	6/5/89	6/14/89
MW2S		5/30/89	5/30/89	6/3/89	6/10/89
MW3D		5/31/89	5/31/89	6/5/89	6/14/89
MW3S		5/31/89	5/31/89	6/5/89	6/14/89
MW4D		6/1/89	6/1/89	6/5/89	6/15/89
MW4S		6/1/89	6/1/89	6/5/89	6/15/89
MW5D		6/5/89	6/5/89	6/5/89	6/20/89
MW5S		6/5/89	6/5/89	6/5/89	6/20/89
MW6D		6/2/89	6/3/89	6/8/89	6/16/89
MW6I		6/2/89	6/3/89	6/8/89	6/16/89
MW6S		6/5/89	6/5/89	6/5/89	6/22/89
MW10		5/30/89	5/30/89	6/3/89	6/12/89
FB 5/30		5/30/89	5/30/89	6/3/89	6/10/89
FB 5/31		5/31/89	5/31/89	6/5/89	6/14/89
FB 6/1		6/1/89	6/1/89	6/5/89	6/15/89
FB 6/2		6/2/89	6/3/89	6/8/89	6/16/89
FB 6/5	↓	6/5/89	6/5/89	6/5/89	6/22/89

SAMPLE PREPARATION AND ANALYSIS SUMMARY

ORGANIC ANALYSES

SAMPLE ID	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILARY CLEAN UP	DIL/CONC FACTOR
MW1S	Water	CLP	SEPF	as required	as required
MW2D					
MW2S					
MW3D					
MW3S					
MW4D					
MW4S					
MW5D					
MW5S					
MW6D					
MW6I					
MW6S					
MW10					
FB					
FB					
FB					
FB					
FB					

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOA
ANALYSES

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SAMPLE ID	MATRIX	DATE COLLECTED	DATE REC'D AT LAB	DATE EXTRACTED	DATE ANALYZED
MW1S	water	5/30/89	5/30/89	N.A.	6/2/89
MW2D		5/31/89	5/31/89		6/3/89
MW2S		5/30/89	5/30/89		6/2/89
MW3D		5/31/89	5/31/89		6/3/89
MW3S		5/31/89	5/31/89		6/3/89
MW4D		6/1/89	6/1/89		6/3/89
MW4S		6/1/89	6/1/89		6/3/89
MW5D		6/5/89	6/5/89		6/7/89
MW5S		6/5/89	6/5/89		6/6/89
MW6D		6/2/89	6/3/89		6/6/89
MW6I		6/2/89	6/3/89		6/6/89
MW6S		6/5/89	6/5/89		6/7/89
MW10		5/30/89	5/30/89		6/2/89
FB 5/30		5/30/89	5/30/89		6/2/89
FB 5/31		5/31/89	5/31/89		6/2/89
FB 6/1		6/1/89	6/1/89		6/3/89
FB 6/2		6/2/89	6/3/89		6/6/89
FB 6/5	↓	6/5/89	6/5/89	↓	6/6/89

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOA
ANALYSES

SAMPLE ID	MATRIX	DATE COLLECTED	DATE REC'D AT LAB	DATE EXTRACTED	DATE ANALYZED
TB 5/30	Water	5/30/89	5/30/89		6/1/89
TB 5/31	↓	5/31/89	5/31/89		6/2/89
TB 6/1	↓	6/1/89	6/1/89		6/3/89
TB 6/2	↓	6/2/89	6/3/89		6/6/89
TB 6/5	↓	6/5/89	6/5/89		6/7/89

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDE/PCB
ANALYSES

SAMPLE ID	MATRIX	DATE COLLECTED	DATE REC'D AT LAB	DATE EXTRACTED	DATE ANALYZED
MW1S	water	5/30/89	5/30/89	6/3/89	6/18/89
MW2D		5/31/89	5/31/89		6/20/89
MW2S		5/30/89	5/30/89		6/18/89
MW3D		5/31/89	5/31/89		6/20/89
MW3S		5/31/89	5/31/89		6/20/89
MW4D		6/1/89	6/1/89	6/5/89	6/20/89
MW4S		6/1/89	6/1/89		6/20/89
MW5D		6/5/89	6/5/89		6/19/89
MW5S		6/5/89	6/5/89		6/19/89
MW6D		6/2/89	6/3/89	6/8/89	6/18/89
MW6I		6/2/89	6/3/89		6/19/89
MW6S		6/5/89	6/5/89	6/5/89	6/19/89
MW10		5/30/89	5/30/89	6/3/89	6/18/89
Field Blank 5/30		5/30/89	5/30/89	6/3/89	6/18/89
Field Blank 5/31		5/31/89	5/31/89		6/20/89
Field Blank 6/1		6/1/89	6/1/89	6/5/89	6/20/89
Field Blank 6/2		6/2/89	6/3/89	6/8/89	6/19/89
Field Blank 6/5		6/5/89	6/5/89	6/5/89	6/26/89

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE DIGESTED	DATE ANALYZED
MW-2D	WATER	TCL	5-31	6-8	6-30-89
MW-3D			5-31	6-8	6-30-89
MW-4D			6-1	6-12	7-7-89
MW-5D			6-5	6-8	7-7-89
MW-6D			6-5	6-8	7-7-89
MW-1S			5-30	6-7	6-30-89
MW-2S			5-30	6-7	6-30-89
MW-3S			5-31	6-8	6-30-89
MW-4S			6-1	6-12	7-7-89
MW-5S			6-5	6-8	7-7-89
MW-6S			6-5	6-8	7-7-89
MW-10			5-30	6-7	6-30-89
MW-61			6-5	6-8	7-7-89
FIELD BLK			5-30	6-7	6-30-89
FIELD BLK			5-31	6-8	6-30
FIELD BLK			6-1	6-12	7-7-89
FIELD BLK			6-5	6-8	7-7-89
FIELD BLK			6-5	6-8	7-7-89

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
MW-2D	WATER	CLP	CLP	AS REQUIRED	AS REQUIRED
MW-3D	↓	↓	↓	↓	↓
MW-4D	↓	↓	↓	↓	↓
MW-5D	↓	↓	↓	↓	↓
MW-6D	↓	↓	↓	↓	↓
MW-1S	↓	↓	↓	↓	↓
MW-2S	↓	↓	↓	↓	↓
MW-3S	↓	↓	↓	↓	↓
MW-4S	↓	↓	↓	↓	↓
MW-5S	↓	↓	↓	↓	↓
MW-6S	↓	↓	↓	↓	↓
MW-10	↓	↓	↓	↓	↓
MW-61	↓	↓	↓	↓	↓
FIELD BLK	↓	↓	↓	↓	↓
FIELD BLK	↓	↓	↓	↓	↓
FIELD BLK	↓	↓	↓	↓	↓
FIELD BLK	↓	↓	↓	↓	↓
FIELD BLK	↓	↓	↓	↓	↓

00013

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Volatile in House Chain of Custody

Case No.: 1496 SDG: 1 of 2

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW 15	N9-7515	5/31/89 PP	[illegible]	[illegible]	PP
MW 2D	N9-7665	6/1/89 PP	[illegible]	[illegible]	PP
MW 25	N9-7517	5/31/89 PP	[illegible]	[illegible]	PP
MW 3D	N9-7664	6/1/89 PP	[illegible]	[illegible]	PP
MW 35	N9-7663	6/1/89 PP	[illegible]	[illegible]	PP
MW 4D	N9-7700	6/2/89 PP	[illegible]	[illegible]	PP
MW 45	N9-7699	6/2/89 PP	[illegible]	[illegible]	PP
MW 5D	N9-7833	6/6/89 PP	[illegible]	[illegible]	PP
MW 55	N9-7832	6/6/89 PP	[illegible]	[illegible]	PP
MW 6D	N9-7779	6/5/89 PP	[illegible]	[illegible]	PP
MW 6I	N9-7780	6/5/89 PP	[illegible]	[illegible]	PP
MW 65	N9-7834	6/6/89 PP	[illegible]	[illegible]	PP

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Volatile in House Chain of Custody

Case No.: 1496 SDG:

2 of 2

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW 10	N9-7516	5/31/89 PP	K	6/20/89	PP
Field Blank	N9-7518	5/31/89 PP	K	K	PP
Field Blank	N9-7666	6/1/89 PP	K	K	PP
Field Blank	N9-7701	6/2/89 PP	K	K	PP
Field Blank	N9-7782	6/5/89 PP	K	K	PP
Field Blank	N9-7835	6/6/89 PP	K	K	PP
Trip Blank	N9-7519	5/31/89 PP	K	K	PP
Trip Blank	N9-7667	6/1/89 PP	K	K	PP
Trip Blank	N9-7702	6/2/89 PP	K	K	PP
Trip Blank	N9-7783	6/5/89 PP	K	K	PP
Trip Blank	N9-7836	6/6/89 PP	K	K	PP

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Extraction Lab in House Chain of Custody

1 of 3

Case No.: 1496 SDG:

Sample ID	Lab ID	Received from Sample Custodian Received by Extraction Technician	Received from Extraction Technician Received by GC/GCMS Tech. Screening	Received from GC/GCMS Technician Received by Extraction Tech.	Received from Extraction Technician Received by GC/GCMS Tech. Final Ext.	Received fr GC/GCMS Technicia Received b Sample Custo
MW15	N9-7515	Francisco Boas 6.3.89			6/6/89 6/6/89	
MW2D	N9-7665	Francisco Boas 6.5.89			6/8/89 6/8/89	
MW2S	N9-7517	Francisco Boas 6.3.89			6/6/89 6/6/89	
MW3D	N9-7664	Francisco Boas 6.5.89			6/8/89 6/8/89	
MW3S	N9-7663	Francisco Boas 6.5.89			6/8/89 6/8/89	
MW4D	N9-7700	Francisco Boas 6.5.89			6/8/89 6/8/89	
MW4S	N9-7699	Francisco Boas 6.5.89			6/8/89 6/8/89	
MW5D	N9-7833	Francisco Boas 6.5.89			6/15/89 6/15/89	
MW5S	N9-7832	Francisco Boas 6.5.89			6/15/89 6/15/89	
MW6D	N9-7779	Francisco Boas 6.8.89			6/12/89 6/12/89	
MW6I	N9-7780	Francisco Boas 6.8.89			6/12/89 6/12/89	
MW6S	N9-7834	Francisco Boas 6.5.89			6/15/89 6/15/89	

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Extraction Lab in House Chain of Custody

Case No.: 1496 SDG:

2 of 2

Sample ID	Lab ID	Received from Sample Custodian Received by Extraction Technician	Received from Extraction Technician Received by GC/GCMS Tech. Screening	Received from GC/GCMS Technician Received by Extraction Tech.	Received from Extraction Technician Received by GC/GCMS Tech. Final Ext.	Received from GC/GCMS Technician Received by Sample Custod.
MW 10	N9-7516	Francisco Gomez 6.3.89			Baker 6/6/89 6/6/89	
Field Blank	N9-7518	Francisco Gomez 6.3.89			Baker 6/6/89 6/6/89	
Field Blank	N9-7666	Francisco Gomez 6.5.89			Baker 6/8/89 6/8/89	
Field Blank	N9-7701	Francisco Gomez 6.5.89			Baker 6/8/89 6/8/89	
Field Blank	N9-7782	Francisco Gomez 6.8.89			Baker 6/12/89 6/12/89	
Field Blank	N9-7835	Francisco Gomez 6.5.89			Baker 6/15/89 6/15/89	
Blank	—	—			Baker 6/6/89 6/6/89	
Blank	—	—			Baker 6/8/89 6/8/89	
Blank	—	—			Baker 6/8/89 6/8/89	
Blank	—	—			Baker 6/12/89 6/12/89	
Blank	—	—			Baker 6/15/89 6/15/89	
MW15MS	N9-7515	—			Baker 6/6/89 6/6/89	

Extraction Lab in House Chain of Custody

3 of 3

Case No.: 1496 SDG:

Sample ID	Lab ID	Received from Sample Custodian Received by Extraction Technician	Received from Extraction Technician Received by GC/GCMS Tech. Screening	Received from GC/GCMS Technician Received by Extraction Tech.	Received from Extraction Technician Received by GC/GCMS Tech. Final Ext.	Received from GC/GCMS Technician Received by Sample Custod
HW1MSD	N9-7515	—			[illegible] 6/6/89 6/6/89	
HW3SMS	N9-7663	—			[illegible] 6/8/89 6/8/89	
HW3S MSD	N9-7663	—			[illegible] 6/8/89 6/8/89	
HW6I MS	N9-7780	—			[illegible] 6/10/89 6/12/89	
HW6I MSD	N9-7780	—			[illegible] 6/10/89 6/12/89	

Metals in House Chain of Custody

Case No.: SDG: 136

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW-2D	N97665	6-9-89	vlpartain	6-9-89	PP
MW-3D	N97664	6-9-89	vlpartain	6-9-89	PP
MW-4D	N97700	6-12-89	vlpartain	6-12-89	PP
MW-5D	N97833	6-9-89	vlpartain	6-9-89	PP
MW-6D	N97779	6-8-89	vlpartain	6-8-89	PP
MW-1S	N97515	6-7-89	vlpartain	6-7-89	PP
MW-2S	N97517	6-7-89	vlpartain	6-7-89	PP
MW-3S	N97663	6-9-89	vlpartain	6-9-89	PP
MW4-S	N97679	6-12-89	vlpartain	6-12-89	PP
MW-5S	N97832	6-9-89	vlpartain	6-9-89	PP
MW-6S	N97834	6-9-89	vlpartain	6-9-89	PP
MW-10	N97516	6-7-89	vlpartain	6-7-89	PP

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Wet chemistry in House Chain of Custody

Case No.: SDG: 136

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW-61	N97780	6/6	E. Philip	6/7	PP
FIELD BLK	N97518	6/2	E. Philip	6/3	PP
FIELD BLK	N97666	6/2	E. Philip	6/3	PP
FIELD BLK	N97782	6/6	E. Philip	6/7	PP
FIELD BLK	N97701	6/6	E. Philip	6/7	PP
FIELD BLK	N97835	6/6	E. Philip	6/7	PP.

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Case Narrative

Metals in House Chain of Custody

Case No.: SDG: 136

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW-61	N97780	6-8-89	VKpattam	6-8-89	[illegible]
FIELD BLK	N97518	6-7-89	VKpattam	6-7-89	[illegible]
FIELD BLK	N97666	6-9-89	VKpattam	6-9-89	[illegible]
FIELD BLK	N97782	6-8-89	VKpattam	6-8-89	[illegible]
FIELD BLK	N97701	6-12-89	VKpattam	6-12-89	[illegible]
FIELD BLK	N97835	6-9-89	VKpattam	6-9-89	[illegible]

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wet chemistry in House Chain of Custody

Case No.: SDG: 136

Sample ID	Lab ID	Received from Sample Custodian Time Out	Received by Technician	Received from Technician Time In	Received by Sample Custodian
MW-2D	N97665	6/2	E.Philip	6/3	[illegible]
MW-3D	N97664	6/2	E.Philip	6/3	PP
MW-4D	N97700	6/6	E.Philip	6/7	PP
MW-5D	N97833	6/6	E.Philip	6/7	PP
MW-6D	N97779	6/6	E.Philip	6/7	PP
MW-1S	N97515	6/2	E.Philip	6/3	PP
MW-2S	N97517	6/2	E.Philip	6/3	PP
MW-3S	N97663	6/2	E.Philip	6/3	PP
MW-4S	N97699	6/6	E.Philip	6/6	PP
MW-5S	N97832	6/6	E.Philip	6/6	PP
MW-6S	N97834	6/6	E.Philip	6/6	PP
MW-10	N97516	6/2	E.Philip	6/3	PP

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ALL SAMPLES
(Groundwater)
— 1989

NON-CONFORMANCE SUMMARY
(Case Narrative)

Project No.: 89-15841
Log in No.: 1496,1519,
1527,1544,1558

This data package consists of all the results for the samples received on 5/30/89, 5/31/89, 6/1/89, 6/3/89 and 6/5/89. Please note that the samples collected on 6/2/89 were shipped to the lab on 6/2/89 but the validated time of receipt was 6/3/89. Ray Glover was informed on 7/24/89. All holding times are within respect to the validated time of receipt not collection.

A. VOLATILE FRACTION

I. SURROGATES

All surrogate recoveries are within QC limits.

II. MS/MSD

Two sets of MS/MSD's are submitted MW-1S and MW-6I. In the MW-1S MS/MSD one out of ten spiking recoveries are outside QC limits and all percent differences are within QC limits. In the MW-6I MS/MSD three of ten spiking recoveries and five percent differences are outside QC limits.

III. BLANKS

All blanks meet QC requirements.

IV. INTERNAL STANDARD

All internal area counts are within QC limits.

V. CALIBRATION

Initial and continuing calibration CCC and SPCC compounds are within QC limits.

VI. SAMPLES

All samples were analyzed as per CLP protocol. Samples were all run at 5 mls, no dilutions were required.

B. SEMIVOLATILE FRACTION

I. SURROGATES

All surrogate recoveries are within QC limits.

II. MS/MSD

Three spikes are submitted MW-1S, FB and MW-6I. In MW-1S four out of twenty two spiking recoveries and three of eleven percent differences are outside QC limits. In FB two of twenty two spiking recoveries are outside QC limits and all percent differences are within QC limits. Lastly in MW-6I two of twenty two spiking recoveries are outside QC limits and all percent differences are within QC limits.

III. BLANKS

All blanks meet QC requirements.

IV. INTERNAL STANDARD

All internal standard area counts are within QC limits.

V. CALIBRATIONS

Initial and continuing calibration CCC and SPC compounds are within QC limits.

VI. SAMPLES

All samples were analyzed as per CLP protocol. However, due to the amount of sample received 1000 ml of sample could not be extracted for each sample itself. Hence forth dilution factors where introduced. Since these dilutions were not secondary dilutions the suffix "DL" was not added to the ID's. No problems were encountered.

C. PESTICIDE FRACTION

I. SURROGATES

Seventeen out of thirty surrogate recoveries are outside QC limits due to phthalate interference.

II MS/MSD

For the matrix spike and duplicate of MW-1s, four out of twelve spiking compound recoveries and five out of six percent differences are outside QC limits. For the matrix spike and duplicate of MW-3S, one out of twelve spiking compound recoveries is outside QC limits. All percent differences are within QC limits. For the matrix spike and duplicate MW-6I, all spiking compound recoveries are outside QC limits. All percent differences are within QC limits.

Due to an insufficient amount of sample, 500 ml were extracted for the above matrix spikes and duplicates and their corresponding samples.

III. BLANKS

No target compounds are found PBLK06 was analyzed two times with samples analyzed in two different primary sequences. Therefore two form I's and form IV's are submitted.

PBLK03 is a sulfur cleanup blank for sample MW-4S.

IV. RETENTION TIMES

Dibutylchlorendate is diluted out of the sample analyzed on 6/21/89 at 21:14 the HP5890 sequence of 6/19/89. The percent difference for DBC retention time shift for this sample is given as 100% on Form 8E. For the PE8500 confirmation sequence of 7/3/89, the percent difference for sample MW-6D analyzed at 18:57 is outside QC limits due to a large interference peak.

Retention time shifts for Dibutylchlorendate in all other samples and standards are within QC limits.

V. STANDARDS

For the PE8500 confirmation sequence, the calibration factors for 4.4'-DDT and Endrin Ketone are calculated by peak height rather than area count due to improper integration.

VI SAMPLES

The sulfur cleanup method was used to remove interference from sample MW-4S.

For the Field Blank received 6/5/89 (n9-7835), 500 ml were extracted due to an insufficient amount of sample.

No target compounds are found.

VERBATIM

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Parag K. Shah, Ph.D

Organic Laboratory Manager

S U M M A R Y O F

SAMPLE CONTAINERS, PRESERVATION, AND HOLDING TIMES

The following Chart is a summary of the EPA required Sampling Containers, Preservation Techniques, and maximum Holding Times for the TCL+30 analytical parameters[1].

Parameter	Container	Preservation	Holding Time (maximum)
Volatile Organics	Glass with Teplon-lined cap	Cool to 4°C avoid light	14 days (CLP) 7 days (ASP)
Base Neutrals /Acids	Glass with Tephlon-lined Cap	Cool to 4°C avoid light	7 days until extraction (40 days after)
Pesticides /PCBs	Glass with Tephlon-lined Cap	Cool to 4°C avoid light	7 days until extraction
Inorganics			
ChromiumIV	Plastic or Glass	Cool to 4°C	24 hours
Mercury	Plastic or Glass	HNO3 to PH<2	28 days
Cyanide	Plastic or Glass	NaCl to Ph>12	14 days
Other Metals	Plastic or Glass	HNO3 to Ph<2.	6 months

1 Ref: Federal Register, Volume 49 No. 209, 10/26/84 Guidelines for Establishing Test Proceedures For Analysis of Pollutants Under the Clean Water Act; Table II

ALL PHASE II SAMPLING

All containers that were supplied by NYTest for the field collection of soil and groundwater samples were observed by the Consultant to conform to the above Standards. Where applicable, the containers were provided with the appropriate preservative. Coolers and dry ice were also supplied and used for the storage of samples in the field; ice cubes were added as needed to reduce the sample temperature to the 4 degree C range (40° Farenheit).

1988-89 SAMPLING ONLY

With regards to Holding Times, only the maximum time limit for Chromium IV analysis was exceeded--24 hours until extraction. The following samples were in question:

MW-3D
MW-3
MW-6IC
MW-5D (see Soil Samples: Chain of Custody Records-1988)

MW-6D
MW-6I (see Groundwater Samples: Chain of Custody-1989)

1990 SAMPLING ONLY

All holding times were within the EPA Limits from the validated time of receipt at the lab.

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SAMPLE CONTAINER INVENTORY

F: Seaville Landfill

111

Shipped from (laboratory)	Nytest Environmental Inc. 60 Seaville Blvd. Port Washington, NY 11050	Shipped to	R.E. Pustorino 2171 Jericho Turpike Commack N.Y. 11725
Phone	(516) 625-5500	Attn.	Ray Glover

SHIPMENT CONTENTS

CLP 500 serie

Shipped					Received	
Matrix	Test Parameter	Bottle Size/Comp	Preservative	Quantity	Quantity	Condition/Comments
W	VOA	40ml vials	—	6		2 per sample
W	BNA Pest PCB	1/2 gal glass	—	6		2 per sample
W	metals	1pt plastic	HNO_3	3		1 "
W	cyanide	1pt plastic	NaOH	3		1 "
W	TKN, NH_3, NO_3, COD, TOC, phenol, Hardness	1qt glass	H_2SO_4	3		1 " } For Part 360
W	BOD, TDS, SO_4, Alk, Cl^-, Turb, Color, Cr^{+6}	1qt plastic	—	3		
FB	VOA	40ml vials	—	2		empty + 3 filled
FB	BNA Pest PCB's	1/2 gal glass	—	2		empty + 2 filled w
FB	metals	1pt plastic	HNO_3	1		empty + 1 filled
FB	Cyanide	1pt plastic	NaOH	1		empty + 1 filled
FB	TKN, NH_3, NO_3, COD, TOC, phenol, Hardness	1qt glass	H_2SO_4	1		empty + 1 filled w/ DI
FB	BOD, TDS, SO_4, Alk, Cl^-, Turb, Color, Cr^{+6}	1qt plastic	—	1		empty + 1 filled w/ DI
TB	VOA	40ml vials	—	2		filled w DI

Packed by		Received by	
Date		Date	
Shipped by		Inspected by	
Date		Date	
Sealing Method		Seal Intact?	

Remarks: Extra DI water (4 gallons per day)

Coolers, Blue Ice, Chain of Custody

Except For Part 360 Shipment — Inventory is applicable to both 1989 & 1990 Sampling

RECEIVED

NOV 2 1990

R. E. PUSTORINO, P.C.

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT
nytest environmental inc

RECEIVED
APR 1 0 1991
R. E. PUSTORINO, P.C.

REF 86082F

April 8, 1991

R.E. Pustorino, P.C.
2171 Jericho Turnpike
Commack, NY 11725

Attention: Mr. Bob Burgner
Reference: Bailer/Rinsate Analysis

Dear Bob:

With regard to your letter of March 6, 1991 and our subsequent conversations, please be advised of the following:

NEI bailers are cleaned (in a batch) when they are returned from the field after each use. A composite of the final rinsate is collected from each bailer cleaned in the batch and analyzed for Volatile Organics. Bailers are then wrapped in aluminum foil and stored in inventory until they are needed. This procedure assures NEI of a supply of clean bailers in inventory, and the associated rinsate analysis confirms the cleaning process.

To avoid confusion in the future, we will submit a chain of custody with each set of bailers, indicating the date the bailers were cleaned and the rinsate collected. This can then be correlated to the analysis data in our report.

If you have any additional questions, please don't hesitate to call. Looking forward to a continued mutually beneficial relationship.

Very truly yours,

Nytest Environmental Inc.

John Gaspari

John Gaspari
President

JG/as

box 1518 □ 60 seaview blvd., port washington, ny 11050 □ (516) 625-5500

STANDARD OPERATING PROCEDURES
FOR
CLEANING OF SAMPLING EQUIPMENT
AND
SAMPLE CONTAINERS

FOR NYSDEC PROJECTS

SOP #5A

1.0 PURPOSE

THE PURPOSE OF THIS DOCUMENT IS TO DESCRIBE THE CLEANING PROCEDURES FOR SAMPLING EQUIPMENT AND SAMPLE CONTAINERS.

2.0 PROCEDURES

2.1 FIELD SAMPLING EQUIPMENT

THE FIELD SAMPLING EQUIPMENT CLEANING AND DECONTAMINATION PROCEDURES ARE AS FOLLOWS:

1. NON-PHOSPHATE DETERGENT PLUS TAP WATER WASH
2. TAP WATER RINSE
3. DISTILLED/DEIONIZED WATER RINSE
4. 10% NITRIC ACID RINSE* (TRACE METAL OR HIGHER GRADE HNO_3 DILUTED WITH DISTILLED/DEIONIZED H_2O)
5. DISTILLED/DEIONIZED WATER RINSE*
6. METHANOL OR HEXANE RINSE**
7. TOTAL AIR DRY OR PURE NITROGEN BLOW OUT**
8. DISTILLED/DEIONIZED WATER RINSE**

*ONLY IF SAMPLE IS TO BE ANALYZED FOR METALS
**ONLY IF SAMPLE IS TO BE ANALYZED FOR ORGANICS
DEDICATED TEFLON BAILERS WILL BE USED FOR ALL WELL SAMPLING

2.2 8 L PLASTIC BAGS

THE BAGS WILL BE FLUSHED THREE (3) TIMES WITH ULTRA-PURE HELIUM OR NITROGEN AND EVACUATED TO OIL TORR EACH TIME.

2.3 STAINLESS STEEL ADSORBENT TUBES

THE TUBES WILL BE PACKED WITH THE PROPER SORBENT AS DESCRIBED IN THE NIOSH MANUAL. THEY WILL THEN BE HEATED TO 200°C. AND FLUSHED FOR TEN (10) MINUTES WITH THE ULTRAPURE HELIUM OR NITROGEN GAS AT 30 ML/MINUTE.

2.4 GLASS VIALS, BOTTLES, JARS AND THEIR CLOSURES

WASH THE CONTAINERS IN HOT RBS-35 SOLUTION, RINSE SUCCESSIVELY WITH TAP WATER, THEN DISTILLED WATER, FINALLY MILLI-Q-WATER. AFTER FINAL RINSING INVERT AND DRAIN DRY.

CONTAINERS USED FOR PESTICIDE ANALYSIS SHOULD THEN BE WASHED WITH DICHROMATE CLEANING SOLUTION AND RINSED AS ABOVE. FINALLY RINSE WITH ACETONE.

2.5 0.5 L PLASTIC BOTTLES

WASH WITH DETERGENT AS DESCRIBED ABOVE, BUT PRIOR TO DRYING, RINSE WITH 1:4 AQUEOUS HNO_3.

2.0 PROCEDURES - CONT'D.

2.6 GLASSWARE CLEANING PROCEDURE FOR GC LAB AND FOR GC/MS LAB

GLASSWARE MUST BE SCRUPULOUSLY CLEAN. CLEAN ALL GLASSWARE AS SOON AS POSSIBLE AFTER USE BY RINSING WITH THE TAP WATER, WASHING IN HOT WATER, RINSE WITH TAP WATER, DISTILLED WATER, ACETONE AND FINALLY PESTICIDE QUALITY HEXANE. HEAVILY CONTAMINATED GLASSWARE MAY REQUIRE TREATMENT IN A MUFFLE FURNACE AT 400°C, FOR 15 TO 20 MINUTES. SOME HIGH BOILING MATERIALS, SUCH AS PCB's MAY NOT BE ELIMINATED BY THIS TREATMENT. VOLUMETRIC WARE SHOULD NOT BE HEATED IN A MUFFLE FURNACE. GLASSWARE SHOULD BE SEALED/STORED IN A CLEAN ENVIRONMENT IMMEDIATELY AFTER DRYING OR COOLING TO PREVENT ANY ACCUMULATION OF DUST OR OTHER CONTAMINANTS. STORE INVERTED OR CAPPED WITH ALUMINUM FOIL.

2.7 GLASSWARE CLEANING PROCEDURE FOR INORGANIC LAB (METALS DEPT) WET CHEMISTRY

2.7.1 GLASSWARE USED IN METAL DEPT. IS TO BE WASHED WITH DILUTED NITRIC ACID (1:1) FOLLOWED WITH HOT WATER RINSE, DISTILLED WATER RINSE, AND DRYING IN 105°C OVEN..

2.7.2 GLASSWARE IN THE WET CHEMISTRY LAB IS MECHANICALLY WASHED WITH PHOSPHATE FREE DETERGENT FOLLOWED WITH HOT WATER RINSE AND DI WATER FINAL RINSE. GLASSWARE IS THEN DRIED IN A COMMERCIAL GLASSWARE DRYING OVEN.

TABLE II.—REQUIRED CONTAINERS, PRESERVATION TECHNIQUES, AND HOLDING TIMES

Parameter No./name	Container [1]	Preservation [2-3]	Maximum holding time [4]
Table IA—Bacterial Tests:			
1-4. Coliform, fecal and total	P, G	Cool, 4°C, 0.008% $Na_2S_2O_3$ [5]	6 hours.
5. Fecal streptococci	P, G	do	Do.
Table IB—Inorganic Tests:			
1. Acidity	P, G	Cool, 4°C	14 days.
2. Alkalinity	P, G	do	Do.
4. Ammonia	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days.
9. Biochemical oxygen demand	P, G	Cool, 4°C	48 hours.
11. Bromide	P, G	None required	28 days
14. Biochemical oxygen demand, carbonaceous	P, G	Cool, 4°C	48 hours.
15. Chemical oxygen demand	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days
16. Chloride	P, G	None required	Do
17. Chlorine, total residual	P, G	do	Analyze immediately.
21. Color	P, G	Cool, 4°C	48 hours.
23+24. Cyanide, total and amenable to chlorination	P, G	Cool, 4°C, NaOH to pH>12, 0.6g ascorbic acid [6]	14 days.[6]
25. Fluoride	P	None required	28 days.
27. Hardness	P, G	HNO_3 to pH<2, H_2SO_4 to pH<2	6 months.
28. Hydrogen ion (pH)	P, G	None required	Analyze immediately.
31, 43. Kjeldahl and organic nitrogen	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days.
Metals:[7]			
18. Chromium VI	P, G	Cool, 4°C	24 hours.
35. Mercury	P, G	HNO_3 to pH<2	28 days.
3, 5-8, 10, 12, 13, 19, 20, 22, 25, 29, 30, 32-34, 36, 37, 45, 47, 51, 52, 58-60, 62, 63, 70-72, 74, 75. Metals, except chromium VI and mercury.	P, G	do	6 months.
38. Nitrate	P, G	Cool, 4°C	48 hours.
39. Nitrate-nitrite	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days.
40. Nitrite	P, G	Cool, 4°C	48 hours.
41. Oil and grease	G	Cool, 4°C, H_2SO_4 to pH<2	28 days.
42. Organic carbon	P, G	Cool, 4°C, HCl or H_2SO_4 to pH<2	Do.
44. Orthophosphate	P, G	Filter immediately, Cool, 4°C	48 hours.
46. Oxygen, Dissolved Probe	G Bottle and top	None required	Analyze immediately.
47. Winkler	do	Fix on site and store in dark	8 hours.
48. Phenols	G only	Cool, 4°C, H_2SO_4 to pH<2	28 days.
49. Phosphorus (elemental)	G	Cool, 4°C	48 hours.
50. Phosphorus, total	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days.
53. Residue, total	P, G	Cool, 4°C	7 days.
54. Residue, Filterable	P, G	do	48 hours.
55. Residue, Nonfilterable (TSS)	P, G	do	7 days.
56. Residue, Settleable	P, G	do	48 hours.
57. Residue, volatile	P, G	do	7 days.
61. Silica	P	do	28 days.
64. Specific conductance	P, G	do	Do.
65. Sulfate	P, G	do	Do.
66. Sulfide	P, G	Cool, 4°C add zinc acetate plus sodium hydroxide to pH>9.	7 days.
67. Sulfite	P, G	None required	Analyze immediately.
68. Surfactants	P ,G	Cool, 4°C	48 hours.
69. Temperature	P, G	None required	Analyze.
73. Turbidity	P, G	Cool, 4°C	48 hours.
Table IC—Organic Tests.[8]			
13, 18-20, 22, 24-26, 34-37, 39-43, 45-47, 50, 66, 68, 89, 92-95, 97. Purgeable Halocarbons.	G, Teflon-lined septum	Cool, 4°C, 0.008% $Na_2S_2O_3$ [9]	14 days.
6, 57, 90. Purgeable aromatic hydrocarbons	do	Cool, 4°C, 0.008% $Na_2S_2O_3$ [9], HCl to pH2 [9]	Do.
3, 4, Acrolein and acrylonitrile	do	Cool, 4°C, 0.008% $Na_2S_2O_3$ [9]; Adjust pH to 4-5 [10]	Do.
23, 30, 44, 49, 53, 67, 70, 71, 83, 85, 96. Phenols [11]	G, Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$ [9]	7 days until extraction, 40 days after extraction.
7, 38. Benzidines [11]	do	do	7 days until extraction.[12]
14, 17, 48, 50-52. Phthalate esters [11]	do	Cool, 4°C	7 days until extraction; 40 days after extraction.
72-74. Nitrosamines [11, 13]	do	Cool, 4°C, store in dark, 0.008% $Na_2S_2O_3$ [9]	Do.
76-82. PCBs [11] acrylonitrile	do	Cool, 4°C	Do.
54, 55, 65, 69. Nitroaromatics and isophorone [11]	do	Cool, 4°C, 0.008% $Na_2S_2O_3$ [9] store in dark	Do.
1, 2, 5, 8-12, 32, 33, 58, 59, 64, 68, 84, 88. Polynuclear aromatic hydrocarbons. [11]	do	do	Do.
15, 16, 21, 31, 75. Haloethers [11]	do	Cool, 4°C, 0.008% $Na_2S_2O_3$ [9]	Do.
29, 35-37, 60-63, 91. Chlorinated hydrocarbons [11]	do	Cool, 4°C	Do.
87. TCDD [11]	do	Cool, 4°C, 0.008% $Na_2S_2O_3$ [9]	Do.
Table ID—Pesticides Tests:			
1-70. Pesticides [11]	do	Cool, 4°C, pH 5-9 [10]	Do.
Table IE—Radiological Tests:			
1-5. Alpha, beta and radium	P, G	HNO_3 to pH<2	6 months

[1] Polyethylene (P) or Glass (G).

Table II Notes

[2] Sample preservation should be performed immediately upon sample collection. For composite chemical samples each aliquot should be preserved at the time of collection. When use of an automated sampler makes it impossible to preserve each aliquot, then chemical samples may be preserved by maintaining at 4°C until compositing and sample splitting is completed.

[3] When any sample is to be shipped by common carrier or sent through the United States Mails, it must comply with the Department of Transportation Hazardous Materials Regulations (49 CFR Part 172). The person offering such material for transportation is responsible for ensuring such compliance. For the preservation requirements of Table II, the Office of Hazardous Materials, Materials Transportation Bureau, Department of Transportation has determined that the Hazardous Materials Regulations do not apply to the following materials: Hydrochloric acid (HCl) in water solutions at concentrations of 0.04% by weight or less (pH about 1.96 or greater); Nitric acid (HNO_3) in water solutions at concentrations of 0.15% by weight or less (pH about 1.62 or greater); Sulfuric acid (H_2SO_4) in water solutions at concentrations of 0.35% by weight or less (pH about 1.15 or greater), and Sodium hydroxide ($NaOH$) in water solutions at concentrations of 0.080% by weight or less (pH about 12.30 or less).

[4] Samples should be analyzed as soon as possible after collection. The times listed are the maximum times that samples may be held before analysis and still be considered valid. Samples may be held for longer periods only if the permittee, or monitoring laboratory, has data on file to show that the specific types of samples under study are stable for the longer time, and has received a variance from the Regional Administrator under § 136.3(e). Some samples may not be stable for the maximum time period given in the table. A permittee, or monitoring laboratory, is obligated to hold the sample for a shorter time if knowledge exists to show that this is necessary to maintain sample stability. See § 136.3(e) for details.

[5] Should only be used in the presence of residual chlorine.

[6] Maximum holding time is 24 hours when sulfide is present. Optionally all samples may be tested with lead acetate paper before pH adjustments in order to determine if sulfide is present. If sulfide is present, it can be removed by the addition of cadmium nitrate powder until a negative spot test is obtained. The sample is filtered and then NaOH is added to pH 12.

[7] Samples should be filtered immediately on-site before adding preservative for dissolved metals.

[8] Guidance applies to samples to be analyzed by GC, LC, or GC/MS for specific compounds.

[9] Sample receiving no pH adjustment must be analyzed within seven days of sampling.

[10] The pH adjustment is not required if acrolein will not be measured. Samples for acrolein receiving no pH adjustment must be analyzed within 3 days of sampling.

[11] When the extractable analytes of concern fall within a single chemical category, the specified preservative and maximum holding times should be observed for optimum safeguard of sample integrity. When the analytes of concern fall within two or more chemical categories, the sample may be preserved by cooling to 4°C, reducing residual chlorine with 0.008% sodium thiosulfate, storing in the dark, and adjusting the pH to 6–9; samples preserved in this manner may be held for seven days before extraction and for forty days after extraction. Exceptions to this optional preservation and holding time procedure are noted in footnote 5 (re the requirement for thiosulfate reduction of residual chlorine), and footnotes 12, 13 (re the analysis of benzidine).

[12] If 1,2-diphenylhydrazine is likely to be present, adjust the pH of the sample to 4.0±0.2 to prevent rearrangement to benzidine.

[13] Extracts may be stored up to 7 days before analysis if storage is conducted under an inert (oxygen-free) atmosphere.

[14] For the analysis of diphenylnitrosamine, add 0.008% $Na_2S_2O_3$ and adjust pH to 7–10 with NaOH within 24 hours of sampling.

[15] The pH adjustment may be performed upon receipt at the laboratory and may be omitted if the samples are extracted within 72 hours of collection. For the analysis of aldrin, add 0.003% $Na_2S_2O_3$.

1988 & 1989

REVIEW OF NYTEST 'Methodology Summary'

Below is an outline of the major sample analyses performed by NYTEST ENVIRONMENTAL which includes: 1)the category of the substance being tested for; 2)the analytical proceedure that was used; and 3)the reference number for the methodology from the NYTEST Summary Chart that follows. Only Total Cyanide, Phenols, and Calcium could not be verified as to their method of analysis according to the Chart.

Priority Polluatant Analysis

Metals[1].....Flame AA.....Ref.(2)
Metals[1].....Furnace AA.....Ref.(2)
Mercury.....NonAqueous Extraction.....Ref.(2)

Extraction Proceedure (EP) Toxicity[2]

Metals[1].....Flame AA.....Ref.(2)
Metals[1].....Furnace AA.....Ref.(2)
Organochlorines....GasChromatography.....Ref.(2)
2,4-D;2,4,5-TP.....GC/MassSpectrometer.....Ref.(2)(?)

Ignitability.....Miscellaneous Analysis.....Ref.(2)

Corrosivity.....Miscellaneous Analysis.....Ref.(2)

Reactivity.....Miscellaneous Analysis.....Ref.(2)

Target Compound List

Purgable Organics.....GC/MS.....Ref.(2),(3)
Base Neutrals/Acids.....GC/MS.....Ref.(2),(3)
Pesticides/PCBs.....GC.....Ref.(2),(3)
Inorganics[1].....Flame/FurnaceAA.....Ref.(1),(2)

1)See listing of Methodology for specific metals

2)See Table I which follows for listing of Contaminates and Analytical Methods for characterisitic of EP TOX

Note: Ref.(1),(3) are for Aqueous Methodologies, i.e. used when matrix of the sample is water; Ref.(2) is for Non-Aqueous Methodologies

GC/MS--Gas Chromatography/Mass Spectrometry
AA--Atomic Absorbtion

TABLE 1. NYTEST METHODOLOGY OF CONTAMINANTS FOR CHARACTERISTIC OF EP TOXICITY

Contaminant	EPA Approved Method**	Analytical method
Arsenic	YES	7060, 7061
Barium	YES	7080, 7081
Cadmium	YES	7130, 7131
Chromium	YES	7190, 7191
		7195* 7196* 7197*
Lead	YES	7420, 7421
Mercury	YES	7470
Selenium	YES	7740, 7741
Silver	YES	7760, 7761
Endrin (1,2,3,4,10,10-Hexachloro-1 7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1 4-endo, endo-5,8-dimethanonaphthalene)	YES	8080
Lindane (1,2,3,4,5,6-Hexachlorocyclohexane, gamma isomer	YES	8080
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)ethane)	YES	8080
Toxaphene ($C_{10}H_{10}Cl_8$, Technical chlorinated camphene, 67-69% chlorine)	YES	8080
2,4-D (2,4-Dichlorophenoxyacetic acid)	UNLISTED	8150
2,4,5-TP (Silvex) (2,4,5-Trichlorophenoxypropionic acid)	UNLISTED	8150

* Methods used for determining hexavalent chromium

** Reference: Federal Register, Vol.49, No. 209,10/26/1984; Guidelines For Establishing Test Proceedures For analysis of Pollutants Under the Clean Water Act; Tables 1B, 1C, & 1D (see below)

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Methodology Summary
NYTEST ENVIRONMENTAL INC.

AQUEOUS SAMPLE PREPARATION Reference (1)

Flame Sample Preparation	200.0
Furnace Sample Preparation	200.0
Mercury Sample Preparation	245.1
Hexavalent Chromium Sample Preparation	218.5

NON-AQUEOUS EXTRACTIONS Reference (2)

SOIL AND SEDIMENT SAMPLES:

Flame Sample Preparation	3050
Furnace Sample Preparation	3050
Mercury Sample Preparation	7471

SLUDGE/PETROLEUM BASED SAMPLES: Reference (2)

Flame Sample Preparation	3010 /3030 /3050
Furnace Sample Preparation	3020 /3030 /3050
Mercury Sample Preparation	7471

FLAME AA (Aqueous/Non-Aqueous) Reference (1) (2)

Aluminum	202.1
Antimony	204.1/7040
Barium	208.1/7080
Beryllium	210.1/7090
Cadmium	213.1/7130
Chromium	218.1/7190
Cobalt	219.1
Copper	220.1/7210
Iron	236.1/7381
Lead	239.1/7420
Manganese	243.1/7460
Molybdenum	246.1
Nickel	249.1/7520
Potassium	258.1
Silver	272.1/7760
Sodium	273.1/7770
Tin	284.1
Vanadium	286.1/7910
Zinc	289.1/7950

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METHODOLOGY SUMMARY - Cont'd

FURNACE AA - Reference (1) (2)	Method
Antimony	204.1/7041
Arsenic	206.2/7060
Lead	239.2/7421
Selenium	270.2/7740
Thallium	279.2/7841
Tin	282.2
Vanadium	286.2/7911

AQUEOUS METHODOLOGIES - Reference (3)	
Organochlorine Pesticides and PCB's by Gas Chromatography	608
Herbicides by Gas Chromatography	362
Purgeable Organics by GC/MS	624
Base/Neutral, Acids by GC/MS	625
2,3,7,8-TCDD by GC/MS	613/625
Petroleum Hydrocarbons - Ref. (1)	418.1

NON-AQUEOUS METHODOLOGIES - Reference (2)	
Gas Chromatography/Mass Spectrometry for:	
Purgeable Organics	8240
Base/Neutral and Acid Extractables	8270
Organochlorine Pesticides and PCB's by Gas Chromatography	8080
Petroleum Hydrocarbons - Ref. (1 & 4)	418.1

MISCELLANEOUS ANALYSIS: Reference 2	Method
Extraction Procedure Toxicity	1310
Ignitability	1010
Corrosivity	1110
Reactivity	Chapt.8.3
Toxicity Characteristic Leaching Procedure (TCLP)	Reference 5

REFERENCE:

(1) - 600/4-79-002 Methods for Chemical Analysis of Water and Waste
(2) - SW 846 Test Methods for Evaluating Solid Waste
(3) - 40 CFR Part 136, Vol. 49, No. 209 Test Parameters for the Analysis of Pollutants
(4) - as modified by NJDEP-BISE
(5) - Federal Register VOL 51 No. 216 Friday 11/7/86 P.40643 - 40652

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METHODOLOGY SUMMARY

AQUEOUS METHODOLOGIES:	REF 1	REF 2	REF 3
BNA, Pesticides/PCB's Extraction		3510	
AA/ICP Sample Preparation	200.7		
Furnace Sample Preparation	200.0		
Mercury Sample Preparation	245.1		
Hexavalent Chromium Sample Preparation	218.5		
Clean-Up		3610/3640	
Organochlorine Pesticides and PCB's by Gas Chromatography			608
Herbicides by Gas Chromatography			362
Purgeable Organics by GC/MS			624
Base/Neutral, Acids by GC/MS			625
2,3,7,8-TCDD by GC/MS			613/625
BTEX			602

NON-AQUEOUS METHODOLOGIES:	
BNA, Pesticides/PCB's Extraction	3550
AA/ICP Sample Preparation	3050
Furnace Sample Preparation	3020/3030/3050
Mercury Sample Preparation	7471
Clean-Up	3610/3640

Gas Chromatography/Mass Spectrometry:	
Purgeable Organics	8240
Base/Neutral and Acid Extractables	8270
Organophosphorous Pesticides	8140
Organochlorine Pesticides and PCB's by Gas Chromatography	8080
BTEX	8020

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METHODOLOGY SUMMARY

ADDITIONAL INORGANIC PARAMETERS:	REFERENCE 1	REFERENCE 2
Bromide	320.1	
Color	110.2	
Conductance	120.1	
Conductance		9050
Odor	140.1	
pH	150.1	
pH		9040
TDS	160.2	
TSS	160.2	
TS	160.3	
Hardness	130.1	
Temperature	170.1	
Turbidity	180.1	
Acidity	305.1	
Alkalinity	310.1	
Ammonia	350.2/350.3	
Chloride	325.3	
Chloride		9252
Residual Chlorine	330.2	
COD	410.3/405.1	
Cyanide	335.3	
Oil and Grease	413.1/413.2	
Oil and Grease		9070
Fluoride	340.2	
TKN	351.2	
NO2/NO3	353.2	
D.O.	360.2	
Petroleum Hydrocarbons (Reference 4)	418.1	
Phenol	420.2	
Phosphorous	365.1	
Silica	370.1	
Sulfate	375.2/375.4	
Sulfide	376.1	
Surfactants	425.1	
TOC	415.1	
TOX		9022

MISCELLANEOUS ANALYSIS:	
Extraction Procedure Toxicity	1310
Ignitability	1010
Corrosivity	1110
Reactivity	Chapter 8.3
Toxicity Characteristic Leaching Procedure (TCLP)	(Ref. 5)

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METHODOLOGY SUMMARY

INDUCTIVELY COUPLED PLASMA (ICP):	REFERENCE 1	REFERENCE 2
Aluminum	200.7	6010
Antimony	200.7	6010
Barium	200.7	6010
Beryllium	200.7	6010
Cadmium	200.7	6010
Calcium	200.7	6010
Chromium	200.7	6010
Cobalt	200.7	6010
Copper	200.7	6010
Iron	200.7	6010
Lead	200.7	6010
Magnesium	200.7	6010
Manganese	200.7	6010
Molybdenum	200.7	6010
Nickel	200.7	6010
Potassium	200.7	6010
Silver	200.7	6010
Sodium	200.7	6010
Tin	200.7	6010
Titanium	200.7	6010
Vanadium	200.7	6010
Zinc	200.7	6010

FURNACE AA:		
Antimony	204.1	7041
Arsenic	206.2	7060
Lead	239.2	7421
Selenium	270.2	7740
Thallium	279.2	7841
Tin	282.2	
Vanadium	286.2	7911
Mercury	245.1	7470

METHODOLOGY SUMMARY

REFERENCES:

(1) USEPA-600/4-79-020, Methods for Chemical Analysis of Water and Waste
(2) USEPA SW 846, Test Methods for Evaluating Solid Waste, Third Edition
(3) Federal Register 40 CFR Part 136, Vol. 49, No. 209 Test Parameters for the Analysis of Pollutants
(4) as modified by NJDEP-BISE (for non-aqueous samples)
(5) Federal Register Vol. 51, No. 216 Friday, 11/7/86, pp. 40643-40652

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT
nytest environmental inc.

RECEIVED
OCT 1990
R. E. PUSTORINO, P.C.

October 26, 1990

R.E. Pustorino
2171 Jericho Turnpike
Commack, NY 11725

Attention: Mr. Ray Glover

Dear Mr. Glover:

Please accept this letter as a confirmation of the following methodologies from the 1989 NYSDEC ASP protocol:

Method 89-1, CLP Volatile Organics

Method 89-2, CLP Base Neutrals/Acid Extractables

Method 89-3, CLP Pesticide/PCB's

Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Very truly yours,

Nytest Environmental Inc.

Joseph M. Dockery

Joseph M. Dockery
Account Executive

JMD/ao

box 1518 □ 60 seaview blvd., port washington, ny 11050 □ (516) 625-5500

93, 96–98, and 104–115 to new Table IB, entitled "List of Approved Inorganic Test Procedures", adding two new inorganic parameters, Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) and Nitrate-Nitrite, including an additional test procedure based upon the inductively coupled plasma technique in Table IB for 25 of the metal parameter designations, by including 10 methods approved under the equivalency provisions of §§ 136.4(d) and 136.5(e), and updating references to EPA, Standard Methods, ASTM, AOAC and USGS test procedures; by deleting former parameter 14 (Chlorinated organic compounds) and by entering the individual chlorinated organic compounds into new Table IC, entitled, "List of Approved Test Procedures for Non-Pesticide Organic Compounds", transferring old parameters 9 (Benzidine) and 94 (Pentachlorophenol) to Table IC, by including the 78 additional proposed non-pesticidal organic parameters and by adding 17 new test procedures in Table IC; by deleting former parameter 95 (Pesticides) and by entering the 68 individual pesticides into new Table ID, entitled "List of Approved Test Procedures for Pesticides", by including the 2 additional proposed pesticide parameters, and the two new test procedures in Table ID; and by transferring the former radiological parameters 99–103 to new Table IE, entitled "Approved Radiological Test Procedures", adding an EPA reference to the approved test procedures, and updating the Standard Methods, ASTM and USGS references. As revised, Table I reads as follows:

§ 136.3 Identification of Test Procedures.

* * * * *

TABLE 1B.—LIST OF APPROVED INORGANIC TEST PROCEDURES

Parameter, units, and method	Reference (method No. or page)				
	EPA 1979	Standard methods 15th Ed.	ASTM	USGS [1]	Other
1. Acidity, as $CaCO_3$, mg/L: Electrometric end point or phenolphthalein end point.	305.1	402(4.d)	D1067-70(E)		
2. Alkalinity, as $CaCO_3$, mg/L: Electrometric or colorimetric:					
Titration to pH 4.5, manual	310.1	403	D1067(B)	I-1030-78	P. 548 [3]
Or automated	310.2			I-2030-78	
3. Aluminum—Total [2], mg/L: Digestion [2] followed by:					
AA direct aspiration	202.1	303C			
AA furnace	202.2	304		I-3051-78	
Inductively coupled plasma					
Or colorimetric (Eriochrome cyanine R)		306B			Method 200.7.[4]
4. Ammonia (as N), mg/L: Manual distillation [2] (at pH 9.5):					
Followed by					
Nesslerization	350.2	417A			
Titration	350.2	417B			
Electrode	350.2	417D	D1426-79(A)	I-3520-78	P. 553 [3]
Automated phenate, or	350.3				
Automated electrode	350.1	417F	D1426-79(D)		
5. Antimony—Total [2], mg/L: Digestion [2] followed by:			D1426-79(C)	I-4523-78	
AA direct aspiration					
AA furnace, or	204.1	303A			
Inductively coupled plasma	204.2	304			
6. Arsenic—Total [2], mg/L:					
Digestion [2] followed by					Method 200.7.[4]
Hydride	206.5				
AA furnace	206.3	303E	D2972-78(B)	I-3062-78	
Inductively coupled plasma	206.2	304			
Or, colorimetric (SDDC)					
7. Barium—Total [2], mg/L: Digestion [2] followed by:	206.4	307B	D2972-78(A)	I-3060-78	Method 200.7.[4]
AA direct aspiration					
AA furnace, or	208.1	303C			
Inductively coupled plasma	208.2	304		I-3084-78	
8. Beryllium—Total [2], mg/L: Digestion [2] followed by:					
AA direct aspiration	210.1	303C	D3645-78	I-3095-78	Method 200.7.[4]
AA furnace	210.2	304			

TABLE 1B.—LIST OF APPROVED INORGANIC TEST PROCEDURES—Continued

Parameter, units, and method	Reference (method No. or page)				
	EPA 1979 [1]	Standard methods 15th Ed.	ASTM	USGS [2]	Other
Inductively coupled plasma					
Or colorimetric (aluminon)		309B			Method 200.7.[4]
9. Biochemical oxygen demand (BOD$_5$), mg/L:					
Winkler (Azide modification)	405.1	507		I-1578-78	P. 17.[6]
Or electrode method					P. 548.[6]
10. Boron—Total, mg/L:					
Colorimetric (curcumin) or	212.3	404A		I-3112-78	
Inductively coupled plasma					
11. Bromide, mg/L: Titrimetric	320.1		D1246-77(C)	I-1125-78	Method 200.7.[4]
12. Cadmium—Total [5], mg/L: Digestion[6] followed by:					P. 544.[6]
AA direct aspiration	213.2	303A or 303B	D3557-78 (A or B)	I-3135-78 or I-3136-78	Pg. 557.[6]
AA furnace	213.2	304			P. 37.[6]
Inductively coupled plasma					Method 200.7.[4]
Voltametry[6] or			D3557-78(C)		
Colorimetric (Dithizone)		310B			
13. Calcium—Total [5] mg/L: Digestion[6] followed by:					
Atomic absorption	215.1	303A	D511-77(C)	I3152-78	
Inductively coupled plasma					
Or EDTA titration	215.2	311C	D511-77(B)		Method 200.7.[4]
14. Carbonaceous Biochemical oxygen demand (CBOD$_5$), mg/L: Winkler (Azide modification) or electrode method with nitrification inhibitor.		507(5.a.6)			
15. Chemical oxygen demand (COD), mg/L:					
Titrimetric colorimetric	410.1	508A	D1252-78	I-3560-78	P. 550[6] and
Manual or	410.2			I-3562-78	P. 17[6] and
Automated	410.3			I-3561-78	([10])
Spectrophotometric	410.4				
16. Chloride, mg/L:					
Titrimetric (silver nitrate) or		407A	D512-67(B)	I-1183-78	([11])
Mercuric nitrate	325.3	407B	D512-67(A)	I-1184-78	
Colorimetric (ferricyanide) manual or			D512-67(C)	I-1187-78	P. 554.[6]
Automated	325.1 or 325.2	407D		I-2187-78	
17. Chlorine—Total residual, mg/L:					
Titrimetric-amperometric [18]	330.1	408C	D1253-76(A)		
Starch end point	330.2	408B			
Iodometric or	330.3	408A	D1253-76(B)		
DPD-FAS	330.4	408D			
Spectrophotometric, DPD; or	330.5	408E			
Electrode					
18. Chromium VI dissolved, mg/L: 0.45 micron filtration with:					([12])
Extraction and atomic absorption, or	218.4	303B		I-1232-78	
Colorimetric (Diphenylcarbazide)				I-1230-78	
19. Chromium—Total [5], mg/L:					
Digestion [6] (optional extraction) followed by:	218.3				
AA direct aspiration	218.1	303A or 303B	D1687-77(D)	I-3236-78	P. 557.[6]
AA furnace	218.2	304			
Inductively coupled plasma					
Or colorimetric (Diphenylcarbazide)		312A	D1687-77(A)		Method 200.7.[4]
20. Cobalt—Total [5], mg/L: Digestion[6] followed by:					
AA direct aspiration	219.1	303A or 303B	D3558-77 (A or B)	I-3240-78 or I-3239-78	P. 37.[6]
AA furnace, or	219.2	304			
Inductively coupled plasma					Method 200.7.[4]
21. Color, platinum Cobalt units or dominant wavelength hue, luminence, purity:					
Colorimetric, ADMI	110.1	204D			
Platinum cobalt, or	110.2	204A		I-1250-78	([13])
Spectrophotometric	110.3	204B			
22. Copper—Total [5], mg/L: Digestion[6] followed by:					
AA direct aspiration	220.1	303A or 303B	D1688-77 (D or E)	I-3271-78 or I-3270-78	P. 557[6] and P. 37.[6]
AA furnace	220.2	304			
Inductively coupled plasma					
Colorimetric (Neocuproine)		313B	D1688-77(A)		Method 200.7.[4]
Bicinchoninate					
23. Cyanide—Total mg/L:					([14])
Manual distillation with $MgCl_2$	335.2	412D			
Followed by titrimetric	335.2	412B			
Manual or	335.2	412C	D2036-75(A)		P. 22.[6]
Automated [15] spectrophotometric	335.3	412D	D2036-75(A)	I-3300-78	
24. Cyanide amenable to chlorination, mg/L: Manual distillation with $MgCl_2$: Followed by titrimetric, manual or automated [15] spectrophotometric.	335.1	412F	D2036-75(B)		
25. Fluoride—Total, mg/L:					
Manual distillation [6]					
Followed by manual or	340.2	413A			
Automated electrode		413B	D1179-72(B)		
SPADNS	340.1			I-4327-78	
Or automated complexone	340.3	413C	D1179-72(A)		
26. Gold—Total [5], mg/L: Digestion[6] followed by:		413E			
AA direct aspiration	231.1	303A			
Or AA furnace	231.2	304			
27. Hardness—Total as $CaCO_3$, mg/L:					
Automated colorimetric	130.1				
EDTA titration	130.2	314B	D1126-67(B)	I-1338-78	
Inductively coupled plasma					
Or atomic absorption (sum of Ca and Mg as their respective carbonates)	215.1 + 242.1	303A		I-3153-78 + I-3449-78	Method 200.7.[4]

TABLE 1B.—LIST OF APPROVED INORGANIC TEST PROCEDURES—Continued

Parameter, units, and method	Reference (method No. or page)				
	EPA 1979	Standard methods 15th Ed.	ASTM	USGS [1]	Other
28. Hydrogen ion (pH), pH units:					
Electrometric	150.1	423	D1293-78(A) or D1293-78(B).	I-1586-78	
Measurements; or automated electrode					(**)
29. Indium—Total [5], mg/L: Digestion [6] followed by:					
AA direct aspiration	235.1	303A			
Or AA furnace	235.2	304			
30. Iron—Total [5], mg/L:					
Digestion [6] followed by		303A or 303B	D1068-77		
AA direct aspiration	236.1	303B	(C or D)	I-3381-78	P. 567.[9]
AA furnace	236.2	304			
Inductively coupled plasma					Method 200.7.[4]
Or colorimetric (Phenanthroline)		315B	D1068-77(A)		(**)
31. Kjeldahl nitrogen—Total (as N), mg/L:					
Digestion and distillation	351.3	420A or B			P. 562.[9]
Followed by titration	351.3	417D	D3590-77		
Nesslerization or	351.3	417B			
Electrode	351.3	417E		I-4551-78	
Automated phenate	351.1			I-4552-78	
Semi-automated block digestor	351.2				
Or potentiometric	351.4				
32. Lead—Total [5], mg/L: Digestion [6] followed by:					
AA direct aspiration	239.1	303A or 303B	D3559-78 (A or B)	I-3399-78	P. 567.[9]
AA furnace	239.2	304			
Inductively coupled plasma					Method 200.7.[4]
Voltametry [8] or			D3559-78(C)		
Colorimetric (Dithizone)		316B			
33. Magnesium—Total [5], mg/L: Digestion [6] followed by:					
Atomic absorption	242.1	303A	D511-77(B)	I-3447-78	P. 557.[9]
Inductively coupled plasma					Method 200.7.[4]
Or gravimetric		318B	D511-77(A)		
34. Manganese—Total [5], mg/L: Digestion [6] followed by:					
AA direct aspiration	243.1	303A or 303B	D858-77 (B or C)	I-3454-78	P. 557.[9]
AA furnace	243.2	304			
Inductively coupled plasma					Method 200.7.[4]
Or colorimetric (Persulfate)		319B	D858-77(A)		P. 564.[9]
Periodate					18.
35. Mercury—Total [5], mg/L:					
Cold vapor, manual or	245.1	303F	D3223-79	I-3462-78	P. 569.[9]
Automated	245.2				
36. Molybdenum—Total [5], mg/L: Digestion [6] followed by:					
AA direct aspiration	246.1	303C		I-3490-78	
AA furnace, or	246.2	304			
Inductively coupled plasma					Method 200.7.[4]
37. Nickel—Total [5], mg/L: Digestion [6] followed by:					
AA direct aspiration	249.1	303A or 303B	D1886-77 (C or D)	I-3499-78	
AA furnace	249.2	304			
Inductively coupled plasma					Method 200.7.[4]
Or colorimetric (Heptoxime)		321B			
38. Nitrate (as N), mg/L:					
Brucine sulfate, or	352.1		D992-71		P. 554.[9]
Nitrate-nitrite N minus Nitrite N	See parameters 39 and 40.	See parameters 39 and 40.	See parameters 39 and 40.	See parameters 39 and 40.	P. 28.[9]
39. Nitrate-nitrite (as N), mg/L:					
Cadmium reduction, manual	353.3	418C	D3867-79(B)		
Or automated, or	353.2	418F	D3867-79(A)	I-4545-78	
Automated hydrazine	353.1				
40. Nitrite (as N), mg/L:					
Spectrophotometric, manual or	354.1	419	D1254-67		19.
Automated (Diazotization)				I-4540-78	
41. Oil and grease—Total recoverable, mg/L: Gravimetric (extraction).	413.1	503A			
42. Organic carbon—Total (TOC), mg/L: Combustion or oxidation.	415.1	505	D2579-78(A) or D2579-78(B).		P. 551.[9] and P. 4.[10]
43. Organic nitrogen (as N), mg/L: Total Kjeldahl N minus ammonia N.	See parameters 31 and 4.	420A	D3590-77 minus D1426-79(A).	See parameters 31 and 4.	PP. 552-53.[9]
44. Orthophosphate (as P), mg/L: Ascorbic acid method, automated	365.1	424G		I-4601-78	P. 561.[9]
Or manual single reagent or	365.2	424F	D515-78(A)		
Manual two reagent	365.3				
45. Osmium—Total [5], mg/L: Digestion [6] followed by:					
AA direct aspiration, or	252.1	303C			
AA furnace	252.2	304			
46. Oxygen, dissolved, mg/L:					
Winkler (Azide modification)	360.2	421B	D1589-60(A)	I-1575-78	P. 550.[9]
Or electrode	360.1	421F		I-1576-78	
47. Palladium—Total [5], mg/L: Digestion [6] followed by:					
AA direct aspiration	253.1				P. 527.[10]
Or AA furnace	253.2				P. 528.[10]
48. Phenols, mg/L:					
Manual distillation	420.1		D1783-70 (A or B)		20.
Followed by manual	420.1				20.
Or automated [10] colorimetric (4AAP)	420.2				
49. Phosphorus (elemental), mg/L: Gas-liquid chromatography					21.

TABLE 1B.—LIST OF APPROVED INORGANIC TEST PROCEDURES—Continued

Parameter, units, and method	Reference (method No. or page)				
	EPA 1979	Standard methods 15th Ed.	ASTM	USGS [1]	Other
50. Phosphorus—Total, mg/L:					
Persulfate digestion	365.2	424C (III)			P. 561.[6]
Followed by manual or	365.2 or 365.3	424F	D515-78(A)		
Automated ascorbic acid	365.1	424G		I-4600-78	
Reduction; or semi-automated block digestor	365.4			I-4603-78	
51. Platinum—Total [5], mg/L: Digestion [3] followed by:					
AA direct aspiration	255.1	303A			
Or AA furnace	255.2	304			
52. Potassium—Total [5], mg/L: Digestion [3] followed by:					
Atomic absorption	258.1	303A		I-3330-78	P. 560.[6]
Inductively coupled plasma					Method 200.7.[6]
Or flame photometric		322B	D1428-64(A)		
53. Residue—total, mg/L: Gravimetric, 103-105°C	160.3	209A		I-3750-78	
54. Residue—filterable, mg/L: Gravimetric, 180°C	160.1	209B		I-1750-78	
55. Residue—nonfilterable, (TSS), mg/L: Gravimetric, 103-105°C post washing of residue.	160.2	209D		I-3765-78	
56. Residue—settleable, mg/L: Volumetric (Imhoff cone) or gravimetric.	160.5	209F			
57. Residue—volatile, mg/L: Gravimetric, 550°C	160.4	209E		I-3753-78	
58. Rhodium—Total [5], mg/L: Digestion [3] followed by:					
AA direct aspiration	265.1	303A			
Or AA furnace	267.2	304			
59. Ruthenium—Total [5], mg/L: Digestion [3] followed by:					
AA direct aspiration	267.1	303A			
Or AA furnace	267.2	304			
60. Selenium—Total [5] mg/L: Digestion [3] followed by:					
AA furnance	270.2	304			
Inductively coupled plasma					
Or hydride	270.3	303E	D3859-79	I-3667-78	Method 200.7.[6]
61. Silica—Dissolved, mg/L: 0.45 micron filtration:					
Followed by manual or	370.1	425C	D859-68(B)	I-1700-78	
Automated colorimetric (Molybdosilicate), or				I-2700-78	
Inductively coupled plasma					Method 200.7.[6]
62. Silver—Total [5] mg/L: Digestion [3] followed by:					
AA direct aspiration	272.1	303A or 303B		I-3720-78	P. 557 [6] and p. 37.[6]
AA furnace, or	272.1	304			
Inductively coupled plasma					Method 200.7.[6]
63. Sodium—Total [5], mg/L: Digestion [3] followed by:					
Atomic absorption	273.1	303A		I-3735-78	P. 561.[6]
Inductively coupled plasma					Method 200.7.[6]
Or flame photometric			D1428-64(A)		
64. Specific conductance, mhos/cm: Wheatstone bridge.	120.1	205	D1125-77(A)	I-1780-78	P. 547.[6]
65. Sulfate (as SO_4), mg/L:					
Automated methylthymol blue	375.2			I-2822-78	
Gravimetric, or	375.3	426A or 426B	D516-68(A)		
Turbidimetric	375.4	426C	D516-68(B)		PP. 562-63.[6]
66. Sulfide (as S), mg/L:					
Titrimetric (iodine) or	376.1	427D		I-3840-78	
Colorimetric (methylene blue)	376.2	427C			
67. Sulfite (as SO_3), mg/L: Titrimetric (iodine iodate)	377.1	428F	D1339-78(C)		
68. Surfactants, mg/L: Colorimetric (methylene blue)	425.1	512A	D2330-68(A)		
69. Temperature, °C.. Thermometric	170.1	212			([10]).
70. Thallium—Total,[5] mg/L: Digestion [3] followed by:					
AA direct aspiration	279.1	303A			
AA furnace, or	279.2	304			
Inductively coupled plasma					Method 200.7.[6]
71. Tin—Total,[5] mg/L: Digestion [3] followed by:					
AA direct aspiration or	282.1	303A		I-3850-78	
AA furnace	282.2	304			
72. Titanium—Total,[5] mg/L: Digestion [3] followed by:					
AA direct aspiration or	283.1	303C			
AA furnace	283.2	304			
73. Turbidity, NTU: Nephelometric	180.1	214A	D1889-71	I-3860-78	
74. Vanadium—Total,[5] mg/L: Digestion [3] followed by:					
AA direct aspiration	286.1	303C			
AA furnace	286.2	304			
Inductively coupled plasma					Method 200.7.[6]
Or colorimetric (Gallic acid)			D3373-75		
75. Zinc—Total,[5] mg/L: Digestion [3] followed by:					
AA direct aspiration	289.1	303A or 303B	D1691-77(D)	I-3900-78	P. 557.[6]
AA furnace	289.2	304	D1691-77(C)		P. 37.[6]
Inductively coupled plasma					Method 200.7.[6]
Or colorimetric (Zincon)					[10].

Table 1B Notes

[1] "Methods for Analysis of Inorganic Substances in Water and Fluvial Sediments," U.S. Department of the Interior, U.S. Geological Survey, Open-File Report 78-679, or "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments," N.W. Skougstad, *et al*, U.S. Geological Survey, Techniques of Water-Resources Investigation, Book 5, Chapter A1, 1979.

[2] "Official Methods of Analysis of the Association of Official Analytical Chemists" methods manual, 13th ed. (1980).

[3] For the determination of total metals the sample is not filtered before processing. A digestion procedure is required to solubilize suspended material and to destroy possible organic-metal complexes. Two digestion procedures are given in "Methods for Chemical Analysis of Water and Wastes, 1979." One (§ 4.1.3), is a vigorous digestion using nitric acid. A less vigorous digestion using nitric and hydrochloric acids (§ 4.1.4) is preferred; however, the analyst should be cautioned that the mild digestion may not suffice for all sample types. Particularly if a colorimetric procedure is to be employed, it is necessary to ensure that all organo-metallic bonds be broken so that the metal is in a reactive state. In those situations, the vigorous digestion is to be preferred making certain that at no time does the sample go to dryness. Samples containing large amounts of organic materials would also benefit by the vigorous digestion. Use of the graphite furnace technique, inductively coupled plasma, as well as determinations for certain elements such as arsenic, the noble metals, mercury, selenium, and titanium require a modified digestion and in all cases the method write-up should be consulted for specific instructions and/or cautions.

Note: If the digestion procedure for direct aspiration or graphite furnace atomic absorption analysis included in one of the other approved references is different than the above, the EPA procedure must be used.

Dissolved metals are defined as those constituents which will pass through a 0.45 micron membrane filter. Following filtration of the sample, the referenced procedure for total metals must be followed. Sample digestion of the filtrate for dissolved metals, or digestion of the original sample solution for total metals may be omitted for AA (direct aspiration or graphite furnace) and ICP analyses provided the sample has a low COD and the filtrate meets the following criteria:

(a) Is visibly transparent

(b) Has no perceptible odor, and

(c) Is free of particulate or suspended matter following acidification

[4] The full text of Method 200.7, "Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes," is given at Appendix C of the Part 136.

[5] Manual distillation is not required if comparability data on representative effluent samples are on company file to show that this preliminary distillation step is not necessary; however, manual distillation will be required to resolve any controversies.

[6] Ammonia, Automated Electrode Method, Industrial Method Number 379-75WE, dated February 19, 1976, Technicon AutoAnalyzer II, Technicon Industrial Systems, Tarrytown, New York 10591.

[7] Carbonaceous biochemical oxygen demand ($CBOD_5$) must not be confused with the traditional BOD_5 test which measures "total BOD". The addition of the nitrification inhibitor is not a procedural option, but must be included to report the $CBOD_5$ parameter. A discharger whose permit requires reporting the traditional $CBOD_5$ may not use a nitrification inhibitor in the procedure for reporting the results. Only when a discharger's permit specifically states $CBOD_5$ is required can the permittee report data obtained using the nitrification inhibitor.

[8] American National Standard on Photographic Processing Effluents, Apr. 2, 1975. Available from ANSI, 1430 Broadway, New York, NY 10018.

[9] The use of normal and differential pulse voltage ramps to increase sensitivity and resolution is acceptable.

[10] Chemical Oxygen Demand, Method 8000, Hach Handbook of Water Analysis, 1979, Hach Chemical Company, P.O. Box 389, Loveland, Colorado 80537.

[11] COD Method, Oceanography International Corporation, 512 West Loop, P.O. Box 2980, College Station, Texas 77840.

[12] The back titration method will be used to resolve controversy.

[13] National Council of the Paper Industry for Air and Stream Improvement, Inc., Technical Bulletin 253, December 1971.

[14] Copper, Bicinchoninate Method, Method 8506, Hach Handbook of Water Analysis, 1979, Hach Chemical Company, P.O. Box 389, Loveland, Colorado 80537.

[15] After the manual distillation is completed, the auto-analyzer manifolds in EPA Methods 335.03 (Cyanide) or 420.2 (phenols) are amplified by connecting the re-sample line directly to the sampler. When using the manifold setup shown in Method 335, the buffer 6.2 should be replaced with the buffer 7.6 found in Method 335.2.

[16] Hydrogen Ion (pH) Automated Electrode Method, Industrial Method Number 378-75WA, October 1976, Technicon Auto-Analyzer II, Technicon Industrial Systems, Tarrytown, New York 10591.

[17] Iron, 1,10-Phenanthroline Method, Method 8008, 1980, Hach Chemical Company, P.O. Box 389, Loveland, Colorado 80537.

[18] Manganese, Periodate Oxidation Method, Method 8034, Hach Handbook of Wastewater Analysis, 1979, pages 2-113 and 2-117, Hach Chemical Company, Loveland, Colorado 80537.

[19] Nitrogen, Nitrite, Method 8507, Hach Chemical Company, P.O. Box 389, Loveland, Colorado 80537.

[20] Goerlitz, D., Brown, E., "Methods for Analysis of Organic Substances in Water," U.S. Geological Survey, Techniques of Water-Resources Investigations, Book 5, Chapter A3, p.4 (1972).

[21] R.F. Addison and R.G. Ackman, "Direct Determination of Elemental Phosphorus by Gas-Liquid Chromatography," Journal of Chromatography, Vol. 47, No. 3, pp. 421-426, 1970.

[22] Recommended methods for the analysis of silver in industrial wastewaters at concentrations of 1 mg/L and above are inadequate where silver exists as an inorganic halide. Silver halides such as the bromide and chloride are relatively insoluble in reagents such as nitric acid but are readily soluble in an aqueous buffer of sodium thiosulfate and sodium hydroxide to a pH of 12. Therefore, for levels of silver above 1 mg/L, 20 mL of sample should be diluted to 100 mL by adding 40 mL each of 2 M $Na_2S_2O_3$ and 2M NaOH. Standards should be prepared in the same manner. For levels of silver below 1 mg/L the recommended method is satisfactory.

[23] Stevens, H.H., Ficke, J.F., and Smoot, G.F., "Water Temperature-Influential Factors, Field Measurement and Data Presentation," U.S. Geological Survey, Techniques of Water-Resources Investigations, Book 1, Chapter D1, 1975.

[24] Zinc, Zincon Method, Method 8009, Hach Handbook of Water Analysis, 1979, pages 2-231 and 2-333, Hach Chemical Company, Loveland, Colorado 80537.

[25] "Selected Analytical Methods Approved and Cited by the United States Environmental Protection Agency," Supplement to the Fifteenth Edition of *Standard Methods for the Examination of Water and Wastewater* (*1981*).

[26] The approved method is that cited in *Standard Methods for the Examination of Water and Wastewater*, 14th Edition. The colorimetric reaction is conducted at a pH of 10.0 ± 0.2. The approved methods are given on pp. 676-81 of the 14th Edition. Method 510A for distillation, Method 510B for the manual colorimetric procedure, or Method 510C for the manual spectrophotometric procedure.

[27] ORION Research Instruction Manual, Residual Chlorine Electrode Model 97-70, 1977, Orion Research Incorporated, 840 Memorial Drive, Cambridge, Massachusetts 02138.

TABLE IC.—LIST OF APPROVED TEST PROCEDURES FOR NON-PESTICIDE ORGANIC COMPOUNDS

Parameter [1]	EPA Method Number [2] [3]			Other
	GC	GC/MS	HPLC	
1. Acenaphthene	610	625, 1625	610	
2. Acenaphthylene	610	625, 1625	610	
3. Acrolein	603	[4]624, 1624		
4. Acrylonitrile	603	[4]624, 1624		
5. Anthracene	610	625, 1625	610	
6. Benzene	602	624, 1624		
7. Benzidine		[5]625, 1625	605	Note 3, p. 1;
8. Benzo(a)anthracene	610	625, 1625	610	
9. Benzo(a)pyrene	610	625, 1625	610	
10. Benzo(b)fluoranthene	610	625, 1625	610	
11. Benzo(ghi)perylene	610	625, 1625	610	
12. Benzo(k)fluoranthene	610	625, 1625	610	
13. Benzyl Chloride				Note 3, p. 130; Note 6, p. S102.
14. Benzyl Butyl Phthalate	606	625, 1625		
15. Bis(2-chloroethoxy) methane	611	625, 1625		
16. Bis(2-chloroethyl) ether	611	625, 1625		
17. Bis(2-ethylhexyl) phthalate	606	625, 1625		
18. Bromodichloromethane	601	624, 1624		
19. Bromoform	601	624, 1624		
20. Bromomethane	601	624, 1624		
21. 4-Bromophenylphenyl ether	611	625, 1625		
22. Carbon tetrachloride	601	624, 1624		Note 3, p. 130;
23. 4-Chloro-3-methylphenol	604	625, 1625		
24. Chlorobenzene	601, 602	624, 1624		Note 3, p. 130;
25. Chloroethane	601	624, 1624		
26. 2-Chloroethylvinyl ether	601	624, 1624		
27. Chloroform	601	624, 1624		Note 3, p. 130;
28. Chloromethane	601	624, 1624		
29. 2-Chloronaphthalene	612	625, 1625		
30. 2-Chlorophenol	604	625, 1625		
31. 4-Chlorophenylphenyl ether	611	625, 1625		
32. Chrysene	610	625, 1625	610	
33. Dibenzo(a,h)anthracene	610	625, 1625	610	
34. Dibromochloromethane	601	624, 1624		
35. 1,2-Dichlorobenzene	601, 602, 612	624, 625, 1625		
36. 1,3-Dichlorobenzene	601, 602, 612	624, 625, 1625		
37. 1,4-Dichlorobenzene	601, 602, 612	624, 625, 1625		
38. 3,3'-Dichlorobenzidine		625, 1625	605	
39. Dichlorodifluoromethane	601			
40. 1,1-Dichloroethane	601	624, 1624		
41. 1,2-Dichloroethane	601	624, 1624		
42. 1,1-Dichloroethene	601	624, 1624		
43. trans-1,2-Dichloroethene	601	624, 1624		
44. 2,4-Dichlorophenol	604	625, 1625		
45. 1,2-Dichloropropane	601	624, 1624		
46. cis-1,3-Dichloropropene	601	624, 1624		
47. trans-1,3-Dichloropropene	601	624, 1624		
48. Diethyl phthalate	606	625, 1625		

TABLE IC.—LIST OF APPROVED TEST PROCEDURES FOR NON-PESTICIDE ORGANIC COMPOUNDS—Continued

Parameter [1]	EPA Method Number [4, 5]			Other
	GC	GC/MS	HPLC	
49. 2,4-Dimethylphenol	604	625, 1625		
50. Dimethyl phthalate	606	625, 1625		
51. Di-n-butyl phthalate	606	625, 1625		
52. Di-n-octyl phthalate	606	625, 1625		
53. 2,4-Dinitrophenol	604	625, 1625		
54. 2,4-Dinitrotoluene	609	625, 1625		
55. 2,6-Dinitrotoluene	609	625, 1625		
56. Epichlorohydrin				Note 3, p. 130; Note 6, p. 8102.
57. Ethylbenzene	602	624, 1624		
58. Fluoranthene	610	625, 1625	610	
59. Fluorene	610	625, 1625	610	
60. Hexachlorobenzene	612	625, 1625		
61. Hexachlorobutadiene	612	625, 1625		
62. Hexachlorocyclopentadiene	612	[3]625, 1625		
63. Hexachloroethane	612	625, 1625		
64. Ideno(1,2,3-cd)pyrene	610	625, 1625	610	
65. Isophorone	609	625, 1625		
66. Methylene Chloride	601	624, 1624		Note 3, p. 130;
67. 2-Methyl-4,6-Dinitrophenol	604	625, 1625		
68. Naphthalene	610	625, 1625		
69. Nitrobenzene	609	625, 1625		
70. 2-Nitrophenol	604	625, 1625		
71. 4-Nitrophenol	604	625, 1625		
72. N-Nitrosodimethylamine	607	625, 1625		
73. N-Nitrosodi-n-propylamine	607	[3]625, 1625		
74. N-Nitrosodiphenylamine	607	[3]625, 1625		
75. 2,2-oxybis(1-chloropropane)	611	625, 1625		
76. PCB-1016	608	625		Note 3, p. 43;
77. PCB-1221	608	625		Note 3, p. 43;
78. PCB-1232	608	625		Note 3, p. 43;
79. PCB-1242	608	625		Note 3, p. 43;
80. PCB-1248	608	625		Note 3, p. 43;
81. PCB-1254	608	625		Note 3, p. 43;
82. PCB-1260	608	625		Note 3, p. 43;
83. Pentachlorophenol	604	625, 1625		Note 3, p. 140;
84. Phenanthrene	610	625, 1625	610	
85. Phenol	604	625, 1625		
86. Pyrene	610	625, 1625	610	
87. 2,3,7,8-Tetrachlorodibenzo-p-dioxin		[6]613		
88. 1,1,2,2-Tetrachloroethane	601	624, 1624		Note 3, p. 130;
89. Tetrachloroethene	601	624, 1624		Note 3, p. 130;
90. Toluene	602	624, 1624		
91. 1,2,4-Trichlorobenzene	612	625, 1625		Note 3, p. 130;
92. 1,1,1-Trichloroethane	601	624, 1624		
93. 1,1,2-Trichloroethane	601	624, 1624		Note 3, p. 130;
94. Trichloroethene	601	624, 1624		
95. Trichlorofluoromethane	601	624		
96. 2,4,6-Trichlorophenol	604	625, 1625		
97. Vinyl Chloride	601	624, 1624		

Table IC Notes

[1] All parameters are expressed in micrograms per liter (µg/L).

[2] The full text of Methods 601–613, 624, 625, 1624, and 1625, are given at Appendix A, "Test Procedures for Analysis of Organic Pollutants," of the Part 136. The standardized test procedure to be used to determine the method detection limit (MDL) for these test procedures is given at Appendix B, "Definition and Procedure for the Determination of the Method Detection Limit," of the Part 136.

[3] "Methods for Benzidine, Chlorinated Organic Compounds, Pentachlorophenol and Pesticides in Water and Wastewater," U.S. Environmental Protection Agency, September, 1978.

[4] Method 624 may be extended to screen samples for Acrolein and Acrylonitrile. However, when they are known to be present, the preferred method for these two compounds is Method 603 or Method 1624.

[5] Method 625 may be extended to include benzidine, hexachlorocyclopentadiene, N-nitrosodimethylamine, and N-nitrosodiphenylamine. However, when they are known to be present, Methods 605, 607, and 612, or Method 1625, are preferred methods for these compounds.

[6] 625, Screening only.

[7] "Selected Analytical Methods Approved and Cited by the United States Environmental Protection Agency," Supplement to the Fifteenth Edition of *Standard Methods for the Examination of Water and Wastewater* (1981).

[8] Each analyst must make an initial, one-time, demonstration of their ability to generate acceptable precision and accuracy with Methods 601–613, 624, 625, 1624, and 1625 (See Appendix A of the Part 136) in accordance with procedures each in section 8.2 of each of these Methods. Additionally, each laboratory, on an on-going bases must spike and analyze 10% (5% for Methods 624 and 625 and 100% for methods 1624, and 1625) of all samples to monitor and evaluate laboratory data quality in accordance with sections 8.3 and 8.4 of these Methods. When the recovery of any parameter falls outside the warning limits, the analytical results for that parameter in the unspiked sample are suspect and cannot be reported to demonstrate regulatory compliance.

Note.—These warning limits are promulgated as an "Interim final action with a request for comments."

are widely available by contract at a reasonable price. Furthermore, small entities may not need to use any of these 47 methods. EPA is certifying that this rule will not have a significant economic impact on a substantial number of small entities (as defined by the RFA). Therefore, in accordance with 5 U.S.C. 605(b), I hereby certify that this rule will not have a significant adverse economic impact on a substantial number of small entities.

VII. List of Subjects in 40 CFR Parts 260 and 261

Hazardous waste, Reporting and recordkeeping requirements.

Dated: September 15, 1989.

William K. Reilly,

Administrator.

For the reasons set out in the preamble, title 40 of the Code of Federal Regulations is amended as follows:

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

1. The authority citation for part 260 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921 through 6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974.

Subpart B—Definitions

2. Section 260.11 is amended by revising the fourth reference in paragraph (a) to read as follows:

§ 260.11 References.

(a) * * * "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 (Second Edition, 1982 as amended by Update I (April 1984) and Update II (April 1985). The Second Edition of SW-846 and Updates I and II are available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4650. The document number is PB87-120-291 and the cost is $48.95 for paper copies and $13.50 for microfiche.

* * * * *

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

3. The authority citation for Part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, and 6922.

4. Tables 2 and 3 of Appendix III are revised to read as follows:

Appendix III—Chemical Analysis Test Methods

TABLE 2—ANALYSIS METHODS FOR INORGANIC CHEMICALS AND MISCELLANEOUS GROUPS OF ANALYTES CONTAINED IN SW-846*

Component	Third Edition Method(s)	Second Edition Method(s)
Aluminum	6010	
Antimony	6010	7040, 7041
Arsenic	6010	7060, 7061
Barium	6010	7080, 7081
Beryllium	6010, 7090, 7091	
Boron	6010	
Cadmium	6010	7130, 7131
Calcium	6010	
Chromium	6010	7190, 7191
Chromium, Hexavalent	7196	7194, 7195, 7197
Cobalt	6010	
Copper	6010, 7210, 7211	
Iron	6010, 7380, 7381	
Lead	6010	7420, 7421
Magnesium	6010	
Manganese	6010, 7460, 7461	
Mercury		7470, 7471
Molybdenum	6010	
Nickel	6010	7520, 7521
Osmium	7550	
Potassium	6010	
Selenium	6010	7740, 7741
Silicon	6010	
Silver	6010	7760, 7761
Sodium	6010, 7770	
Thallium	6010, 7840, 7841	
Vanadium	6010, 7910, 7911	
Zinc	6010, 7950, 7951	
Cyanides		9010
Total Organic Halides	9020	9020
Sulfides		9030
Sulfates	9035, 9036, 9038	
Total Organic Carbon	9060	
Phenolics	9065, 9066*, 9067	
Oil and Grease	9070, 9071	
Total Cyanides	9131, 9132	
Nitrate	9200	
Chlorides	9250, 9251, 9252	
Gross Alpha and Gross Beta	9310	
Alpha-Emitting Radium Isotopes	9315	
Radium-226	9320	

* The Third Edition and its Updates will supersede the Second Edition and its Updates I and II when it is adopted. Until the Third Edition is adopted, in a final rule, the Second Edition and its updates must be used for regulatory purposes. Therefore, reference to the Third Edition, in these tables is provided for convenience. The Third Edition of SW-846 and Update I are available from the Government Printing Office, Superintendent of Documents, Washington, DC 20402, (202) 783-3238, documents number 955-001-00000-4.

SECTION I
CLP ORGANICS
Superfund Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)*

	Volatiles	CAS Number	Quantitation Limits** Low Water µg/L	Low Soil/Sediment[a] µg/Kg
1.	Chloromethane	74-87-3	10	10
2.	Bromomethane	74-83-9	10	10
3.	Vinyl chloride	75-01-4	10	10
4.	Chloroethane	75-00-3	10	10
5.	Methylene chloride	75-09-2	5	5
6.	Acetone	67-64-1	10	10
7.	Carbon Disulfide	75-15-0	5	5
8.	1,1-Dichloroethylene	75-35-4	5	5
9.	1,1-Dichloroethane	75-35-3	5	5
10.	1,2-Dichloroethylene(total)	540-59-0	5	5
11.	Chloroform	67-66-3	5	5
12.	1,2-Dichloroethane	107-06-2	5	5
13.	2-Butanone	78-93-3	10	10
14.	1,1,1-Trichloroethane	71-55-6	5	5
15.	Carbon tetrachloride	56-23-5	5	5
16.	Vinyl acetate	108-05-4	10	10
17.	Bromodichloromethane	75-27-4	5	5
18.	1,1,2,2-Tetrachloroethane	79-34-5	5	5
19.	1,2-Dichloropropane	78-87-5	5	5
20.	cis-1,3-Dichloropropene	10061-01-5	5	5
21.	Trichloroethene	79-01-6	5	5
22.	Dibromochloromethane	124-48-1	5	5
23.	1,1,2-Trichloroethane	79-00-5	5	5
24.	Benzene	71-43-2	5	5
25.	trans-1,3-Dichloropropene	10061-02-6	5	5
26.	Bromoform	75-25-2	5	5
27.	2-Hexanone	591-78-6	10	10
28.	4-Methyl-2-pentanone	108-10-1	10	10
29.	Tetrachloroethylene	127-18-4	5	5
30.	Toluene	108-88-3	5	5
31.	Chlorobenzene	108-90-7	5	5
32.	Ethyl Benzene	100-41-4	5	5
33.	Styrene	100-42-5	5	5
34.	Total Xylenes	1330-20-7	5	5

[a]Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for Volatile TCL Compounds are 100 times the individual Low Soil/Sediment CRQL.

*Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

**Quantitation Limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis, as required by the protocol, will be higher.

Superfund Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)*

	Semivolatiles	CAS Number	Quantitation Limits** Low Water µg/L	Low Soil/Sediment[b] µg/Kg
35.	Phenol	108-95-2	10	330
36.	bis(2-Chloroethyl) ether	111-44-4	10	330
37.	2-Chlorophenol	95-57-8	10	330
38.	1,3-Dichlorobenzene	541-73-1	10	330
39.	1,4-Dichlorobenzene	106-46-7	10	330
40.	Benzyl alcohol	100-51-6	10	330
41.	1,2-Dichlorobenzene	95-50-1	10	330
42.	2-Methylphenol	95-48-7	10	330
43.	bis(2-Chloroisopropyl) ether	108-60-1	10	330
44.	4-Methylphenol	106-44-5	10	330
45.	N-Nitroso-dipropylamine	621-64-7	10	330
46.	Hexachloroethane	67-72-1	10	330
47.	Nitrobenzene	98-95-3	10	330
48.	Isophorone	78-59-1	10	330
49.	2-Nitrophenol	88-75-5	10	330
50.	2,4-Dimethylphenol	105-67-9	10	330
51.	Benzoic acid	65-85-0	50	1600
52.	bis(2-Chloroethoxy) methane	111-91-1	10	330
53.	2,4-Dichlorophenol	120-83-2	10	330
54.	1,2,4-Trichlorobenzene	120-82-1	10	330
55.	Naphthalene	91-20-3	10	330
56.	4-Chloroaniline	106-47-8	10	330
57.	Hexachlorobutadiene	87-68-3	10	330
58.	4-Chloro-3-methylphenol (p-chloro-m-cresol)	59-50-7	10	330
59.	2-Methylnaphthalene	91-57-6	10	330
60.	Hexachlorocyclopentadiene	77-47-4	10	330
61.	2,4,6-Trichlorophenol	88-06-2	10	330
62.	2,4,5-Trichlorophenol	95-95-4	50	1600
63.	2-Chloronaphthalene	91-58-7	10	330
64.	2-Nitroaniline	88-74-4	50	1600
65.	Dimethyl phthalate	131-11-3	10	330
66.	Acenaphthylene	208-96-8	10	330
67.	2,6-Dinitrotoluene	606-20-2	10	330
68.	3-Nitroaniline	99-09-2	50	1600
69.	Acenaphthene	83-32-9	10	330
70.	2,4-Dinitrophenol	51-28-5	50	1600
71.	4-Nitrophenol	100-02-7	50	1600
72.	Dibenzofuran	132-64-9	10	330

Superfund Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)*

	Semivolatiles (cont.)	CAS Number	Quantitation Limits** Low Water µg/L	Low Soil/Sediment[b] µg/Kg
73.	2,4-Dinitrotoluene	121-14-2	10	330
74.	Diethylphthalate	84-66-2	10	330
75.	4-Chlorophenyl phenyl ether	7005-72-3	10	330
76.	Fluorene	86-73-7	10	330
77.	4-Nitroaniline	100-01-6	50	1600
78.	4,6-Dinitro-2-methylphenol	534-52-1	50	1600
79.	N-nitrosodiphenylamine	86-30-6	10	330
80.	4-Bromophenyl phenyl ether	101-55-3	10	330
81.	Hexachlorobenzene	118-74-1	10	330
82.	Pentachlorophenol	87-86-5	50	1600
83.	Phenanthrene	85-01-8	10	330
84.	Anthracene	120-12-7	10	330
85.	Di-n-butyl phthalate	84-74-2	10	330
86.	Fluoranthene	206-44-0	10	330
87.	Pyrene	129-00-0	10	330
88.	Butyl benzyl phthalate	85-68-7	10	330
89.	3,3'-Dichlorobenzidine	91-94-1	20	660
90.	Benz(a)anthracene	56-55-3	10	330
91.	Chrysene	218-01-9	10	330
92.	bis(2-ethylhexyl)phthalate	117-81-7	10	330
93.	Di-n-octyl phthalate	117-84-0	10	330
94.	Benzo(b)fluoranthene	205-99-2	10	330
95.	Benzo(k)fluoranthene	207-08-9	10	330
96.	Benzo(a)pyrene	50-32-8	10	330
97.	Indeno(1,2,3-cd)pyrene	193-39-5	10	330
98.	Dibenz(a,h)anthracene	53-70-3	10	330
99.	Benzo(g,h,i)perylene	191-24-2	10	330

[b]Medium Soil/Sediment Contract Required Detection Limits (CRDL) for Semi-Volatile HSL Compounds are 60 times the individual Low Soil/Sediment CRDL.

*Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

**Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.

Superfund Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)*

	Pesticides/PCBs	CAS Number	Quantitation Limits** Low Water µg/L	Low Soil/Sediment[c] µg/Kg
100.	alpha-BHC	319-84-6	0.05	8.0
101.	beta-BHC	319-85-7	0.05	8.0
102.	delta-BHC	319-86-8	0.05	8.0
103.	gamma-BHC (Lindane)	58-89-9	0.05	8.0
104.	Heptachlor	76-44-8	0.05	8.0
105.	Aldrin	309-00-2	0.05	8.0
106.	Heptachlor epoxide	1024-57-3	0.05	8.0
107.	Endosulfan I	959-98-8	0.05	8.0
108.	Dieldrin	60-57-1	0.10	16.
109.	4,4'-DDE	72-55-9	0.10	16.
110.	Endrin	72-20-8	0.10	16.
111.	Endosulfan II	33213-65-9	0.10	16.
112.	4,4'-DDD	72-54-8	0.10	16.
113.	Endosulfan sulfate	1031-07-8	0.10	16.
114.	4,4'-DDT	50-29-3	0.10	16.
115.	Endrin ketone	53494-70-5	0.10	16.
116.	Methoxychlor	72-43-5	0.5	80.
117.	alpha-Chlordane	5103-71-9	0.5	80.
118.	gamma-Chlordane	5103-74-2	0.5	80.
119.	Toxaphene	8001-35-2	1.0	160.
120.	AROCLOR-1016	12674-11-2	0.5	80.
121.	AROCLOR-1221	11104-28-2	0.5	80.
122.	AROCLOR-1232	11141-16-5	0.5	80.
123.	AROCLOR-1242	53469-21-9	0.5	80.
124.	AROCLOR-1248	12672-29-6	0.5	80.
125.	AROCLOR-1254	11097-69-1	1.0	160.
126.	AROCLOR-1260	11096-82-5	1.0	160.

[c]Medium Soil/Sediment Contract Required Detection Limits (CRDL) for Pesticide HSL compounds are 15 times the individual Low Soil/Sediment CRDL.

*Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

**Quantitation Limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis, as required by the protocol, will be higher.

SECTION II

CLP INORGANICS

Superfund Target Compound List (TCL) and
Contract Required Quantitation Limit

Parameter	Contract Required Quantitation Level[1 2] (µg/L)
1. Aluminum	200
2. Antimony	60
3. Arsenic	10
4. Barium	200
5. Beryllium	5
6. Cadmium	5
7. Calcium	5000
8. Chromium	10
9. Cobalt	50
10. Copper	25
11. Iron	100
12. Lead	5
13. Magnesium	5000
14. Manganese	15
15. Mercury	0.2
16. Nickel	40
17. Potassium	5000
18. Selenium	5
19. Silver	10
20. Sodium	5000
21. Thallium	10
22. Vanadium	50
23. Zinc	20
24. Cyanide	10

1: Any analytical method specified in Exhibit D, CLP-Inorganics may be utilized as long as the documented instrument or method detection limits meet the Contract Required Quantitation Level (CRQL) requirements. Higher quantitation levels may only be used in the following circumstance:

If the sample concentration exceeds two times the quantitation limit of the instrument or method in use, the value may be reported even though the instrument or method detection limit may not equal the contract required quantitation level. This is illustrated in the example below:

For lead:
Method in use = ICP
Instrument Detection Limit (IDL) = 40
Sample concentration = 85
Contract Required Quantitation Level (CRQL) = 5

The value of 85 may be reported even though instrument detection limit is greater than Contract Required Quantitation Limit. The instrument or method detection limit must be documented as described in Exhibit E.

2: These CRQL are the instrument detection limits obtained in pure water that must be met using the procedure in Exhibit E. The quantitation limits for samples may be considerably higher depending on the sample matrix.

November 1987 NYSDEC Contract Lab Protocol
ORGANIC DATA

I. Data Completeness (Report Requirements, Exhibit B)

A. Case Narrative

1. Summarize any problems, describes case and includes the attached forms. CLP must be designated by year.

2. Signed by responsible person.

3. Additional requirements defined in Exhibit B, pp 8-9.

B. Quality Control Summary - Forms completed properly with all applicable information. Specific instructions for completing all forms are presented Exhibit B, pp 28-48.

1. Surrogate Recoveries - All sample, blank and spike surrogate recoveries meet control limits (Form II VOA,-SV-1,2,-Pest1,2). Surrogate requirements are defined in Exhibit E, pp 18-21, 36-38. 47-48.

2. Matrix Spike/Matrix Spike Duplicates - Performed by sample matrix at the proper interval every 20 samples or batch whichever comes first (Exhibit A-17) for each fraction using all required spiking components (Form III VOA-1,2,-SV-1,2,-Pest-1,2). Requirements defined in Exhibit E, pp 21-22, 39-41, 48-50.

3. Reagent Blank Summary - For each fraction all samples are associated with a method blank analysis (Form IX-VOA,-SV,-Pest). Requirements defined in Exhibit E, pp 17-18, 34-35, 46-47.

4. GC/MS Tuning and Mass Calibration - Each analytical system has a BFB or DFTPP tune performed at the proper interval. All samples are listed under a tune (Form V-VOA,-SV). Requirements defined in Exhibit E, pp 10-11, 28-29.

C. Sample Data Package - Requirements defined in Exhibit B, pp 8-21.

1. Samples extracted/analyzed within holding time. BNA extractions within 5 days, VOA analysis within 5 days. Requirements defined Exhibit A, pp 15.

2. Organic Analysis Data Sheet (Form I)

a. submitted for all samples
b. completed properly to include all pertinent information as defined in Exhibit B-9-10, 13-14, 17, 28-36.

3. Reconstructed Ion Chromatograms with legible quantitation reports. RICs properly labelled with sample #, analysis date and time, instrum. I.D., surrogate and internal peaks labelled. Exhibit B, pp 10-11, 14.

4. Tentatively identified compounds quantitation performed. Form I VOA-TIC,-SV-TIC submitted EPA/NIH Library search. Exhibit B, pp 9-10, 13-14.

5. Mass Spectral Data - Exhibit B, pp 11, 14-15.

   a. raw mass spectrum for each TCL compound identified.
   b. background subtracted mass spectrum for each TCL identified.
   c. evidence of mass spectral interpretation of spectra that fail to meet identification criteria. Library search submitted for unknowns.

6. GC/EC Chromatograms - Submitted for quantitation (conformation) run, properly labelled including nanograms injected and peaks identified with accompanying quantitation report. Quantitation report must relate to submitted GC Chromatograms. Area counts should reflect peak areas. Exhibit B, pp 17.

D. Standards Data Package - Exhibit B, pp 11, 15, 18, 40-48

1. Initial Calibration Data (Form VI-VOA,-SV-1,-SV-2) in order by instrument.

2. Continuing Calibration Data (Form VII VOA,-SV-1,-SV-2) in order by instrument.

3. VOA and BNA standards reconstructed ion chromatograms and quantitation reports labelled with surrogates and internals standards.

4. Internal Standard Area Summary (Form VIII VOA,-SV-1,2) in order by instrument.

5. For all GC columns: QC requirements - Exhibit E, pp 50-62.

   a. Form VII Pest-Pesticide Evaluation Standards Summary. Form IX Pest-Pesticide/PCB Identification (if positive results)
   b. Pesticide/PCB Standard Chromatograms and quantitation reports for each 72 hour sequence.
   c. All chromatograms properly labelled including nanograms injected, standard peaks identified.

E. Raw QC Package - Exhibit B, pp 12-13, 15-16, 19

1. DFTPP and BFB (all required tunes) includes bar graph plot and mass listing.

2. Reagent blank data for all fractions reported using Organics Form I with supporting RICs, quantitation reports, TICs, GC/EC chromatograms, mass spectral data, spectral library search.

3. Matrix spike/duplicate data reported using organics Form I and and all supporting raw data.

II. Quality Control Procedures - Exhibit E summarizes the QA/QC requirements to be used when additional QA/QC procedures are specified in the method, the lab must also follow those requirements.

A. GC/MS Tuning and mass calibration, ion abundance criteria and tune spectra acceptable? Exhibit E, pp 10-11, 28-29.

B. Initial Calibration of GC/MS systems. Exhibit E, pp 12-15, 29-31.

1. Target compounds quantified against right internal standard.

2. SPCC compounds meet criteria
For volatiles $\overline{RF} \geq 0.30$ (Bromoform$\geq$0.25)
For BNAs $\overline{RF} \geq 0.05$

3. All CCC compound RFs have a % RSD<30.

C. Continuing Calibration - Exhibit E, pp 15-17, 31-34.

1. Continuing calibration compared to appropriate initial calibration.

2. SPCC criteria met (same as initial calib.)

3. Change in CCC compound RF<25%.

D. Surrogate Spike Percent Recoveries - Exhibit E, pp 18-21, 36-38, 47-48. Evaluate surrogate recoveries and action taken for those outside QC limits.

E. Blank Contamination - Review method blank data, and note any contaminants that don't meet criteria. Exhibit E, pp 17-18, 34-36, 46-47.

F. Matrix spike/Matrix spike duplicate - Note spike recoveries and relative percent differences outside advisory QC limits. Exhibit E, pp 21-22, 37-41, 48-50.

G. Compound Identification - Exhibit E, pp 23-26, 41-44, 57-62.

1. Retention time criteria met.

2. Mass spectral criteria met.

3. Confirmation column identification for GC/EC positives.

4. Identified compounds defined with the proper qualifiers.

Inorganic Data

I. Data Completeness - Documentation shall be delivered as defined in Exhibit B.

A. Case narrative/cover page (if submitted separately from an organics package)

1. Case specifics, problems.

2. Signature of responsible person - Exhibit B, pp 8.

B. Results - Inorganic Analysis Data Sheet (Form I-IN) - Exhibit B, pp 21

1. Analytical results validated.

2. Appropriate concentration units.

3. Solid samples reported on dry weight basis.

4. Results reported to 2 significant digits.

5. Proper qualifiers used to define results.

C. Quality Control Data - Exhibit B, pp 21-24, 50-71.

1. Initial and Continuing Calibration verification [Form II (Part 1)-IN].

2. CRQL Standard for AA and Linear Range Analysis for ICP [Form II (Part 2)-IN].

3. Blanks [Form III -IN].

4. ICP Interference Check Sample [Form IV-IN].

5. Spike Sample Recovery [Form V (Part 1)-IN].

6. Post Digest Spike Sample Recovery [Form V (Part 2)-IN].

7. Duplicates [Form VI-IN].

8. Laboratory Control Sample [Form VII-IN].

9. Standard Addition Results [Form VIII-IN].

10. ICP Serial Dilutions [Form IX-IN].

11. Holding times [Form X-IN].

D. Quarterly verification of instrument parameters - Exhibit B, pp 22

1. Instrument detection limits [Form XI-IN].

2. ICP Inter-element Correction Factors [Form XII (Part 1, Part 2)].

3. ICP Linear Ranges [Form XIII-IN].

E. Raw Data - Exhibit B, pp 22-24

1. For each reported value including those less than the IDLs and QA/QC values - All raw data (direct real-time readouts) used to obtain that value shall be provided.

2. Order of data (does not reflect validity) shall be: ICP, Flame AA, Furnace AA, Mercury and Cyanide.

3. Raw data must include intensities and absorbances with concentration units, grouped by element.

4. Raw data shall be labelled with the DEC sample number and the following shall be identified.

   a. Calibration standards (source and prep. date)
   b. Initial and continuing calibration blanks and preparation blanks.
   c. Initial, continuing calibration verification standards, interference check samples, and ICP serial dilution samples.
   d. Diluted and undiluted samples (by DEC sample number) and all weights, dilutions and volumes used.
   e. Duplicates.
   f. Spikes (indicating standard solutions used, final spike concentrations, volumes involved).
   g. Instrument used, any instrument adjustments, data corrections or other anomalies, including voided or unused data.
   h. All information including data for furnace analysis clearly and sequentially identified on the raw data, including DEC sample number, sample and analytical spike data, percent recovery, coefficient of variation, full MSA data, MSA correlation coefficient, slope and y intercept of linear fit, final sample concentration and background correction used.
   i. Time and data of each sample, initial and continuing calibration verification, blanks, interference check samples and linear range analysis.
   j. Integration times for AA analyses.

F. Digestion and Distillation Logs - With dates, sample weights, and volumes, information to identify all QC samples and indication of pH when applicable.

II. Quality Control Procedures - Exhibit E outlines the minimum QA/QC procedures necessary to satisfy the analytical requirements of this protocol.

A. Instrument calibration - instruments must be calibrated daily or once every 24 hours. Date and time must be noted. Standards should be made from dilutions of stock and prepared daily. A 4-point calibration is required. If the AA instrument prevents this, calibrate according to manufacturer's recommendations and analyze the remaining standards immediately after calibration. Results for these standards must be within ±5% of the true value - Exhibit B, pp 70-71.

B. Initial calibration verification - Recoveries must be within control limits or analysis should be terminated and calibration reverified - Exhibit B, pp 71.

C. Continuing calibration verification - Performed at a 10% frequency or every 2 hours with recoveries in control or correction made - Exhibit E, pp 72-72.

D. CRQL Standard for ICP shall be analyzed and in control at the beginning and end of each sample analysis run - Exhibit E, pp 73.

E. Initial calibration, continuing calibrations and preparation blank analyses shall meet required criteria. If not corrective, action should be taken - Exhibit E, pp 73-73.

F. For ICP analyses - The interference check sample, serial dilution and linear range analyses must meet criteria or corrective action taken - Exhibit E, pp 74-75, 80-81.

G. Spiked Sample Analyses - A pre-digestion/distillation spike shall be performed as described in the protocol. For flame AA, ICP, Hg, and CN analyses with spike recoveries outside control limits and with results not exceeding 4x the spike added, a post-digestion/distillation spike shall be performed and reported. All spikes out of control should be properly flagged on the appropriate reporting forms - Exhibit E, pp 76-78.

H. Duplicate analyses should be performed at the required frequency and reported as described in the protocol - Exhibit E, pp 79.

I. Laboratory control samples will be analyzed for each matrix. Results must be within QC limits or reanalysis/corrective action taken - Exhibit E, pp 80.

J. Furnace AA QC analyses shall include:

1. Duplicate injections with 20% CV (RSD).

2. Analytical spike recovery at 85-115%.

3. MSA analysis (when applicable) including all raw data or the least squares feet and flagging the results - Exhibit E, pp 82-84.

The information presented in this outline was gleaned from USEPA Laboratory Data Validation, Functional Guidelines for Evaluating Analyses (1985) and NYSDEC Contract Laboratory Protocol (1987)

nytest environmental inc.

ORGANIC DATA REPORTING QUALIFIERS - 1988 ISSUE

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detected limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g.: If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.)

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

D This flag identifies all compounds identified in an analysis at a secondary dilution factor.

nytest environmental inc.

DATA REPORTING QUALIFIERS - 1990 ISSUE

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detected limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g.: If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.)

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

T This flag indentifies all targeted compounds that were found above the method detection limits.

NA This flag indicates that the data is not applicable

A Adol Condensation Product

Note: Data on soil samples expressed on a dry weight basis.

APPENDIX J

APPENDIX J

DATA VALIDATION REPORTS

(C.C. JOHNSON & MALHOTRA, P.C.)

Case No.	Analysis
6546	VOA, BNA, Pesticide/PCB
6496/6527	VOA, BNA, Pesticide/PCB
6559	VOA, BNA, Pesticide/PCB
6533	VOA, BNA, Pesticide/PCB

CCJM
ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
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GRAND RAPIDS

RECEIVED

MAY 28 1991

R. E. PUSTORINO, P.C.

MEMORANDUM

TO: Robert Burgner, R. E. Pustorino, P.C./Commack

FROM: Jeralyn Guthrie, Richard Cheatham, CCJM/Denver

DATE: May 24, 1991

DOCUMENT NO: SVTRS016.MEM

SUBJECT: Transmittal of Sayville LF Data Validation Reports

RE: Town of Islip, Sayville (Lincoln Avenue Landfill, Phase II Investigation, REP No. 86082-F)

Enclosed are the data review reports and the attached copies of data results forms (Form I's) which have data reviewer qualifiers added. Each data review report is identified as follows:

Case No.	SDG No.	Analysis
6546	NA	VOA, BNA, Pesticide/PCB
6496/6527	NA	VOA, BNA, Pesticide/PCB

If you have any questions concerning this submittal, please call (303) 987-2928.

cc: Sayville - PF

C.C. JOHNSON & MALHOTRA, P.C.
215 UNION BOULEVARD, SUITE 215 • LAKEWOOD, COLORADO 80228 • (303) 987-2928

CCJM
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DOCUMENT NO.: SVODS009.RW

INORGANICS DATA REVIEW SUMMARY - Form NY

Case No. 6546 Project No. 9017423

Site Sayville

Contract Laboratory Nytest Environmental, Inc.

Sample Delivery Group (SDG) NA Sampling Date (Month/Year) 11/90

Sample Matrix 9 low level waters (3 VOA only*)

Type of Analyses/Special Request Volatile, Semivolatile, Pesticide/PCB

Sample No.			
MW-4S	FBMW4SB	TB-30B*	
MW-4D	FBMW4DP		
MW-6I	TB-58*		
FBMW6IP	TB-30A*		

Data Reviewer Linda L. Morrison LLM Date 5/24/91

QA Review by Jeralyn Guthrie JG Date 5/24/91

CCJM Approval by Richard Cheatham RC Date 5/24/91

Telephone logs/correspondence attached? Yes X No ____

Contractual violations found? Yes X No ____

Laboratory case narrative attached? Yes X No ____

Following items require attention: ____

Note:
— The EPA Functional Guidelines for Evaluating Organics Analyses - (Data Review SOP), NYSDEC protocols, and project specific planning documents have been used by the data reviewer as a basis for reviewing the data and applying qualifiers, except as specifically noted in review comments.

— Please see data qualifier and sub-qualifier definitions on the last page. This scheme of qualifiers is intended to help indicate the reasons or problems which cause sample data values to be qualified.

DOCUMENT NO.: SVODS009.RVW

INORGANICS DATA REVIEW SUMMARY - Form NY

Case No. 6546 Project No. 9017423

Site Sayville

Contract Laboratory Nytest Environmental, Inc.

Sample Delivery Group (SDG) NA Sampling Date (Month/Year) 11/90

Sample Matrix 9 low level waters (3 VOA only*)

Type of Analyses/Special Request Volatile, Semivolatile, Pesticide/PCB

Sample No.				
	MW-4S	FBMW4SB	TB-30B*	
	MW-4D	FBMW4DP		
	MW-6I	TB-58*		
	FBMW6IP	TB-30A*		

Data Reviewer Linda L. Morrison Date

QA Review by Jeralyn Guthrie Date

CCJM Approval by Richard Cheatham Date

Telephone logs/correspondence attached? Yes X No

Contractual violations found? Yes X No

Laboratory case narrative attached? Yes X No

Following items require attention:

Note:

— The EPA Functional Guidelines for Evaluating Organics Analyses - (Data Review SOP), NYSDEC protocols, and project specific planning documents have been used by the data reviewer as a basis for reviewing the data and applying qualifiers, except as specifically noted in review comments.

— Please see data qualifier and sub-qualifier definitions on the last page. This scheme of qualifiers is intended to help indicate the reasons or problems which cause sample data values to be qualified.

(Revised 1/91)

FORM NY

DATA COMPLETENESS CHECKLIST

_X_ Included: no problems
_*_ Included: problems noted in review
_O_ Not Included and/or Not Available
_NR_ Not Required
_RS_ Provided as Resubmission

_X_ Case Narrative

Quality Control Summary Package

- _X_ Surrogate Recovery Summary (Form II)
- _X_ MS/MSD Summary (Form III)
- _X_ Reagent Blank Summary (Form IV)
- _X_ GC/MS Tuning and Mass Calibration (Form V)
- _X_ Internal Standard Area Summary (Form VIII)

Sample Data Package

- _X_ Holding Times (Custody and/or shipping records)
- _X_ Organic Analysis Data Sheets (Form I) all pages for each sample, arranged in increasing sample number order
- _X_ Reconstructed Ion Chromatogram(s) (RIC)
- _X_ GC/EC Chromatograms
- _X_ Quantitation Reports
- _X_ Mass Spectral Data
- _X_ EPA/NIH Mass Spectral Library Search for TIC's

Standards Data Package

- _NR_ Current List of Laboratory/Instrumental Detection Limits
- _RS_ Initial Calibration Data (Form VI) for each instrument
- _X_ Continuing Calibration Data (Form VII) for each instrument
- _RS_ Pesticide Evaluation Standards Summary (Form VIII)
- _X_ Pesticide/PCB Standards Summary (Form IX)
- _X_ Pesticide/PCB Identification (Form X) if any positive results
- _X_ VOA and BNA Standards Reconstructed Ion Chromatograms (RIC)
- _X_ VOA and BNA Standards Quantitation Reports
- _X_ Pesticide/PCB Standard Chromatograms and Data System Printouts

Raw QC Data Package

- _X_ DFTPP and BFB mass spectra and mass listings
- _X_ Reagent Blank Data
  - _X_ Organic Analysis Data Sheets (Form I)
  - _X_ Reconstructed Ion Chromatograms (RIC)
  - _X_ Quantitation Reports
  - _X_ Mass Spectral Data
  - _X_ EPA/NIH Library Search of TIC's
  - _X_ GC/EC Chromatograms and Data System Printouts
- _X_ Matrix Spike and Matrix Spike Duplicate Data
  - _X_ Organic Analysis Data Sheets (Form I)
  - _X_ Reconstructed Ion Chromatograms (RIC)
  - _X_ Quantitation Reports
  - _X_ GC/EC Chromatograms and Data System Printouts

(Revised 1/91)

I. Holding Times

All samples were extracted and analyzed within holding times specified in the NYSDEC CLP Analytical Services Protocol (ASP), 1989, or in project plans, as applicable. See the following table for a summarization of sample holding times.

Yes __X__ No _____

Comments: No comments.

Holding Time Summary

Sample Number	Sampling Date	VTSR	VOA Analysis	BNA Extract	BNA Analysis	Pesticide/PCB Extract	Pesticide/PCB Analysis
MW-4S	11/15/90	11/15	11/22	11/19	12/21	11/19	11/29
MW-4D	11/15	11/15	11/22	11/19	12/21	11/19	11/29
MW-6I	11/15	11/15	11/22	11/19	12/21	11/19	11/29
FBMW6IP	11/15	11/15	11/22	11/19	12/21	11/19	11/29
FBMW6IPRE	11/15	11/15	11/22	11/19	12/21	11/19	11/29
FBMW4SB	11/15	11/15	11/21	11/19	12/21	11/19	11/29
FBMW4DP	11/15	11/15	11/22	11/19	12/21	11/19	11/29
TB-58	11/15	11/15	11/22	NA	NA	NA	NA
TB-30A	11/15	11/15	11/22	NA	NA	NA	NA
TB-30B	11/15	11/15	11/22	NA	NA	NA	NA

II. GC/MS Tuning and Mass Calibration

A. The DFTPP performance results were all included and found to be within specified criteria.

Yes __X__ No _____

Comments: No comments.

B. The BFB performance results were all included and found to be within specified criteria.

Yes __X__ No _____

Comments: No comments.

III. A. Instrument Calibration (VOA and SV)

1. The instrument response factor (RRF) data were reviewed for the initial and continuing calibrations. All appropriate information was present in the package and all response factors met the required criteria for volatile and semivolatile analyses.

Yes __X__ No ____

Comments:

a. For the volatile analysis styrene and m-xylene have response factors (RRF) reported on Forms 6 and 7 but raw data is not present. The laboratory was contacted and stated that the values were manually searched and has provided the necessary raw data. See the attached correspondence.

b. The raw data showed that the carbon tetrachloride for the continuing calibration on 11/21/90 had an RRF of 0.146 rather than 1.070, therefore the %D was 87% not 8.9%. However, the laboratory was contacted and stated that the RRF reported is correct since the value was obtained manually rather than through use of the data system. See attached correspondence.

c. For the semivolatile analysis the initial calibration performed 12/19/90 on Form 6 has the RRF 20 and RRF 50 switched. The data reviewer calculated only the missing values on Form 6 from the raw data and found all %RSD to still be below the specified limits. The laboratory sent the corrected form as a resubmission to complete the data package.

2. The percent relative standard deviation (%RSD) data for the initial calibrations and the percent difference (%D) data for the continuing calibrations were reviewed and all required information was provided.

Yes __X__ No ____

Comments: No comments.

3. All %RSD and %D values met the required criteria (ASP 1989, Exhibit D) for volatile and semivolatile analyses (VOA and SV initial calibration = 30% RSD for CCC's and 35% RSD for all other compounds; VOA continuing calibration = 25% D for CCC's and 35% D for all other compounds; SV continuing calibration = 25% D for all compounds).

   Yes _____ No __X__

   Comments: The contract required %RSD and %D values have been used as specifications for data validation. The compounds for which criteria are not met and the list of qualifiers added to sample results on Form I's are summarized on the attached Table 1.

B. Instrument Calibration (Pesticide/PCB)

1. All linearity check criteria were met with a %RSD value less than 10% for all quantitation column calibrations.

   Yes __X__ No _____

   Comments: Form VIII D which summarizes the %RSD's and % breakdown was not included in the data package. The raw data was present and therefore the reviewer calculated all necessary values. The laboratory has provided the missing pages as a resubmission to complete the data package.

2. The breakdown of 4,4'-DDT and endrin was less than 20% for all evaluation B analyses.

   Yes __X__ No _____

   Comments: See section III B.1.

3. The pesticide standard compounds showed a %D of the calibration factor of no more than 15% for quantitation and 20% for confirmation runs for all compounds identified.

   Yes __X__ No _____

   Comments: No comments.

4. The retention time of 4,4'-DDT was greater than 12 minutes for packed columns (except OV-101).

Yes __X__ No ____

Comments: No comments.

5. The retention time for the surrogate (DBC) was within criteria for every sample.

Yes __X__ No ____

Comments: No comments.

IV. Blanks

A. Method Blank - The blank analyses were reviewed. The frequency of method blank extractions and analyses and the contaminants found in blank samples were all within specified limits.

Yes __X__ No ____

Comments: Contaminant quantities found in contract compliant laboratory preparation blanks and a listing of qualifiers added to sample results on Form 1's are summarized on the attached Table 1.

B. Trip Blank - The associated trip/travel blank(s) contained contaminants which affected samples in the package.

Yes __X__ No ____ None Identified ____

Comments: The following table lists the contaminated trip blanks found in the data package and the contaminant quantities reported. The associated samples found in the package, which have been qualified due to contamination potentially having occurred during handling and/or storage, are also shown.

Blank ID	Analyte	Amount (ug/L)	Associated Samples
TB30A	methylene chloride	5 B	*
	acetone	26 B	

Blank ID	Analyte	Amount (ug/L)	Associated Samples
TB30A	methylene chloride	8 B	*
	acetone	18 B	
TB58	acetone	28 B	*

* All three trip blanks were sent on the same day as all the samples contained in this data package and therefore have been considered to affect all samples. It is believed by the data reviewer that contaminants found in these trip blanks are likely due to laboratory contamination as evidenced by the method blanks.

C. Other Blanks:

1. The following are other blanks found in the data package and the compound quantities reported. No sample data has been qualified by the reviewer based on the results of these blanks.

Blank ID/Type	Analyte	Amount (ug/L)
FBMW4DP/Field Blank	acetone	16 B
	di-n-butylphthalte	8 BJ
	bis(2-ethylhexyl) phthalate	9 J
FBMW4SB/Field Blank	methylene chloride	110 B
	acetone	11 B
	di-n-butylphthalte	8 BJ
	bis(2-ethylhexyl) phthalate	5 J
FBMW6IP/Field Blank	*methylene chloride	4 BJ
	*acetone	32 B
	di-n-butylphthalte	8 BJ
	bis(2-ethylhexyl) phthalate	5 J

*Results reported are from the volatile reanalysis.

2. It was noted by the reviewer that holding blank analysis was not provided in the data package.

V. Surrogate Recovery

The surrogate recoveries were reviewed. The recoveries were all within specified QC criteria.

Yes _____ No __X__

Comments: Samples found to have surrogate recoveries outside specified criteria are summarized on Tables 1 and 2. Data qualifiers, when necessary, are indicated on Table 2.

VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The matrix spike and matrix spike duplicate recovery data were reviewed. The spikes were performed and met all recommended QC specifications.

Yes __X__ No _____

Comments: Sample number MW6D was used for MS/MSD for all three factions and is contained in data package 6559. Almost all recoveries for volatiles in the MS/MSD did not meet the recommended control limits; however, all recoveries are high. The semivolatile analysis has all spike recoveries within specified limits. The pesticide analysis has one compound for the MS with a slightly high recovery. A blank spike was also performed for all three fractions. Qualifiers are not applied to sample results solely on the basis of MS/MSD or blank spike results.

VII. Field Duplicate Results

This package contained a field duplicate sample.

Yes _____ No _____ Not identified __X__

Comments: No comments.

VIII. Internal Standard (IS) Performance

The internal standard results were reviewed for consistency in response (area counts) and retention time. All sample internal standards showed adequate performance and consistency.

Yes _____ No __X__

Comments:

1. See the attached Table 1 for a summary of the internal standards that did not meet criteria.

2. Responses for the internal standard chlorobenzene-d5 for sample FBMW6IP and the internal standard 1,4-difluorobenzene for sample FBM6IPRE were found to be below the specified criteria. Compounds associated with these internal standards have been qualified as estimated (UJ-I).

IX. TCL Compound Identification

Positive results were evaluated to determine that all criteria were met in identifying TCL compounds from the sample data. In all cases, the reported compounds matched the retention time and, when applicable, the mass spectral profile.

Yes __X__ No _____

Comments: No comments.

X. Compound Quantitation and Reported Detection Limit

Quantitative results and reported detection limits were reviewed and were determined to be accurate except as noted in this report that data has been qualified.

Yes __X__ No _____

Comments: No comments.

XI. Tentatively Identified Compounds (TIC's)

Data for reported tentatively identified compounds were reviewed and found to meet quantitative and qualitative criteria.

Yes __X__ No _____

Comments: All TIC's not attributable to blank contamination have been qualified by the reviewer as tentatively identified and of estimated concentration (J-N). Any TIC's reported in samples that are also identified in associated blanks have been qualified as UJ-BN. Any TIC's identified as aldols have been qualified as UJ-AN.

XII. System Performance

The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance throughout this case.

Yes __X__ No _____

Comments: No comments.

XIII. Overall Assessment of Data in the Case

Data have met analytical quality criteria and are within applicable guideline limits except where qualifiers are noted within this report as being required.

Yes __X__ No _____

Comments: No comments.

XIV. Contract Requirements

All contract requirements were met by the laboratory in the analyses of the samples in the package.

Yes __X__ No _____

Comments: The %RSD and/or %D requirements were not entirely met.

XV. General Comments

1. The attached Table is the New York State Department of Environmental Conservation Compliancy Summary.

2. Sample FBMW6IPRE is to be used for the volatile analysis due to less qualifiers applied to sample results. The original analysis had both surrogate and internal standard recovery problems.

EXPLANATION OF ORGANICS DATA QUALIFIERS

For the purposes of this data review document the following code letters and associated definitions are provided:

U - The material was analyzed for, but was not detected. The associated numerical value is the estimated quantitation limit.

R - Quality Control indicates that data are not usable (i.e. compound may or may not be present). Resampling and re-analysis are necessary to determine the presence or absence of the analyte in the sample.

UJ-B - The compound is considered to be undetected and the value reported is an estimated detection limit because the compound was identified in the laboratory blank as well as in the sample. The value of this reported detection limit (DL) is determined by the amount of the compound found in the sample:

1) the sample value was less than the CRDL: the DL is reported as equal to the CRDL.
2) the sample value was greater than CRDL but less than 5X the amount of the compound found in the laboratory blank (less than 10X for methylene chloride, acetone, 2-butanone, toluene and phthalates): the DL is reported as equal to the reported sample value.
3) the sample value was greater than 5X the laboratory blank value (10X for compounds noted above): see JB qualifier.

J-B - The reported value is an estimated amount. The compound was detected in the blank and the quantity reported in the sample is greater than 5X the amount found in the blank (greater than 10X for above compounds).

J - The associated numerical value is an estimated quantity because the amount detected is below the required detection limits or because quality control criteria were not met. (See qualifiers listed below)

J-C - The value reported was estimated due to instrument calibration problems.

J-H - The value reported was estimated due to holding time violation.

J-S - The value reported was estimated due to surrogate or matrix spike recovery problems.

J-I - The value reported was estimated due to internal standard recovery deficiencies.

J-E - The value reported was estimated due to interference problems.

J-M - Benzo(b) and Benzo(k) Fluoranthene not separated due to matrix.

J-N - Tentative identification of a compound. Resampling and re-analysis would be necessary for verification of identity.

J-A - TIC identified as an aldol condensate.

(Revised 1/91)

Project: Sayville

NYSDEC Compliancy Summary Table

SDG/Case NO.	DATE	NYSDEC CLP YEAR	SAMPLE NO.	MATRIX	VOA COMPLIANCY	BNA COMPLIANCY	PEST/PCB COMPLIANCY	METALS COMPLIANCY	CN-	OTHER	NON-COMPLIANCY
6546	11/90	2/88	MW-4S	Water	No	No	Yes	NA	NA	- NA	Calibration %RSD and/or %D
			MW-4D	Water	No	No	Yes	NA	NA	NA	Calibration %RSD and/or %D
			MW-6I	Water	No	No	Yes	NA	NA	NA	Calibration %RSD and/or %D
			FBMW6IP	Water	No	No	Yes	NA	NA	NA	Calibration %RSD and/or %D
			FBMW4SB	Water	No	No	Yes	NA	NA	NA	Calibration %RSD and/or %D
			FBMW4DP	Water	No	No	Yes	NA	NA	NA	Calibration %RSD and/or %D
			TB-58	Water	No	No	Yes	NA	NA	NA	Calibration %RSD and/or %D
			TB-30A	Water	No	No	Yes	NA	NA	NA	Calibration %RSD and/or %D
			TB-30B	Water	No	No	Yes	NA	NA	NA	Calibration %RSD and/or %D

A: SVODS009.WK3

TABLE 1NY
NYSDEC VOA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Date Analyzed: 11/22/90

Instrument ID: C

Method Blank ID: VBLKC6

Sample Identifier:	Hold Time Out Ar	Hold Time Out All	Standards: (<,>) Surrogate 1	Surrogate 2	Surrogate 3	Internal (IS) 1	Internal (IS) 2	Internal (IS) 3
TB30A								
TB58								
FBMW4DP								
FBMW61PRE								
MW6I								<
MW4D								
MW4S								

Date: 11/19/90 Time: 0724 11/22

COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF< .05	Continuing Cal. *%D>25 %D>35	µg/l Blanks Meth.	Blanks Trip	Qualifiers (+/-)	
Chloromethane #	all ok		all ok	all ok				
Bromomethane								
Vinyl Chloride *								
Chloroethane								
Methylene Chloride								
Acetone		37.8			12		J-CB	UJ-CB
Carbon Disulfide		36.3			27		J-CB	UJ-CB
1,1-Dichloroethene *								
1,1-Dichloroethane #								
1,2-Dichloroethene(total)								
Chloroform *								
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane *								
cis-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform #								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene								
1,1,2,2-Tetrachloroethane #								
Toluene *								
Chlorobenzene #								
Ethylbenzene *								
Styrene								
Xylenes(total)								

IS #1 — IS #2 — IS #3

TICs Reported In Blank(s): Reported as: unknown RT 11.60 (ug/kg, ug/L) 5.5

TABLE 1NY

NYSDEC VOA Qualifier Summary

Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Date Analyzed: 11/21/90 - 11/22/90

Instrument ID: C

Method Blank ID: VBLKCS

Sample Identifier:	Hold Time Out Ar	Hold Time Out All	Standards: (<,>) Surrogate 1	Surrogate 2	Surrogate 3	Internal (IS) 1	Internal (IS) 2	Internal (IS) 3
FBMW4SB								
FBMW6IP			>					<
TB30B								

Date: 11/19/90 Time: 1553 11/21

COMPOUND:	SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF< .05	Continuing Cal. *%D>25 %D>35	µg/l Blanks Meth.	Blanks Trip	Qualifiers (+/-)	
Chloromethane	#	all ok		all ok					
Bromomethane									
Vinyl Chloride	*								
Chloroethane									
Methylene Chloride			37.8			14		J-CB/UJ-CB	
Acetone			36.3		40.5	24		J-CB/UJ-CB	
Carbon Disulfide									IS#1
1,1-Dichloroethene	*								
1,1-Dichloroethane	#								
1,2-Dichloroethene(total)									
Chloroform	*								
1,2-Dichloroethane									
2-Butanone									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate					~~87.0~~			J-C/UJ-C	
Bromodichloromethane									
1,2-Dichloropropane	*								
cis-1,3-Dichloropropene									IS#2
Trichloroethene									
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene									
trans-1,3-Dichloropropene									
Bromoform	#								
4-Methyl-2-Pentanone									
2-Hexanone									
Tetrachloroethene									
1,1,2,2-Tetrachloroethane	#								IS#3
Toluene	*								
Chlorobenzene	#								
Ethylbenzene	*								
Styrene									
Xylenes(total)									

TICs Reported In Blank(s): Reported as: None Found RT (ug/kg,ug/L)

TABLE 1
Pesticide/PCB Qualifier Summary
Calibrations, Method Blank, Holding Time, Surrogate Recovery

Analysis Date: 11/29/90

Instrument ID: PE1B

Method Blank ID(s): PBLK11

Extract Date(s): 11/19/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Surr Rec. <,>	Last IND Standard Before Analysis: 1	2	3	4	5	6	7
MW4S				X						
MW4D				X						
MW6I				X						
FB MW6IP				X						
FB MW4SB				X						
FB MW4DP				X						

PRIMARY COLUMN: DB608

COMPOUND:	Initial %RSD>10	Continuing: %D > 15% / 20% * 1	2	3	4	5	6	7	Blank Conc.	Qualifiers (+/-)
Cont.Cal.Date, Month: 11 Day:		29	29	30					ug/l	
Time:		1243	2344	0258						
alpha-BHC		OK	OK	OK						
beta-BHC									OK	None needed
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin	OK									
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin	OK									
Endosufan II										
4,4'-DDD										
Endosufan sulfate										
4,4'-DDT	OK									
Methoxychlor										
Endrin Ketone										
alpha-Chlordane										
gamma-Chlordane										
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
Aroclor-1260										
Dibutylchlorendate(surr.)	OK	✓	✓	✓					✓	✓

* Validation Criteria:

	Quantitation Column		Confirmation Column
Compound Detected	%D < 15	and	%D < 20
Compound Undetected	%D < 20	or	%D < 20

TABLE 1
Pesticide/PCB Qualifier Summary
Calibrations, Method Blank, Holding Time, Surrogate Recovery

Analysis Date: 11/29/90

Instrument ID: PE1A

Method Blank ID(s): PBLK11

Extract Date(s): 11/19/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Surr Rec. <,>	Last IND Standard Before Analysis: 1	2	3	4	5	6	7
MW4S				X						
MW4D				X						
MW6I				X						
FBMW6IP				X						
FBMW4SB				X						
FBMW4DP				X						

SECONDARY COLUMN: DB-5	Calibrations: Initial %RSD>10	Continuing: %D > 15% / 20% * INDA 1	INDB 2	INDA 3	4	5	6	7	45ul Blank Conc.	Qualifiers (+/-)
Cont.Cal.Date, Month: 11 Day:		29	29	30						
COMPOUND: Time:		1243	2344	1258						
alpha-BHC		ok	ok	ok					ok	none needed
beta-BHC										
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin	ok									
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin	ok									
Endosufan II										
4,4'-DDD										
Endosufan sulfate										
4,4'-DDT	ok									
Methoxychlor										
Endrin Ketone										
alpha-Chlordane										
gamma-Chlordane										
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
Aroclor-1260										
Dibutylchlorendate(surr.)	ok									

* Validation Criteria:

	Quantitation Column		Confirmation Column
Compound Detected	%D < 15	and	%D < 20
Compound Undetected	%D < 20	or	%D < 20

TABLE 1 NY
NYSDEC BNA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

12/20/90 –

Analysis Date: 12/21/90

Instrument ID: F

Method Blank ID(s): SBLKF1

Extract Date(s): 11/19/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Standards: (<,>) Surrogate 1	2	3	4	5	6	Internal (IS) 1	2	3	4	5	6
M045														

A =Acidic compound
BN=Base/Neutral compound

Date: 12/19/90 Time: 1238 2/21

	COMPOUND:	SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF<.05	Continuing Cal. %D >25	Blanks	Qualifiers (+/-)	
A	Phenol	*	all ok		all ok	all ok	Meth ok		
BN	bis(2-Chloroethyl)ether								–
A	2-Chlorophenol								
BN	1,3-Dichlorobenzene								
BN	1,4-Dichlorobenzene	*							
BN	Benzyl Alcohol								I
BN	1,2-Dichlorobenzene								S
A	2-Methylphenol								#
BN	bis(2-Chloroisopropyl)ether								1
A	4-Methylphenol								
BN	N-Nitroso-Dipropylamine	#							
BN	Hexachloroethane								
BN	Nitrobenzene								
BN	Isophorone								–
A	2-Nitrophenol	*							
A	2,4-Dimethyl Phenol								
A	Benzoic Acid								
BN	bis(2-Chloroethoxy)methane								I
A	2,4-Dichlorophenol								S
BN	1,2,4-Trichlorobenzene								#
BN	Naphthalene								2
BN	4-Chloroaniline								
BN	Hexachlorobutadiene	*							
A	4-Chloro-3-methylphenol	*							
BN	2-Methylnaphthalene								
BN	Hexachlorocyclopentadiene	#		36.7					
A	2,4,6-Trichlorophenol	*						J-C/UJ-C	–
A	2,4,5-Trichlorophenol								
BN	2-Chloronaphthalene								I
BN	2-Nitroaniline								S
BN	Dimethyl Phthalate								#
BN	Acenaphthylene								3
BN	2,6-Dinitrotoluene								

TABLE 1 NY (BNA)

Analysis Date: 12/21/90

Instrument ID: F

Date: 12/19/90 Time: 1238 2/21

	COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF <.05	Continuing Cal. %D>25	µg/l Blanks meth		Qualifiers (+/-)	
BN	3-Nitroaniline	all ok	all ok	all ok					
BN	Acenaphthene *								IS#3
A	2,4-Dinitrophenol #								
A	4-Nitrophenol #								
BN	Dibenzofuran								
BN	2,4-Dinitrotoluene								
BN	Diethyl Phthalate								
BN	4-Chlorophenyl-phenylether								
BN	Fluorene								
BN	4-Nitroaniline								IS#4
A	4,6-Dinitro-2-Methylphenol								
BN	N-Nitrosodiphenylamine *								
BN	4-Bromophenyl-phenylether								
BN	Hexachlorobenzene								
A	Pentachlorophenol *								
BN	Phenanthrene								
BN	Anthracene								
BN	Di-n-Butyl Phthalate								
BN	Fluoranthene *					24		J-B/UJ-B	
BN	Pyrene								
BN	Butylbenzyl Phthalate				31.9			J-C/UJ-C	
BN	3,3'-Dichlorobenzidene								IS#5
BN	Benzo(a)anthracene								
BN	bis(2-ethylhexyl)phthalate								
BN	Chrysene								
BN	Di-n-Octyl Phthalate *								
BN	Benzo(b)fluoranthene								
BN	Benzo(k)fluoranthene								IS#6
BN	Benzo(a)pyrene *								
BN	Indeno(1,2,3-cd)pyrene								
BN	Dibenz(a,h)anthracene								
BN	Benzo(g,h,i)perylene								

TICs Reported In Blank(s): Reported as: None Found RT (ug/kg,ug/L)

TABLE 1 NY
NYSDEC BNA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Analysis Date: 12/2/90

Instrument ID: F

Method Blank ID(s): SBLKF1

Extract Date(s): 11/19/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Standards: (<,>) Surrogate 1	2	3	4	5	6	Internal (IS) 1	2	3	4	5	6
MW4D														
MW6I														
FBMW6IP														
FBMW4SB														
FBMW4DP														

A =Acidic compound
BN=Base/Neutral compound

Date: 12/19/90 Time: 0123 12/21

	COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF<.05	Continuing Cal. %D >25	Blanks	Qualifiers (+/-)	
A	Phenol *	all ok		all ok	all ok	MWH ok		
BN	bis(2-Chloroethyl)ether							
A	2-Chlorophenol							
BN	1,3-Dichlorobenzene							
BN	1,4-Dichlorobenzene *							
BN	Benzyl Alcohol							
BN	1,2-Dichlorobenzene							IS#1
A	2-Methylphenol							
BN	bis(2-Chloroisopropyl)ether							
A	4-Methylphenol							
BN	N-Nitroso-Dipropylamine #							
BN	Hexachloroethane							
BN	Nitrobenzene							
BN	Isophorone							
A	2-Nitrophenol *							
A	2,4-Dimethyl Phenol							
A	Benzoic Acid							
BN	bis(2-Chloroethoxy)methane							
A	2,4-Dichlorophenol							IS#2
BN	1,2,4-Trichlorobenzene							
BN	Naphthalene							
BN	4-Chloroaniline							
BN	Hexachlorobutadiene *							
A	4-Chloro-3-methylphenol *							
BN	2-Methylnaphthalene							
BN	Hexachlorocyclopentadiene #							
A	2,4,6-Trichlorophenol *		36.7				J-C/US-2	
A	2,4,5-Trichlorophenol							
BN	2-Chloronaphthalene							
BN	2-Nitroaniline							IS#3
BN	Dimethyl Phthalate							
BN	Acenaphthylene							
BN	2,6-Dinitrotoluene							

TABLE 1 NY (BNA)

Analysis Date: 12/21/90

Instrument ID: F

Date: 12/19/90 Time: 0123 12/21

	COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF <.05	Continuing Cal. %D>25	µg/l Blanks		Qualifiers (+/-)	
BN	3-Nitroaniline	allok	allok	allok					
BN	Acenaphthene *								IS#3
A	2,4-Dinitrophenol #								
A	4-Nitrophenol #								
BN	Dibenzofuran								
BN	2,4-Dinitrotoluene								
BN	Diethyl Phthalate								
BN	4-Chlorophenyl-phenylether								
BN	Fluorene								
BN	4-Nitroaniline								IS#4
A	4,6-Dinitro-2-Methylphenol								
BN	N-Nitrosodiphenylamine *								
BN	4-Bromophenyl-phenylether								
BN	Hexachlorobenzene								
A	Pentachlorophenol *								
BN	Phenanthrene								
BN	Anthracene								
BN	Di-n-Butyl Phthalate								
BN	Fluoranthene *					24		J-B/UJ-B	
BN	Pyrene								
BN	Butylbenzyl Phthalate				40.6			J-C/UJ-C	
BN	3,3'-Dichlorobenzidene								IS#5
BN	Benzo(a)anthracene								
BN	bis(2-ethylhexyl)phthalate								
BN	Chrysene								
BN	Di-n-Octyl Phthalate *								
BN	Benzo(b)fluoranthene								
BN	Benzo(k)fluoranthene								IS#6
BN	Benzo(a)pyrene *								
BN	Indeno(1,2,3-cd)pyrene								
BN	Dibenz(a,h)anthracene								
BN	Benzo(g,h,i)perylene								

TICs Reported In Blank(s): Reported as: None Found RT (ug/kg,ug/L)

TABLE 2 - SURROGATE RECOVERIES

VOA FRACTION

A. Sample Numbers	FBMW6IP																	
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
B. Surrogate(s) exceeding QC limits (show %R)	114																	
C. Compound less than 10%? (Y/N)	N																	
D. Reanalysis required? (Y/N)	—																	
o If blank, were associated samples reanalyzed? (Y/N)	—																	
E. Sample Number for reanalysis.	—																	
F. Reanalysis within limits? (show % R)	—																	
G. Qualifier, if required.	J5/UJ-5																	

QC Limits (%R)	SOIL	WATER
VOA S1 = Toluene-d8	81-117	88-110
VOA S2 = Bromofluorobenzene	74-121	86-115
VOA S3 = 1,2-Dichloroethane-d4	70-121	76-114

Note: The circled sample number is the analysis/reanalysis recommended for use.

PESTICIDE FRACTION — all within acceptable limits

A. Sample Numbers						
	S1	S1	S1	S1	S1	S1
B. QC Limits exceded (show %R)						
C. Qualifier, if applied.						

QC Limits (%R)	SOIL	WATER
Pesticide S1 = Dibutylchlorendate	20-150	24-154

A:\SHELL\SURROG-1.WK3

TABLE 2 - SURROGATE RECOVERIES - all within acceptable limits

BASE/NEUTRAL FRACTION

A. Sample Numbers																		
B. Surrogate(s) exceeding QC limits (show %R)	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
C. Compound less than 10%? (Y/N)																		
D. Reanalysis required? (Y/N)																		
o If blank, were associated samples reanalyzed? (Y/N)																		
E. Sample Number for reanalysis.																		
F. Reanalysis within limits? (show % R)																		
G. Re-extraction required? (Y/N)																		
o If blank, were associated samples re-extracted? (Y/N)																		
H. Sample number for re-extract.																		
I. Re-extraction within limits? (show % R)																		
J. Qualifier, if required.																		

ACID FRACTION

A. Sample Numbers																		
B. Surrogate(s) exceeding QC limits (show %R)	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6
C. Compound less than 10%? (Y/N)																		
D. Reanalysis required? (Y/N)																		
o If blank, were associated samples reanalyzed? (Y/N)																		
E. Sample Number for reanalysis.																		
F. Reanalysis within limits? (show % R)																		
G. Re-extraction required? (Y/N)																		
o If blank, were associated samples re-extracted? (Y/N)																		
H. Sample number for re-extract.																		
I. Re-extraction within limits? (show % R)																		
J. Qualifier, if required.																		

QC Limits (%R)	SOIL	WATER		SOIL	WATER
B/N S1 = Nitrobenzene-d5	23-120	35-114	Acid S4 = Phenol-d6	24-113	10-94
B/N S2 = 2-Fluorobiphenyl	30-115	43-116	Acid S5 = 2-Fluorophenol	25-121	21-100
B/N S3 = Terphenyl-D14	18-137	33-141	Acid S6 = 2,4,6-Tribromophenol	19-122	10-123

Note: The circled sample number is the analysis/reanalysis recommended for use.

CCJM
ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
DENVER
GRAND RAPIDS

C.C.J.M. FILE COPY

MEMORANDUM

TO: Remo Gigante, Nytest Environmental

FROM: Roger Simon, Jeralyn Guthrie, Richard Cheatham, CCJM/Denver

DATE: April 24, 1991

DOCUMENT NO: SVMSI002.MEM

SUBJECT: Inorganic and Organic Analyses: Requests for Additional Information/Data for SDG308/ Cases 6496, 6527, 6533 and Cases 6546 and 6559

Preliminary data review has been performed on the data packages generated for Sayville identified as SDG308/Case 6496, 6527, 6533 and Cases 6546 and 6559. The following items require clarification and potential resubmissions for completion of the review process:

Inorganics:

1. The ICP raw data for sample FBMW2DB was not found in the data package. This sample cannot be fully validated until this information is provided.

2. Were mercury and cyanide preparation blanks prepared with this group of samples? If so, please identify them in the raw data.

3. Are raw data cyanide distillation logs and ICP, GFAA and mercury digestion logs available? Form 13 summaries cannot be verified without this information.

4. Which, if any, of the cyanide initial instrument calibration standards was distilled?

MEMORANDUM

TO: Remo Gigante, Nytest Environmental

FROM: Roger Simon, Jeralyn Guthrie, Richard Cheatham, CCJM/Denver

DATE: April 24, 1991

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3. Are raw data cyanide distillation logs and ICP, GFAA and mercury digestion logs available? Form 13 summaries cannot be verified without this information.

4. Which, if any, of the cyanide initial instrument calibration standards was distilled?

5. Please verify that mercury matrix spike and duplicate results reported on Forms 5 and 6 respectively are for sample MW-01S not MW-02S.

6. Matrix spike and duplicate results were found in the raw data for sample MW-03S, but were not reported on any summary forms. Was this analysis applicable to this data package?

Organics:

1. The Form 6A for the initial calibration performed 11/19/90 on Instrument C shows response factors reported for the 20 ug/L styrene and m-xylene standards and the 100 ug/L styrene standard, however, no values for the areas are shown in the raw data (please refer to raw data pages 175 and 183 in Case 6546 and pages 99 and 107 in Case 6559). The Form 7A for the continuing calibration on 1/22/91 has a similar problem for styrene (see raw data page 201). Please explain the source of the response factors reported on the Forms 6A and 7A and provide any necessary raw data.

2. Carbon tetrachloride for the continuing calibration performed on 11/21/90 is reported on Form 7A as having a response factor of 1.070 and a % D of 8.9%. However, the calculations performed by the reviewer using the raw data (page 193) result in the RRF for the 50 standard being 0.146 and a % D of 87%. Please explain the source of the reported values and please provide any corrections or raw data necessary to verify the values.

If you have any questions about the above requests, please call us at (303) 987-2928.

cc: Robert Burgner, R.E. Pustorino, P.C.
PF-Sayville

JG LM

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

RESUBMISSION

April 29, 1991

C.C.J.M.
MAY - 1 1991
RECEIVED

C.C Johnson & Malhotra, P.C
215 Union Blvd., Suite 215
Lakewood, CO 80228

Attention: Roger Simon, Jeralyn Guthrie, Richard Cheatham, CCJM/DENVER
Reference: Additional information requested for NEI Log In No's 6546, 6559, 6533 and 6496, 6527 - Organics

To Whom it May Concern:

This letter is in response to your memorandums dated 4/24/91, and 4/25/91 and 4/26/91 (Document No's: SVMSI002.MEM, SVMSI004.MEM and SVMSI006.MEM).

All calibration data for the Volatile analysis has been re-reviewed and verified as requested. Please note the following:

ATTACHMENT I Log In 6546

Requantitation of Styrene and Xylene response factors for the 20ng standard on 11/19/90 have confirmed the original values reported on FORM VI. Enclosed are the hardcopy of peaks, the corresponding area counts and manual calculations which document our original values reported. Styrene was also requantitated for the 100ng standard on 11/19/90 and again we obtained consistent values with those originally reported. Styrene was also requantitated for the 50ng continuing calibration on 11/22/90 and again we obtained consistent values with those originally reported. During the TCA procedure on the Finnigan GC/MS system, these compound area counts were not picked up. Manual integrations were inadvertently not submitted with the data package however they were originally performed and quantitated as required. For the 50ng continuing calibration on 11/21/90 Carbon Tetrachloride was listed on the quantitation report at the same retention time as 1,1,1 Trichloroethane. Manual integration was performed and the response factor was originally reported appropriately. Enclosed is the documentation of the corresponding area counts and calculation.

ATTACHMENT II Log In 6559

All calibration data has been verified and results remain as previously reported. Enclosed is the back-up data for the initial calibration on 11/19/90 as described in Attachment I.

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT
nytest environmental inc.

RESUBMISSION

ATTACHMENT III Log In 6533

All calibration data has been verified and results remain as previously reported. Enclosed is the back-up data for the initial calibration on 11/19/90 and for the continuing calibration on 11/22/90 as described in Attachment I.

ATTACHMENT IV Log In 6496 & 6527

FORM VI for the initial calibration on 11/19/91 was not submitted correctly. All samples, however, have utilized the correct response factor for quantitations.

FORM VII's have therefore not been reported correctly due to the inappropriate average response factors. Enclosed are the resubmittals requested. Ethylbenzene %D was found to exceed the required 25% limit for the continuing calibration on 11/21/91 (C1557). This continuing calibration is only applicable to the reanalysis of sample MW5S. We feel that this does not effect data usability (since this target analyte was not detected) and the data validity has not been compromised.

Carbon Tetrachloride has been verified for the continuing calibration on 11/21/90 (Data File C1557) and results remain as previously reported.

FORM VIII for samples FBMW1DB, MW1S, MSB and the corresponding method blank (VBLKC9) was inadvertently not submitted. Enclosed is the corrected page 307.

We hope that this clarifies any problems you may have had with the above referenced data packages. If we may be of any further assistance, please do not hesitate to contact us.

Very truly yours,

Remo Gigante
Exec. Vice President

box 1518 □ 60 seaview blvd., port washington, ny 11050 □ (516) 625-5500

nytest environmental inc.

Data Narrative

Log In: 6546

Volatile Fraction

Surrogates:

Surrogate recoveries for D-8 Toluene fell above QC limits for sample FBMW6IP (6546004) due to poor area counts of D5 Chlorobenzene. Reanalysis was performed as required and all surrogate recoveries fell within QC limits.

Matrix Spike/Matrix Spike Duplicate/Matrix Spike Blank:

The MS/MSD submitted was from another case. All RPD's fell within QC limits and 8 out of 10 spiking recoveries fell outside QC limits. In the MSB submitted, 4 out of 5 recoveries fell outside QC limits.

Method Blanks:

Methylene Chloride and Acetone were detected in VBLKC5, VBLKC6, and VBLKC8 at concentrations less than five times the method detection limit. A TIC was also detected in VBLKC6. This TIC,however, is not one of the common laboratory solvents utilized, and we fell that it does not effect data useability.

Calibration:

In the initial 5-point calibration on 11/19/90, Methylene Chloride and Acetone %RSD was greater than 35% (i.e. 37.8 and 36.3 respectively). In the continuing calibration on 11/21/90 (C1566); the %D for Acetone fell above 35% (40.5). All CCC and SPCC compounds met calibration requirements.

Internal Standards:

Area counts for D5 Chlorobenzene fell outside QC limits for sample FBMW6IP (6546004). Reanalysis was performed as required and area counts for 1,4 Diflourobenzene fell outside limits. No further action was required.

Samples:

Sample FBMW6IP (6546004) was reanalyzed due to surrogate recoveries and internal standards area counts. Both sets of data are being submitted as part of this data package. Sample FBMW4SB (6546005) showed high levels of Methylene Chloride, however; this compound was also detected in the corresponding method blank. Acetone was detected in FBMW4SB (6546005), however the spectra at scan 205 (0 see the quantitation report) was missing secondary ion 59. When the spectra was observed at scan 207 positive identification of acetone was made since this peak showed up as greater than 10% on the TIC listing. No other problems were encountered.

Semi Volatile Fraction

Surrogates:

All surrogate recoveries fell within QC limits.

Matrix Spike/Matrix Spike Duplicate/Matrix Spike Blank:

The MS/MSD submitted was from another case. All spiking recoveries and RPD's fell within QC limits. In the MSB 9 out of 11 spiking recoveries fell outside QC range.

Method Blank:

Di-N-Butylphthalate was detected in SBLKF1 at concentrations lees than five times the method detection limit.

Calibration:

All CCC and SPCC compounds met calibration requirements. For the 5-point calibration applicable to the sample received in this case, the following compounds %RSD was greater than 35%: Hexachlorocyclopentadiene (12/19/90), 36.7.

Below is a list of continuing calibrations and corresponding compounds with a %D greater than 35%:

File	Date	Compound	%D
F5353	12/21/90	Pyrene	40.6
F5371	12/21/90	Benzoic acid	50.0
		Terhpenyl D-14	58.3
		Butylbenzylphthalate	43.2
		Pyrene	61.8

Internal Standards:

All area counts and retention times fell within QC limits.

Samples:

Samples were analyzed as per required protocols. No problems were encountered.

Pesticide/PCB Fraction

Surrogates:

All surrogate recoveries were within QC limits.

Matrix Spike/Matrix Spike Duplicate/Matrix Spike Blank:

The MS/MSD and MSB included in this package were taken from another CLP case which was received within 7 days of this case. One out of twelve compound recoveries was out of QC limits. All RPD's were within QC limits.

All spiking compound recoveries were within QC lifts in the MSB.

Blanks:

No target compounds were found.

Samples:

No target compounds were found.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW4DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1585

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	16	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

U15-C
U15-C13

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBMW4DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1585

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW4SB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546005

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1576

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	110	B
67-64-1	Acetone	11	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloroproene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

UJ-CB
UJ-CB

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBMW4S8

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546005

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1576

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW61PRE

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546004

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1586

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	54 A	BJ	UJ-CB
67-64-1	Acetone	32	B	UJ-CB
75-15-0	Carbon Disulfide	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
540-59-0	1,2-Dichloroethene (total)	5	U	
67-66-3	Chloroform	5	U	
107-06-2	1,2-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5	U	UJ-I
56-23-5	Carbon Tetrachloride	5	U	
108-05-4	Vinyl Acetate	10	U	
75-27-4	Bromodichloromethane	5	U	
78-87-5	1,2-Dichloropropane	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
79-01-6	Trichloroethene	5	U	
124-48-1	Dibromochloromethane	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
71-43-2	Benzene	5	U	
10061-02-6	Trans-1,3-Dichloroproene	5	U	
75-25-2	Bromoform	5	U	UJ-I
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	
108-88-3	Toluene	5	U	
108-90-7	Chlorobenzene	5	U	
100-41-4	Ethylbenzene	5	U	
100-42-5	Styrene	5	U	
1330-20-7	Xylenes (total)	5	U	

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBMW61PRE

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546004

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1586

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW4D

Lab Name: NYTEST ENV INC Contract: S017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1588

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	47	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	2	J
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	2	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW4D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1588

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.34	7.6	J
2.	FREON 1,1,3	12.70	9.1	J
3.	FREON ISOMER	13.70	13	J

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW6I

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546003

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1587

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	26	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Tr chloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	3	J
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW6I

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546003

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1587

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.50	5.8	J

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW4S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1589

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	BJ
67-64-1	Acetone	34	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	1	J
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW4S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1589

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.50	8.8	J

(15-BN)

11/26/91

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB30A

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546008

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1583

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	B
67-64-1	Acetone	26	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB30A

Lab Name: NYTEST ENV INC Contract: 3017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546008

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1583

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

C1120191

000037

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB30B

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546009

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1572

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	B
67-64-1	Acetone	18	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB30B

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546009

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1572

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

C1124191

000039

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB58

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1584

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	28	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloro thane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB58

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1584

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	22.14	5.2	J

(LIJ-N)

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FBMW4DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5359

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FBMW4DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5359

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	8	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	9	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FBMW4DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5359

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FBMW4SB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5358

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FBMW4SB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5358

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	8	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

000058

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FBMW4SB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5358

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FBMW61P

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5357

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FBMW61P

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5357

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	8	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FBMW61P

Lab Name: NYTEST ENV INC Contract. 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5357

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW4D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5355

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW4D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5355

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	22	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	12	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

11/24/91

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW4D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5355

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	14.44	14	J
2.	UNKNOWN	14.90	13	J
3.	UNKNOWN	23.74	8.8	J

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW4S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5350

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW4S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5350

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	17	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	12	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW4S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5350

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	14.90	12	J

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW61

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5356

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

600069

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW61

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5356

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	27	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	15	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW61

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5356

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/21/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	14.90	14	J
2.	UNKNOWN PHENOL	23.75	12	J

J N
2

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW4DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW4SB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW6IP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

11/20/91

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW4D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW4S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6546 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6546001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/15/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
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11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

41241911

CCJM
ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
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GRAND RAPIDS

RECEIVED
MAY 24 19
R. E. PUSTORINO, P.C.

MEMORANDUM

TO: Robert Burgner, R.E. Pustorino, P.C./Commack

FROM: Jeralyn Guthrie, Richard Cheatham, CCJM/Denver

DATE: May 23, 1991

DOCUMENT NO: SVTRS014.MEM

SUBJECT: Transmittal of Sayville LF Data Validation Reports

RE: Town of Islip, Sayville (Lincoln Avenue Landfill, Phase II Investigation, REP No. 86082-F

Enclosed is the data validation report(s) and the attached copies of data results forms (Form I's) which have data reviewer qualifiers added. Each data review report is identified as follows:

Case No.	SDG No.	Analysis
6559	NA	VOA, BNA, Pesticide/PCB

If you have any questions concerning this submittal, please call us at (303) 987-2928.

cc: Sayville - PF

C.C. JOHNSON & MALHOTRA, P.C.
215 UNION BOULEVARD, SUITE 215 • LAKEWOOD, COLORADO 80228 • (303) 987-2928

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DOCUMENT NO.: SVODS010.RVW

NYSDEC ORGANICS DATA REVIEW SUMMARY - FORM NY

Case No. 6559 Project No. 9017423

Site Sayville

Contract Laboratory Nytest Environmental, Inc.

Sample Delivery Group (SDG) NA Sampling Date (Month/Year) 11/90

Sample Matrix 5 low level waters (*2 VOA only)

Type of Analyses/Special Request Volatile, Semivolatile, Pesticide/PCB

Sample No.			
MW-6S	TB-23*		
MW-6D			
FBMW6DB			
TB-25*			

Data Reviewer Linda L. Morrison LLM Date 5/23/91

QA Review by Jeralyn Guthrie JG Date 5/23/91

CCJM Approval by Richard Cheatham RC Date 5/23/91

Telephone logs/correspondence attached? Yes X No ____

Contractual violations found? Yes ____ No X

Laboratory case narrative attached? Yes X No ____

Following items require attention: This review is considered final based on resubmissions received.

Note:
-- The EPA Functional Guidelines for Evaluating Organics Analyses - (Data Review SOP), NYSDEC protocols, and project specific planning documents have been used by the data reviewer as a basis for reviewing the data and applying qualifiers, except as specifically noted in review comments.

-- Please see data qualifier and sub-qualifier definitions on the last page. This scheme of qualifiers is intended to help indicate the reasons or problems which cause sample data values to be qualified.

Telephone logs/correspondence attached? Yes X No ____

Contractual violations found? Yes ____ No X

Laboratory case narrative attached? Yes X No ____

Following items require attention: This review is considered final based on resubmissions received.

Note:

-- The EPA Functional Guidelines for Evaluating Organics Analyses - (Data Review SOP), NYSDEC protocols, and project specific planning documents have been used by the data reviewer as a basis for reviewing the data and applying qualifiers, except as specifically noted in review comments.

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FORM NY

DOCUMENT NO.: SVODS010.RVW

NYSDEC ORGANICS DATA REVIEW SUMMARY - FORM NY

Case No. 6559 Project No. 9017423

Site Sayville

Contract Laboratory Nytest Environmental, Inc.

Sample Delivery Group (SDG) NA Sampling Date (Month/Year) 11/90

Sample Matrix 5 low level waters (*2 VOA only)

Type of Analyses/Special Request Volatile, Semivolatile, Pesticide/PCB

Sample No.			
MW-6S	TB-23*		
MW-6D			
FBMW6DB			
TB-25*			

Data Reviewer Linda L. Morrison Date

QA Review by Jeralyn Guthrie Date

CCJM Approval by Richard Cheatham Date

Telephone logs/correspondence attached? Yes X No

Contractual violations found? Yes No X

Laboratory case narrative attached? Yes X No

Following items require attention: This review is considered final based on resubmissions received.

Note:

— The EPA Functional Guidelines for Evaluating Organics Analyses - (Data Review SOP), NYSDEC protocols, and project specific planning documents have been used by the data reviewer as a basis for reviewing the data and applying qualifiers, except as specifically noted in review comments.

— Please see data qualifier and sub-qualifier definitions on the last page. This scheme of qualifiers is intended to help indicate the reasons or problems which cause sample data values to be qualified.

(Revised 1/91)

DATA COMPLETENESS CHECKLIST

X Included: no problems
* Included: problems noted in review
O Not Included and/or Not Available
NR Not Required
RS Provided as Resubmission

X Case Narrative

Quality Control Summary Package

- X Surrogate Recovery Summary (Form II)
- X MS/MSD Summary (Form III)
- X Reagent Blank Summary (Form IV)
- X GC/MS Tuning and Mass Calibration (Form V)
- X Internal Standard Area Summary (Form VIII)

Sample Data Package

- X Holding Times (Custody and/or shipping records)
- X Organic Analysis Data Sheets (Form I) all pages for each sample, arranged in increasing sample number order
- X Reconstructed Ion Chromatogram(s) (RIC)
- X GC/EC Chromatograms
- X Quantitation Reports
- X Mass Spectral Data
- X EPA/NIH Mass Spectral Library Search for TIC's

Standards Data Package

- NR Current List of Laboratory/Instrumental Detection Limits
- */RS Initial Calibration Data (Form VI) for each instrument
- */RS Continuing Calibration Data (Form VII) for each instrument
- X Pesticide Evaluation Standards Summary (Form VIII)
- X Pesticide/PCB Standards Summary (Form IX)
- X Pesticide/PCB Identification (Form X) if any positive results
- X VOA and BNA Standards Reconstructed Ion Chromatograms (RIC)
- X VOA and BNA Standards Quantitation Reports
- X Pesticide/PCB Standard Chromatograms and Data System Printouts

Raw QC Data Package

- X DFTPP and BFB mass spectra and mass listings
- X Reagent Blank Data
  - X Organic Analysis Data Sheets (Form I)
  - X Reconstructed Ion Chromatograms (RIC)
  - X Quantitation Reports
  - X Mass Spectral Data
  - X EPA/NIH Library Search of TIC's
  - X GC/EC Chromatograms and Data System Printouts
- X Matrix Spike and Matrix Spike Duplicate Data
  - X Organic Analysis Data Sheets (Form I)
  - X Reconstructed Ion Chromatograms (RIC)
  - X Quantitation Reports
  - X GC/EC Chromatograms and Data System Printouts

I. Holding Times

All samples were extracted and analyzed within holding times specified in the NYSDEC CLP Analytical Services Protocol (ASP), 1989, or in project plans, as applicable. See the following table for a summarization of sample holding times.

Yes __X__ No _____

Comments: No comments.

Holding Time Summary

Sample Number	Sampling Date	VTSR	VOA Analysis	BNA Extract	BNA Analysis	Pesticide/PCB Extract	Pesticide/PCB Analysis
MW-6S	11/15/90	11/16	1/23/91	1/21	12/14	11/21	12/11
MW-6D	11/15	11/16	1/23	1/21	12/15	11/21	12/11
FBMW6DB	11/15	11/16	1/23	1/21	12/14	11/21	12/12
TB-25	11/15	11/16	1/23	NA	NA	NA	NA
TB-23	11/15	11/16	1/23	NA	NA	NA	NA

II. GC/MS Tuning and Mass Calibration

A. The DFTPP performance results were all included and found to be within specified criteria.

Yes __X__ No _____

Comments: No comments.

B. The BFB performance results were all included and found to be within specified criteria.

Yes __X__ No _____

Comments: No comments.

III. A. Instrument Calibration (VOA and SV)

1. The instrument response factor (RRF) data were reviewed for the initial and continuing calibrations. All appropriate information is present and all response factors met the required criteria for volatile and semivolatile analyses.

Yes __X__ No ____

Comments:

a. For the volatile analysis of styrene and m-xylene in the original package, response factors (RRF) were reported on Forms 6 and 7 but raw data was not present. The laboratory was contacted and stated the values were manually searched and sent the raw data needed (see attached correspondence).

b. In the original package the semivolatile analysis had the same values reported on Form 6B (the initial calibration summary) for the RRF 20 and the RRF 50. The raw data indicated the values reported for the RRF 20 were correct and values reported for the RRF 50 were incorrect. The laboratory was contacted and resubmitted the Form 6B and associated Form 7B's with all necessary corrections.

2. The percent relative standard deviation (%RSD) data for the initial calibrations and the percent difference (%D) data for the continuing calibrations were reviewed and all required information was provided.

Yes __X__ No ____

Comments: No comments.

3. All %RSD and %D values met the required criteria (ASP 1989, Exhibit D) for volatile and semivolatile analyses (VOA and SV initial calibration = 30% RSD for CCC's and 35% RSD for all other compounds; VOA continuing calibration = 25% D for CCC's and 35% D for all other compounds; SV continuing calibration = 25% D for all compounds).

Yes ____ No __X__

Comments: The contract required %RSD and %D values have been used as specifications for data validation. The compounds for which criteria are not met and the list of qualifiers added to sample results on Form I's are summarized on the attached Table 1.

B. Instrument Calibration (Pesticide/PCB)

1. All linearity check criteria were met with a %RSD value less than 10% for all quantitation column calibrations.

   Yes __X__ No _____

   Comments: No comments.

2. The breakdown of 4,4'-DDT and endrin was less than 20% for all evaluation B analyses.

   Yes __X__ No _____

   Comments: No comments.

3. The pesticide standard compounds showed a %D of the calibration factor of no more than 15% for quantitation and 20% for confirmation runs for all compounds identified.

   Yes __X__ No _____

   Comments: No comments.

4. The retention time of 4,4'-DDT was greater than 12 minutes for packed columns (except OV-101).

   Yes __X__ No _____

   Comments: No comments.

5. The retention time for the surrogate (DBC) was within criteria for every sample.

   Yes __X__ No _____

   Comments: No comments.

IV. Blanks

A. Method Blank - The blank analyses were reviewed. The frequency of method blank extractions and analyses and the contaminants found in blank samples were all within specified limits.

Yes __X__ No _____

Comments: Contaminant quantities found in contract compliant laboratory preparation blanks and a listing of qualifiers added to sample results on Form 1's are summarized on the attached Table 1.

B. Trip Blank - The associated trip/travel blank(s) contained contaminants which affected samples in the package.

Yes __X__ No _____ None Identified _____

Comments: The following table lists the contaminated trip blanks found in the data package and the contaminant quantities reported. The associated samples found in the package, which have been qualified due to contamination potentially having occurred during handling and/or storage, are also shown.

Blank ID	Analyte	Amount (ug/L)	Associated Samples
TB23	methylene chloride	8 B	*
	acetone	19 B	*
TB25	methylene chloride	10 B	*
	acetone	20 B	*

* Both trip blanks were sent on the same day as all the samples contained in this data package and therefore affect all samples. The data reviewer has noted that the contaminants found in these trip blanks are consistent with the laboratory contamination reported in the method blanks.

C. Other Blanks - The following are other blanks found in the data package and the compound quantities reported. (No sample data has been qualified by the reviewer based on the results of these blanks.)

Blank ID/Type	Analyte	Amount (ug/L)
FBMW6DB/Field Blank	methylene chloride	3 BJ
	acetone	55 B
	di-n-butylphthalate	86 B
	bis(2-ethylhexyl) phthalate	110 B

V. Surrogate Recovery

The surrogate recoveries were reviewed. The recoveries were all within specified QC criteria.

Yes _____ No __X__

Comments: Samples found to have surrogate recoveries outside specified criteria are summarized on Tables 1 and 2. Data qualifiers, when necessary, are indicated on Table 2.

VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The matrix spike and matrix spike duplicate recovery data were reviewed. The spikes were performed and met all recommended QC specifications.

Yes __X__ No _____

Comments: Sample number MW6D was used for MS/MSD for all three fractions. The recoveries were high for almost all MS/MSD's in the volatile analysis. Spike compounds outside limits for the volatile analysis are qualified J-S for the positive results in sample MW6D only. The semivolatile analysis has all spike recoveries within specified limits. The pesticide analysis has one compound for the MS with a slightly high recovery. A blank spike was also performed for all three fractions. Qualifiers are not applied to sample results based on the blank spike results.

VII. Field Duplicate Results

This package contained a field duplicate sample.

Yes _____ No _____ Not identified __X__

Comments: No comments.

VIII. Internal Standard (IS) Performance

The internal standard results were reviewed for consistency in response (area counts) and retention time. All sample internal standards showed adequate performance and consistency.

Yes __X__ No _____

Comments: No comments.

IX. TCL Compound Identification

Positive results were evaluated to determine that all criteria were met in identifying TCL compounds from the sample data. In all cases, the reported compounds matched the retention time and, when applicable, the mass spectral profile.

Yes __X__ No _____

Comments: No comments.

X. Compound Quantitation and Reported Detection Limit

Quantitative results and reported detection limits were reviewed and were determined to be accurate except as noted in this report that data has been qualified.

Yes __X__ No _____

Comments: No comments.

XI. Tentatively Identified Compounds (TIC's)

Data for reported tentatively identified compounds were reviewed and found to meet quantitative and qualitative criteria.

Yes __X__ No _____

Comments: All TIC's not attributable to blank contamination have been qualified by the reviewer as tentatively identified and of estimated concentration (J-N). Any TIC's reported in samples that are also identified in associated blanks have been qualified as UJ-BN. Any TIC's identified as aldols have been qualified as UJ-AN.

XII. System Performance

The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance throughout this case.

Yes __X__ No _____

Comments: No comments.

XIII. Overall Assessment of Data in the Case

Data have met analytical quality criteria and are within applicable guideline limits except where qualifiers are noted within this report as being required.

Yes __X__ No _____

Comments: No comments.

XIV. Contract Requirements

All contract requirements were met by the laboratory in the analyses of the samples in the package.

Yes __X__ No _____

Comments: % D's for continuing calibration did not meet all requirements and holding blanks were not analyzed with this set of samples.

XV. General Comments

The attached Table is the New York State Department of Environmental Conservation Compliancy Summary.

EXPLANATION OF ORGANICS DATA QUALIFIERS

For the purposes of this data review document the following code letters and associated definitions are provided:

U - The material was analyzed for, but was not detected. The associated numerical value is the estimated quantitation limit.

R - Quality Control indicates that data are not usable (i.e. compound may or may not be present). Resampling and re-analysis are necessary to determine the presence or absence of the analyte in the sample.

UJ-B - The compound is considered to be <u>undetected</u> and the value reported is an estimated detection limit because the compound was identified in the laboratory blank as well as in the sample. The value of this reported detection limit (DL) is determined by the amount of the compound found in the sample:

1) the sample value was less than the CRDL: the DL is reported as equal to the CRDL.
2) the sample value was greater than CRDL but less than 5X the amount of the compound found in the laboratory blank (less than 10X for methylene chloride, acetone, 2-butanone, toluene and phthalates): the DL is reported as equal to the reported sample value.
3) the sample value was greater than 5X the laboratory blank value (10X for compounds noted above): see JB qualifier.

J-B - The reported value is an estimated amount. The compound was detected in the blank and the quantity reported in the sample is greater than 5X the amount found in the blank (greater than 10X for above compounds).

J - The associated numerical value is an estimated quantity because the amount detected is below the required detection limits or because quality control criteria were not met. (See qualifiers listed below)

J-C - The value reported was estimated due to instrument calibration problems.

J-H - The value reported was estimated due to holding time violation.

J-S - The value reported was estimated due to surrogate or matrix spike recovery problems.

J-I - The value reported was estimated due to internal standard recovery deficiencies.

J-E - The value reported was estimated due to interference problems.

J-M - Benzo(b) and Benzo(k) Fluoranthene not separated due to matrix.

J-N - Tentative identification of a compound. Resampling and re-analysis would be necessary for verification of identity.

J-A - TIC identified as an aldol condensate.

Project: Sayville

NYSDEC Compliancy Summary Table

SDG/Case NO.	DATE	NYSDEC [illegible] YEAR	SAMPLE	MATRIX	VOA COMPLIANCY	BNA COMPLIANCY	PEST/PCB COMPLIANCY	METALS COMPLIANCY	CN-	OTHER	NON-COMPLIANCY
6559	11/90	2/88	FBMW6DB	Water	No	No	Yes	NA	NA	NA	*
			MW-6S	Water	No	No	Yes	NA	NA	NA	*
			MW-6D	Water	No	No	Yes	NA	NA	NA	*
			TB-58	Water	No	No	Yes	NA	NA	NA	*
			TB-30A	Water	No	No	Yes	NA	NA	NA	*

* Calibration % RSD's and % D's were not met, and holding blanks were not analyzed.

A: SVODS010.WK3

Case Narrative

Log In: 6559

General Comments:

Although a Matrix Spike Blank is listed on the Chain of Custodies, this was not actually sampled by the client. The MSB was colloected by the Laboratory, then spiked and analyzed (SOW NYSDEC CLP 1990). All MSB data is contained in this data package.

Volatile Fraction

Surrogates:

In sample MW6S (6559001), 1,2-Dichloroethane-d4 surrogate recovery fell slightly above QC limits. All other surrogate recoveries fell with QC limits.

Matrix Spike/Matrix Spike Duplicate/Matrix Spike Blank:

Sample MW6D (6559002) was analyzed in the MS/MSD series. 8 out of 10 Spiking recoveries fell outside QC limits. All RPD values fell within QC limits. In the MSB, 4 of 5 spiking recoveries fell outside QC limits.

Blank:

Methylene Chloride and Acetone were found in the method blank at concentrations less than five times the detection limit.

Calibration:

All CCC and SPCC compounds passed QC requirements. %RSD values for compounds Methylene Chloride and Acetone exceeds 35%.

Semi Volatile Fraction

Surrogates:

All surrogate recoveries met QC requirements.

Matrix Spike/Matrix Spike Duplicate/Matrix Spike Blank:

Sample MW6D (6559003, 6559004) was analyzed as part of the MS/MSD series. All spiking recoveries fell outside QC range.

Method Blank:

Di-N-Butylphthalate and Bis(2-ethylhexyl) Phthalate were detected in SBLKB8 at concentrations less than five times the method detection limits.

Calibration:

The 5-point calibration analyzed on 12/11/90-12/12/90 contained the following compounds %RSD greater than 35%:

Compound	%RSD
2,4 Dinitrophenol	39.3

2,4 Dinitrophenol	39.3
Butylbenzlphthalate	48.7
3,3' Dichlorobenzidine	57.6
Bis(2ethylhexyl)Phthalate	45.0

The continuing calibration had the following compounds %D greater than 35%:

File	Date	Compound	%D
B2429	12/14/90	Hexachlorocyclopentadiene	57.6
B2503	12/15/90	Hexachlorocyclopentadiene	58.2
		3,3' Dicholorbenzidine	42.6
B2524	12/18/90	Hexachlorocyclopentadiene	70.1
		3,3' Dichlorobenzidine	52.5

Internal Standards:

All area counts and retention times fell within QC limits.

Samples:

Concentrations of Di-n-Butylphthalate and Bis(2ethylhexyl) phthalate detected in the samples were possible/probable laboratory contamination. No other problems were encountered.

Pesticide/PCB Fraction

Surrogates:

All surrogate recoveries were within QC limits.

Matrix Spike/Matrix Spike Duplicate/Matrix Spike Blank:

One out of twelve spiking recoveries was out of QC limits. All RPD's were within QC limits.

All spiking compound recoveries in the MSB were within QC limits.

Blanks:

No target compounds were found.

Samples:

No target Compounds were found.

JG LM

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

RESUBMISSION

April 29, 1991

C.C.J.M.
MAY - 1 1991
RECEIVED

C.C Johnson & Malhotra, P.C
215 Union Blvd., Suite 215
Lakewood, CO 80228

Attention: Roger Simon, Jeralyn Guthrie, Richard Cheatham, CCJM/DENVER
Reference: Additional information requested for NEI Log In No's 6546, 6559, 6533 and 6496, 6527 - Organics

To Whom it May Concern:

This letter is in response to your memorandums dated 4/24/91, and 4/25/91 and 4/26/91 (Document No's: SVMSI002.MEM, SVMSI004.MEM and SVMSI006.MEM).

All calibration data for the Volatile analysis has been re-reviewed and verified as requested. Please note the following:

ATTACHMENT I Log In 6546

Requantitation of Styrene and Xylene response factors for the 20ng standard on 11/19/90 have confirmed the original values reported on FORM VI. Enclosed are the hardcopy of peaks, the corresponding area counts and manual calculations which document our original values reported. Styrene was also requantitated for the 100ng standard on 11/19/90 and again we obtained consistent values with those originally reported. Styrene was also requantitated for the 50ng continuing calibration on 11/22/90 and again we obtained consistent values with those originally reported. During the TCA procedure on the Finnigan GC/MS system, these compound area counts were not picked up. Manual integrations were inadvertently not submitted with the data package however they were originally performed and quantitated as required. For the 50ng continuing calibration on 11/21/90 Carbon Tetrachloride was listed on the quantitation report at the same retention time as 1,1,1 Trichloroethane. Manual integration was performed and the response factor was originally reported appropriately. Enclosed is the documentation of the corresponding area counts and calculation.

ATTACHMENT II Log In 6559

All calibration data has been verified and results remain as previously reported. Enclosed is the back-up data for the initial calibration on 11/19/90 as described in Attachment I.

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT
nytest environmental inc.

RESUBMISSION

ATTACHMENT III Log In 6533

All calibration data has been verified and results remain as previously reported. Enclosed is the back-up data for the initial calibration on 11/19/90 and for the continuing calibration on 11/22/90 as described in Attachment I.

ATTACHMENT IV Log In 6496 & 6527

FORM VI for the initial calibration on 11/19/91 was not submitted correctly. All samples, however, have utilized the correct response factor for quantitations.

FORM VII's have therefore not been reported correctly due to the inappropriate average response factors. Enclosed are the resubmittals requested. Ethylbenzene %D was found to exceed the required 25% limit for the continuing calibration on 11/21/91 (C1557). This continuing calibration is only applicable to the reanalysis of sample MW5S. We feel that this does not effect data usability (since this target analyte was not detected) and the data validity has not been compromised.

Carbon Tetrachloride has been verified for the continuing calibration on 11/21/90 (Data File C1557) and results remain as previously reported.

FORM VIII for samples FBMW1DB, MW1S, MSB and the corresponding method blank (VBLKC9) was inadvertently not submitted. Enclosed is the corrected page 307.

We hope that this clarifies any problems you may have had with the above referenced data packages. If we may be of any further assistance, please do not hesitate to contact us.

Very truly yours,

Remo Gigante
Exec. Vice President

box 1518 □ 60 seaview blvd., port washington, ny 11050 □ (516) 625-5500

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

May 13, 1991

RESUBMISSION

C.C.J.M.
MAY 14 1991
RECEIVED

CC: Johnson & Malhotra, P.C.
215 Union Boulevard., Suite 215
Lakewood, Colorado 80228

Attn: Larry Morse, Jeralyn Guthrie, Richard Cheatham; CCJM/Denver

Ref: Additional information requested for NEI Log In No's 6546, 6559, 6496, and 6527 - Organics

To whom it may concern,

This letter is in response to your memorandums dated 4/25/91 and 5/6/91 (Document No's: SVMSI003.MEM and SVMSI011.MEM).

ATTACHMENT I (Log In 6559)

Enclosed are the revised form VI for the initial calibration on 12/11/91 (pages 221 and 222). Also enclosed are the corresponding form VII's from 12/14/91, 12/15/91, and 12/18/91 (data files B2492, B2503, and B2524). These resubmittals are page numbers 243, 244, 245, 246, 247, and 248.

ATTACHMENT II (Log In 6546)

Enclosed are the revised form VI for the initial calibration on 12/19/91 (pages 387 and 388), and corresponding form VII's for the continuing calibrations on 12/20/91, 12/21/91 (data files F5340, F5353, and F5371).

Also enclosed are the form 8D for both the primary and confirmation columns for the pesticide fraction (pages 596 and 597).

ATTACHMENT III (Log In 6496, 6527)

Enclosed are both the form VII's for the continuing calibration on 12/13/91 (data file B2480), and the corresponding quantitation report and chromatogram (pages 656A, 656B, 677A, 677B, 677C, and 677D).

We hope that this clarifies any problems you may have had with these data packages. We apologize for any inconvenience this may have caused, if we may be of any further assistance please do not hesitate to contact us.

Very Truly Yours,

Douglas Sheeley for Remo Gigante

Remo Gigante
Exec Vice President

box 1518 □ 60 seaview blvd., port washington, ny 11050 □ (516) 625-5500

TABLE 1NY
NYSDEC VOA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Date Analyzed: 11/23/90

Instrument ID: C

Method Blank ID: UBLKC9

Sample Identifier:	Hold Time Out Ar	Hold Time Out All	Standards: (<,>) Surrogate 1	Surrogate 2	Surrogate 3	Internal (IS) 1	Internal (IS) 2	Internal (IS) 3
TB23								
TB25								
FBMW6DB								
MW6S					>			
MW6D								

Date: 11/19/90 Time: 0809 11/23

COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF< .05	Continuing Cal. *%D>25 %D>35	µg/L Blanks Meth.	µg/L Blanks Trip	Qualifiers (+/-)	
Chloromethane #	ALL OK		ALL OK	ALL OK				
Bromomethane								
Vinyl Chloride *								
Chloroethane								
Methylene Chloride								
Acetone		37.8			15		J-CB/UJ-CB	
Carbon Disulfide		36.3			19		J-CB/UJ-CB	
1,1-Dichloroethene *								IS#1
1,1-Dichloroethane #								
1,2-Dichloroethene(total)								
Chloroform *								
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane *								
cis-1,3-Dichloropropene								IS#2
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform #								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene								
1,1,2,2-Tetrachloroethane #								IS#3
Toluene *								
Chlorobenzene #								
Ethylbenzene *								
Styrene								
Xylenes(total)								

TICs Reported In Blank(s): Reported as: None Found RT (ug/kg,ug/L)

TABLE 1 NY
NYSDEC BNA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Analysis Date: 12/14/90

Instrument ID: B

Method Blank ID(s): SBLKB8

Extract Date(s): 11/21/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Standards: (<,>) Surrogate 1	2	3	4	5	6	Internal (IS) 1	2	3	4	5	6
MW6S														
FBMW6DB														

A =Acidic compound
BN=Base/Neutral compound

Date: 12/11/90 Time: 1111 12/10

	COMPOUND: SPCC(#) CCC(*)		Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF<.05	Continuing Cal. %D >25	Blanks Ug/L Mem	Blanks	Qualifiers (+/-)	
A	Phenol	*	all ok		all ok		ok			
BN	bis(2-Chloroethyl)ether									
A	2-Chlorophenol									
BN	1,3-Dichlorobenzene									
BN	1,4-Dichlorobenzene	*								
BN	Benzyl Alcohol									IS#1
BN	1,2-Dichlorobenzene									
A	2-Methylphenol									
BN	bis(2-Chloroisopropyl)ether									
A	4-Methylphenol									
BN	N-Nitroso-Dipropylamine	#								
BN	Hexachloroethane									
BN	Nitrobenzene									
BN	Isophorone									
A	2-Nitrophenol	*								
A	2,4-Dimethyl Phenol									
A	Benzoic Acid									
BN	bis(2-Chloroethoxy)methane									IS#2
A	2,4-Dichlorophenol									
BN	1,2,4-Trichlorobenzene									
BN	Naphthalene									
BN	4-Chloroaniline									
BN	Hexachlorobutadiene	*								
A	4-Chloro-3-methylphenol	*								
BN	2-Methylnaphthalene									
BN	Hexachlorocyclopentadiene	#		39.8		48.3			J-C/UJ-C	
A	2,4,6-Trichlorophenol	*								
A	2,4,5-Trichlorophenol									
BN	2-Chloronaphthalene									IS#3
BN	2-Nitroaniline									
BN	Dimethyl Phthalate									
BN	Acenaphthylene									
BN	2,6-Dinitrotoluene									

TABLE 1 NY (BNA)

Analysis Date: 12/14/90

Instrument ID: B

Date: 12/11/90 Time: 1111 12/13

	COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF <.05	Continuing Cal. %D>25	Blanks		Qualifiers (+/-)	
BN	3-Nitroaniline	all ok		all ok					
BN	Acenaphthene *								IS#3
A	2,4-Dinitrophenol #								
A	4-Nitrophenol #								
BN	Dibenzofuran								
BN	2,4-Dinitrotoluene								
BN	Diethyl Phthalate								
BN	4-Chlorophenyl-phenylether								
BN	Fluorene								
BN	4-Nitroaniline								IS#4
A	4,6-Dinitro-2-Methylphenol								
BN	N-Nitrosodiphenylamine *								
BN	4-Bromophenyl-phenylether								
BN	Hexachlorobenzene								
A	Pentachlorophenol *								
BN	Phenanthrene								
BN	Anthracene								
BN	Di-n-Butyl Phthalate								
BN	Fluoranthene *					21		J-B/UJ-B	
BN	Pyrene								
BN	Butylbenzyl Phthalate		45.1		27.8			J-C/UJ-C	IS#5
BN	3,3'-Dichlorobenzidene		58.5					J-C/UJ-C	
BN	Benzo(a)anthracene								
BN	bis(2-ethylhexyl)phthalate		41.7			11		J-CB/UJ-CB	
BN	Chrysene								
BN	Di-n-Octyl Phthalate *								
BN	Benzo(b)fluoranthene								IS#6
BN	Benzo(k)fluoranthene								
BN	Benzo(a)pyrene *								
BN	Indeno(1,2,3-cd)pyrene								
BN	Dibenz(a,h)anthracene								
BN	Benzo(g,h,i)perylene								

TICs Reported In Blank(s): Reported as: RT (ug/kg,ug/L)

None Found

TABLE 1 NY
NYSDEC BNA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Analysis Date: 12/15/90

Instrument ID: B

Method Blank ID(s): SBLKB8

Extract Date(s): 11/21/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Standards: (<,>) Surrogate 1	2	3	4	5	6	Internal (IS) 1	2	3	4	5	6
MW6D														

A =Acidic compound
BN=Base/Neutral compound

Date: 12/11/90 Time: 1032 12/18

	COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF<.05	Continuing Cal. %D >25	µg/L Blanks Meth	Blanks Blc	Qualifiers (+/-)	
A	Phenol *	allok							
BN	bis(2-Chloroethyl)ether								
A	2-Chlorophenol								
BN	1,3-Dichlorobenzene								
BN	1,4-Dichlorobenzene *								
BN	Benzyl Alcohol								IS#1
BN	1,2-Dichlorobenzene								
A	2-Methylphenol								
BN	bis(2-Chloroisopropyl)ether								
A	4-Methylphenol								
BN	N-Nitroso-Dipropylamine #								
BN	Hexachloroethane								
BN	Nitrobenzene								
BN	Isophorone								
A	2-Nitrophenol *								
A	2,4-Dimethyl Phenol								
A	Benzoic Acid								
BN	bis(2-Chloroethoxy)methane								IS#2
A	2,4-Dichlorophenol								
BN	1,2,4-Trichlorobenzene								
BN	Naphthalene								
BN	4-Chloroaniline								
BN	Hexachlorobutadiene *								
A	4-Chloro-3-methylphenol *								
BN	2-Methylnaphthalene								
BN	Hexachlorocyclopentadiene #		39.8		49.0			J-C/UJ-C	
A	2,4,6-Trichlorophenol *								
A	2,4,5-Trichlorophenol								
BN	2-Chloronaphthalene								IS#3
BN	2-Nitroaniline								
BN	Dimethyl Phthalate								
BN	Acenaphthylene								
BN	2,6-Dinitrotoluene								

TABLE 1 NY (BNA)

Analysis Date: 12/15/90

Instrument ID: B

Date: 12/11/90 Time: 1032 12/19

	COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF <.05	Continuing Cal. %D>25	µg/l Blanks		Qualifiers (+/-)	
BN	3-Nitroaniline	all ok		all ok					
BN	Acenaphthene *								
A	2,4-Dinitrophenol #								IS#3
A	4-Nitrophenol #				27.8			J-C/UJ-C	
BN	Dibenzofuran								
BN	2,4-Dinitrotoluene								
BN	Diethyl Phthalate								
BN	4-Chlorophenyl-phenylether								
BN	Fluorene								
BN	4-Nitroaniline								
A	4,6-Dinitro-2-Methylphenol								IS#4
BN	N-Nitrosodiphenylamine *								
BN	4-Bromophenyl-phenylether								
BN	Hexachlorobenzene								
A	Pentachlorophenol *								
BN	Phenanthrene								
BN	Anthracene								
BN	Di-n-Butyl Phthalate								
BN	Fluoranthene *					21		J-B/UJ-B	
BN	Pyrene								
BN	Butylbenzyl Phthalate								
BN	3,3'-Dichlorobenzidene		45.1		32.1			J-C/UJ-C	IS#5
BN	Benzo(a)anthracene		58.5		28.1			J-C/UJ-C	
BN	bis(2-ethylhexyl)phthalate								
BN	Chrysene		41.7			11		J-CB/UJ-CB	
BN	Di-n-Octyl Phthalate *								
BN	Benzo(b)fluoranthene								
BN	Benzo(k)fluoranthene								
BN	Benzo(a)pyrene *								IS#6
BN	Indeno(1,2,3-cd)pyrene								
BN	Dibenz(a,h)anthracene								
BN	Benzo(g,h,i)perylene								

TICs Reported In Blank(s): Reported as: None Found RT (ug/kg,ug/L)

TABLE 1
Pesticide/PCB Qualifier Summary
Calibrations, Method Blank, Holding Time, Surrogate Recovery

Analysis Date: 12/11 - 12/12/90

Instrument ID: PE2A

Method Blank ID(s): PBLK 12

Extract Date(s): 11/21/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Surr Rec. <,>	Last IND Standard Before Analysis: 1	2	3	4	5	6	7
MW6S										
MW6D										
FBMW6DB										

PRIMARY COLUMN: DB-5	Calibrations: Initial %RSD>10	Continuing: %D > 15% / 20% * INDA 1	INDB 2	3	4	5	6	7	µg/l Blank Conc.	Qualifiers (+/-)
Cont.Cal.Date, Month: 12 Day:		12	12							
COMPOUND: Time:		0644	1441							
alpha-BHC		OK	OK						OK	none needed
beta-BHC										
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin	OK									
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin	OK									
Endosufan II										
4,4'-DDD										
Endosufan sulfate										
4,4'-DDT	OK									
Methoxychlor										
Endrin Ketone										
alpha-Chlordane										
gamma-Chlordane										
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
Aroclor-1260										
Dibutylchlorendate(surr.)	OK									

* Validation Criteria:

	Quantitation Column		Confirmation Column
Compound Detected	%D < 15	and	%D < 20
Compound Undetected	%D < 20	or	%D < 20

TABLE 1
Pesticide/PCB Qualifier Summary
Calibrations, Method Blank, Holding Time, Surrogate Recovery

Analysis Date: 12/11-12/12/90

Instrument ID: PE 2B

Method Blank ID(s): PBLK12

Extract Date(s): 11/21/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Surr Rec. <,>	Last IND Standard Before Analysis: 1	2	3	4	5	6	7
MW6S										
MW6D										
FBMW6DB										

SECONDARY COLUMN: DB-1701	Initial %RSD>10	Calibrations: Continuing: %D > 15% / 20% * 1	2	3	4	5	6	7	Blank Conc.	Qualifiers (+/-)
Cont.Cal.Date, Month: 12 Day:		12	12							
COMPOUND: Time:		0644	1141							
alpha-BHC		OK	OK						OK	none needed
beta-BHC										
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin	OK									
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin	OK									
Endosufan II										
4,4'-DDD										
Endosufan sulfate										
4,4'-DDT	OK									
Methoxychlor										
Endrin Ketone										
alpha-Chlordane										
gamma-Chlordane										
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
Aroclor-1260										
Dibutylchlorendate(surr.)	OK									

* Validation Criteria:

	Quantitation Column		Confirmation Column
Compound Detected	%D < 15	and	%D < 20
Compound Undetected	%D < 20	or	%D < 20

TABLE 2 - SURROGATE RECOVERIES

VOA FRACTION

A. Sample Numbers	MW6S																	
B. Surrogate(s) exceeding QC limits (show %R)	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
	–	–	116															
C. Compound less than 10%? (Y/N)	–	–	N															
D. Reanalysis required? (Y/N)	—																	
o If blank, were associated samples reanalyzed? (Y/N)	—																	
E. Sample Number for reanalysis.	—																	
F. Reanalysis within limits? (show % R)	–	–	–															
G. Qualifier, if required.	J-S/UJ-S																	

QC Limits (%R)	SOIL	WATER
VOA S1 = Toluene-d8	81-117	88-110
VOA S2 = Bromofluorobenzene	74-121	86-115
VOA S3 = 1,2-Dichloroethane-d4	70-121	76-114

Note: The circled sample number is the analysis/reanalysis recommended for use.

PESTICIDE FRACTION – all within specified limits

A. Sample Numbers						
B. QC limits exceded (show %R)	S1	S1	S1	S1	S1	S1
C. Qualifier, if applied.						

QC Limits (%R)	SOIL	WATER
Pesticide S1 = Dibutylchlorendate	20-150	24-154

A:\SHELL\SURROG-1.WK3

TABLE 2 - SURROGATE RECOVERIES - all within specified limits

BASE/NEUTRAL FRACTION

A. Sample Numbers																		
B. Surrogate(s) exceeding QC limits (show %R)	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
C. Compound less than 10%? (Y/N)																		
D. Reanalysis required? (Y/N)																		
o If blank, were associated samples reanalyzed? (Y/N)																		
E. Sample Number for reanalysis.																		
F. Reanalysis within limits? (show % R)																		
G. Re-extraction required? (Y/N)																		
o If blank, were associated samples re-extracted? (Y/N)																		
H. Sample number for re-extract.																		
I. Re-extraction within limits? (show % R)																		
J. Qualifier, if required.																		

ACID FRACTION

A. Sample Numbers																		
B. Surrogate(s) exceeding QC limits (show %R)	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6
C. Compound less than 10%? (Y/N)																		
D. Reanalysis required? (Y/N)																		
o If blank, were associated samples reanalyzed? (Y/N)																		
E. Sample Number for reanalysis.																		
F. Reanalysis within limits? (show % R)																		
G. Re-extraction required? (Y/N)																		
o If blank, were associated samples re-extracted? (Y/N)																		
H. Sample number for re-extract.																		
I. Re-extraction within limits? (show % R)																		
J. Qualifier, if required.																		

QC Limits (%R)	SOIL	WATER		SOIL	WATER
B/N S1 = Nitrobenzene-d5	23-120	35-114	Acid S4 = Phenol-d6	24-113	10-94
B/N S2 = 2-Fluorobiphenyl	30-115	43-116	Acid S5 = 2-Fluorophenol	25-121	21-100
B/N S3 = Terphenyl-D14	18-137	33-141	Acid S6 = 2,4,6-Tribromophenol	19-122	10-123

Note: The circled sample number is the analysis/reanalysis recommended for use.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW6DB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559005

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1609

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	55	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBMW6DB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559005

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1609

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.47	5.6	J

11/25/91

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW6D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1613

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~1~~ 50	BJ
67-64-1	Acetone	30	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	2	J
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

030023

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW6D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1613

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

11/24/91

000024

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW6S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1612

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	BJ
67-64-1	Acetone	16	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

11/25/91

000027

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW6S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1612

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

11/25/11

000028

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB23

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1607

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	B
67-64-1	Acetone	19	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

000031

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB23

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1607

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

4/25/91

000032

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB25

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1608

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ Date Analyzed: 11/23/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	B
67-64-1	Acetone	20	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

CJ-B
CJ-B

C00033

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW6DB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2501

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/14/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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4/25/91

000035

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW6DB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2501

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/14/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	86	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	110	B
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBMW6DB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2501

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/14/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

411591

000037

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW6D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2504

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/15/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW6D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2504

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/15/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	110	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	40	
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	13	B
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW6D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2504

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/15/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	34.07	22	J
2.		UNKNOWN AROMATIC	35.69	58	J
3.		UNKNOWN	36.47	8.4	J
4.		UNKNOWN PHTHALATE	37.22	160	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW6S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2500

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/14/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	10	U
111-91-1	bis(2-Chloroethoxy)Methane	50	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	50	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethyl Phthalate	50	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW6S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2500

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/14/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	44	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	29	
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	7	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW6S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B2500

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/14/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	35.67	160	J
2.	UNKNOWN	36.47	9.3	J
3.	UNKNOWN PHTHALATE	37.19	180	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW6DB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/12/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.050	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.10	U
53494-70-5	Endrin ketone	0.50	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	0.50	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.50	U
11096-82-5	Aroclor-1260	1.0	U
		1.0	U

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW6D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/11/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

C11D5191

Lab Code: NYTEST Case No.: 6559 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6559001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/16/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/11/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

11/25/91 000055

FORM I PEST 1/87 Rev.

CCJM
ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
DENVER
FORM NY
GRAND RAPIDS

DOCUMENT NO.: SBODS007.RVW

NYSDEC ORGANICS DATA REVIEW SUMMARY - FORM NY

Case No. 6533 Project No. _____

Site Sayville Landfill

Contract Laboratory Nytest Environmental

Sample Delivery Group (SDG) 11/14/90 Sampling Date (Month/Year) 11/90

Sample Matrix 8 water

Type of Analyses/Special Request VOA/BNA/Pesticide/PCB (*VOA only)

Sample No.					
MW-3S	FBMW3DB				
MW-3D	FBSW5DP				
MW-5D	TB-23*				
FBMW5DB	TB-20*				

Data Reviewer Jeff Benson Date 5/7/91

QA Review by Jeralyn Guthrie Date 5/7/91

CCJM Approval by Richard Cheatham Date 5/7/91

Telephone logs/correspondence attached? Yes X No ____

Contractual violations found? Yes X No ____

Laboratory case narrative attached? Yes X No ____

Remarks: This review is based on resubmissions (received CCJM 5/1/91) and is considered as final.

Note:

-- The EPA Functional Guidelines for Evaluating Organics Analyses - (Data Review SOP), NYSDEC protocols, and project specific planning documents have been used by the data reviewer as a basis for reviewing the data and applying qualifiers, except as specifically noted in review comments.

-- Please see data qualifier and sub-qualifier definitions on the last page. This scheme of qualifiers is intended to help indicate the reasons or problems which cause sample data values to be qualified.

DATA COMPLETENESS CHECKLIST

X Included: no problems
* Included: problems noted in review
O Not Included and/or Not Available
NR Not Required
RS Provided as Resubmission

X Case Narrative

Quality Control Summary Package

- * Surrogate Recovery Summary (Form II)
- X MS/MSD Summary (Form III)
- X Reagent Blank Summary (Form IV)
- X GC/MS Tuning and Mass Calibration (Form V)
- X Internal Standard Area Summary (Form VIII)

Sample Data Package

- * Holding Times (Custody and/or shipping records)
- X Organic Analysis Data Sheets (Form I) all pages for each sample, arranged in increasing sample number order
- X Reconstructed Ion Chromatogram(s) (RIC)
- X GC/EC Chromatograms
- X Quantitation Reports
- X Mass Spectral Data
- X EPA/NIH Mass Spectral Library Search for TIC's

Standards Data Package

- NR Current List of Laboratory/Instrumental Detection Limits
- * Initial Calibration Data (Form VI) for each instrument
- * Continuing Calibration Data (Form VII) for each instrument
- X Pesticide Evaluation Standards Summary (Form VIII)
- X Pesticide/PCB Standards Summary (Form IX)
- X Pesticide/PCB Identification (Form X) if any positive results
- X VOA and BNA Standards Reconstructed Ion Chromatograms (RIC)
- X VOA and BNA Standards Quantitation Reports
- X Pesticide/PCB Standard Chromatograms and Data System Printouts

Raw QC Data Package

- X DFTPP and BFB mass spectra and mass listings
- X Reagent Blank Data
  - X Organic Analysis Data Sheets (Form I)
  - X Reconstructed Ion Chromatograms (RIC)
  - X Quantitation Reports
  - X Mass Spectral Data
  - X EPA/NIH Library Search of TIC's
  - X GC/EC Chromatograms and Data System Printouts
- X Matrix Spike and Matrix Spike Duplicate Data
  - X Organic Analysis Data Sheets (Form I)
  - X Reconstructed Ion Chromatograms (RIC)
  - X Quantitation Reports
  - X GC/EC Chromatograms and Data System Printouts

I. Holding Times

All samples were extracted and analyzed within holding times specified in the NYSDEC CLP Analytical Services Protocol (ASP), 1989, or in project plans, as applicable. See the following table for a summarization of sample holding times.

Yes __X__ No _____

Comments:

1. An asterisk and number in parenthesis indicates a sample fraction outside holding time specifications and the number of days exceeded based on the validated time of sample receipt (VTSR). The results for the indicated sample fraction(s) have been qualified as estimated (J-H/UJ-H).

Holding Time Summary

Sample Number	Sampling Date	VTSR	VOA Analysis	BNA Extract	BNA Analysis	Pesticide/PCB Extract	Pesticide/PCB Analysis
MW-3S	11/14/90	11/14	11/21	11/19	12/20	11/19	11/29
MW-3D	11/14	11/14	11/21	11/19	12/20	11/19	11/29
MW-5D	11/14	11/14	11/21	11/19	12/20	11/19	11/29
MW-5DRE	11/14	11/14	11/22*(1)	N/A	N/A	N/A	N/A
FBMW5DB	11/14	11/14	11/21	11/19	12/20	11/19	11/29
FBMW3DB	11/14	11/14	11/20	11/19	12/20	11/19	11/29
FBSW5DP	11/14	11/14	11/21	11/19	12/20	11/19	11/29
TB-23	11/14	11/14	11/21	N/A	N/A	N/A	N/A
TB-20	11/14	11/14	11/20	N/A	N/A	N/A	N/A

2. Sample MW-5 was reanalyzed for VOA due to surrogate deficiencies. The sample was reanalyzed 1 day past the holding time. Both the initial and the reanalyses results have been submitted with this report since PCE was detected in the reanalyses and undetected in the initial analyses.

II. GC/MS Tuning and Mass Calibration

A. The DFTPP performance results were all included and found to be within specified criteria.

Yes __X__ No _____

Comments: No comments.

B. The BFB performance results were all included and found to be within specified criteria.

Yes __X__ No _____

Comments: No comments.

III. A. Instrument Calibration (VOA and SV)

1. The instrument response factor (RRF) data were reviewed for the initial and continuing calibrations. All appropriate information is present and all response factors met the required criteria for volatile and semivolatile analyses.

Yes __X__ No _____

Comments: Upon request, the laboratory supplied the information from manual searches for the following calibration. In the original data submission the quantitation report listed these compounds as "not found" and no area count was listed; however, a RRF value was listed on the summary Forms VI & VII.

Calibration	Compound(s)
11/19/90 VOA initial 20 ng	m-xylene, styrene
11/22/90 VOA continuing	styrene
11/19/90 VOA initial 100 ng	styrene

2. The percent relative standard deviation (%RSD) data for the initial calibrations and the percent difference (%D) data for the continuing calibrations were reviewed and all required information was provided.

Yes __X__ No ____

Comments: No comments.

3. All %RSD and %D values met the required criteria (ASP 1989, Exhibit D) for volatile and semivolatile analyses (VOA and SV initial calibration = 30% RSD for CCC's and 35% RSD for all other compounds; VOA continuing calibration = 25% D for CCC's and 35% D for all other compounds; SV continuing calibration = 25% D for all compounds).

Yes _____ No __X__

Comments:

1. The contract required %RSD and %D values have been used as specifications for data validation. The compounds for which criteria are not met and the list of qualifiers added to sample results on Form I's are summarized on the attached Table 1.

2. Pyrene, a calibration check compound (CCC), exceeded the contract required 25 %D for the 12/20/90 BNA analyses.

3. Ethylbenzene, a calibration check compound (CCC), exceeded the contract required 25 %D for the 11/21/90 VOA analyses.

B. Instrument Calibration (Pesticide/PCB)

1. All linearity check criteria were met with a %RSD value less than 10% for all quantitation column calibrations.

Yes __X__ No _____

Comments: No comments.

2. The breakdown of 4,4'-DDT and endrin was less than 20% for all evaluation B analyses.

Yes __X__ No _____

Comments: No comments.

3. The pesticide standard compounds showed a %D of the calibration factor of no more than 15% for quantitation and 20% for confirmation runs for all compounds identified.

Yes __X__ No _____

Comments: No comments.

4. The retention time of 4,4'-DDT was greater than 12 minutes for packed columns (except OV-101).

Yes __X__ No _____

Comments: No comments.

5. The retention time for the surrogate (DBC) was within criteria for every sample.

Yes __X__ No _____

Comments: No comments.

IV. Blanks

A. Method Blank - The blank analyses were reviewed. The frequency of method blank extractions and analyses and the contaminants found in blank samples were all within specified limits.

Yes __X__ No _____

Comments: Contaminant quantities found in contract compliant laboratory preparation blanks and a listing of qualifiers added to sample results on Form 1's are summarized on the attached Table 1.

B. Trip Blank - The associated trip/travel blank(s) contained contaminants which affected samples in the package.

Yes _____ No __X__ None Identified _____

Comments: No comments.

C. Other Blanks - The following are other blanks found in the data package and the compound quantities reported. No sample data has been qualified by the reviewer based on the results of these blanks.

Blank ID/Type	Analyte	Amount (ug/L)
FBMW3DB/	bis(2-ethylhexyl)phthalate	8
FBMW5DB/	bis(2-ethylhexyl)phthalate	20
FBMW5DP/	bis(2-ethylhexyl)phthalate	8

V. Surrogate Recovery

The surrogate recoveries were reviewed. The recoveries were all within specified QC criteria.

Yes _____ No __X__

Comments: Samples found to have surrogate recoveries outside specified criteria are summarized on Tables 1 and 2. Data qualifiers, when necessary, are indicated on Table 2.

VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The matrix spike and matrix spike duplicate recovery data were reviewed. The spikes were performed and met all recommended QC specifications.

Yes __X__ No _____

Comments:

1. Sample number MW-2S was used for VOA MS/MSD. This sample and the MS/MSD were from a different data package, however, all raw data was provided in this data package.

2. Sample number MS-6D was used for BNA MS/MSD. This sample and the MS/MSD were from a different data package, however, all raw data was provided in this data package.

3. Sample number MW-1S was used for Pesticide MS/MSD. This sample and the MS/MSD were from a different data package, however, all raw data was provided in this data package.

VII. Field Duplicate Results

This package contained a field duplicate sample.

Yes _____ No __X__ Not identified _____

Comments: No comments.

VIII. Internal Standard (IS) Performance

The internal standard results were reviewed for consistency in response (area counts) and retention time. All sample internal standards showed adequate performance and consistency.

Yes _____ No __X__

Comments:

1. See the attached Table 1 for a summary of the internal standards that did not meet criteria.

2. The area of VOA internal standard chlorobenzene-d5 was below QC limits for sample FBMW3DB. The contract required reanalyses was not performed.

IX. TCL Compound Identification

Positive results were evaluated to determine that all criteria were met in identifying TCL compounds from the sample data. In all cases, the reported compounds matched the retention time and, when applicable, the mass spectral profile.

Yes __X__ No _____

Comments: No comments.

X. Compound Quantitation and Reported Detection Limit

Quantitative results and reported detection limits were reviewed and were determined to be accurate except as noted in this report that data has been qualified.

Yes __X__ No _____

Comments: No comments.

XI. Tentatively Identified Compounds (TIC's)

Data for reported tentatively identified compounds were reviewed and found to meet quantitative and qualitative criteria.

Yes __X__ No _____

Comments: All TIC's not attributable to blank contamination have been qualified by the reviewer as tentatively identified and of estimated concentration (J-N). Any TIC's reported in samples that are also identified in associated blanks have been qualified as UJ-BN. Any TIC's identified as aldols have been qualified as UJ-AN.

XII. System Performance

The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance throughout this case.

Yes __X__ No _____

Comments: No comments.

XIII. Overall Assessment of Data in the Case

Data have met analytical quality criteria and are within applicable guideline limits except where qualifiers are noted within this report as being required.

Yes __X__ No _____

Comments: No comments.

XIV. Contract Requirements

All contract requirements were met by the laboratory in the analyses of the samples in the package.

Yes _____ No __X__

Comments: See items III.A.3 and VIII. No comments.

XV. General Comments

The attached Table 3 is the New York State Department of Environmental Conservation Compliancy Summary.

EXPLANATION OF ORGANICS DATA QUALIFIERS

For the purposes of this data review document the following code letters and associated definitions are provided:

U - The material was analyzed for, but was not detected. The associated numerical value is the estimated quantitation limit.

R - Quality Control indicates that data are not usable (i.e. compound may or may not be present). Resampling and re-analysis are necessary to determine the presence or absence of the analyte in the sample.

UJ-B - The compound is considered to be <u>undetected</u> and the value reported is an estimated detection limit because the compound was identified in the laboratory blank as well as in the sample. The value of this reported detection limit (DL) is determined by the amount of the compound found in the sample:

1) the sample value was less than the CRDL: the DL is reported as equal to the CRDL.
2) the sample value was greater than CRDL but less than 5X the amount of the compound found in the laboratory blank (less than 10X for methylene chloride, acetone, 2-butanone, toluene and phthalates): the DL is reported as equal to the reported sample value.
3) the sample value was greater than 5X the laboratory blank value (10X for compounds noted above): see JB qualifier.

J-B - The reported value is an estimated amount. The compound was detected in the blank and the quantity reported in the sample is greater than 5X the amount found in the blank (greater than 10X for above compounds).

J - The associated numerical value is an estimated quantity because the amount detected is below the required detection limits or because quality control criteria were not met. (See qualifiers listed below)

J-C - The value reported was estimated due to instrument calibration problems.

J-H - The value reported was estimated due to holding time violation.

J-S - The value reported was estimated due to surrogate or matrix spike recovery problems.

J-I - The value reported was estimated due to internal standard recovery deficiencies.

J-E - The value reported was estimated due to interference problems.

J-M - Benzo(b) and Benzo(k) Fluoranthene not separated due to matrix.

J-N - Tentative identification of a compound. Resampling and re-analysis would be necessary for verification of identity.

J-A - TIC identified as an aldol condensate.

TABLE 1NY
NYSDEC VOA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Date Analyzed: 11/21/90

Instrument ID: C

Method Blank ID: VBLKC4

Sample Identifier:	Hold Time Out		Standards: (<,>)					
			Surrogate			Internal (IS)		
	Ar	All	1	2	3	1	2	3
EB-MW5DB								
EB-MW5DP								
TB-23								

Date: 11/19/90 Time: 09:49 ug/L

COMPOUND:	SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF< .05	Continuing Cal. *%D>25 %D>35	Blanks Meth.	Blanks Trip	Qualifiers (+/-)	
Chloromethane	#	All > 0.05		All > 0.05					
Bromomethane									
Vinyl Chloride	*								
Chloroethane									
Methylene Chloride			38			13		JBL, UJBL / UJC	
Acetone			36			35		↓ ↓ ↓	
Carbon Disulfide									IS#1
1,1-Dichloroethene	*								
1,1-Dichloroethane	#								
1,2-Dichloroethene(total)									
Chloroform	*								
1,2-Dichloroethane									
2-Butanone									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
1,2-Dichloropropane	*								
cis-1,3-Dichloropropene									IS#2
Trichloroethene									
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene									
trans-1,3-Dichloropropene									
Bromoform	#								
4-Methyl-2-Pentanone									
2-Hexanone									
Tetrachloroethene									
1,1,2,2-Tetrachloroethane	#								IS#3
Toluene	*								
Chlorobenzene	#								
Ethylbenzene	*								
Styrene					28			J-C / UJ-C	
Xylenes(total)									

Reported as: RT (ug/kg,ug/L)

TICs Reported In Blank(s): NONE

TABLE 1NY
NYSDEC VOA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Date Analyzed: 11/21/90

Instrument ID: C

Method Blank ID: VBLKC5

Sample Identifier:	Hold Time Out Ar	Hold Time Out All	Standards: (<,>) Surrogate 1	Surrogate 2	Surrogate 3	Internal (IS) 1	Internal (IS) 2	Internal (IS) 3
MW-3D								
3S								
5D			112%					

Date: 11/19/90 Time: 16:18 ug/L

COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF< .05	Continuing Cal. *%D>25 %D>35	Blanks Meth.	Blanks Trip	Qualifiers (+/-)	
Chloromethane #	All>0.05		All>0.05					
Bromomethane								
Vinyl Chloride *								
Chloroethane								
Methylene Chloride		38			14		JBC, UJBC / UJC	
Acetone		36		41	24		↓ ↓ ↓	
Carbon Disulfide								IS#1
1,1-Dichloroethene *								
1,1-Dichloroethane #								
1,2-Dichloroethene(total)								
Chloroform *								
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane *								
cis-1,3-Dichloropropene								IS#2
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform #								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene								
1,1,2,2-Tetrachloroethane #								IS#3
Toluene *								
Chlorobenzene #								
Ethylbenzene *								
Styrene								
Xylenes(total)								

TICs Reported In Blank(s): NONE Reported as: RT (ug/kg,ug/L)

Project: Sayville Landfill

NYSDEC Compliancy Summary Table

SDG/Case NO.	DATE	NYSDEC CLP YEAR	SAMPLE NO.	MATRIX	VOA COMPLIANCY	BNA COMPLIANCY	PEST/PCB COMPLIANCY	METALS COMPLIANCY	CN-	OTHER	NON-COMPLIANCY
6553		1989	FBMW3DB	water	NO	NO	YES				1,2
6553			FBMW5DB	water	YES	NO	YES				2
6553			FBMW5DP	water	YES	NO	YES				2
6553			MW-3D	water	YES	NO	YES				2
6553			MW-3S	water	YES	NO	YES				2
6553			MW-5D	water	YES	NO	YES				2
6553			TB-20	water	YES	N/A	N/A				2
6553			TB-23	water	YES	N/A	N/A				2

1. Reanalysis required due to low Internal Standard response was not performed.
2. Calibration % D criteria exceeded.

A: SVODS007.WK3

TABLE 1NY
NYSDEC VOA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Date Analyzed: 11/20/90

Instrument ID: C

Method Blank ID: VB LKC3

Sample Identifier:	Hold Time Out		Standards: (<,>)					
			Surrogate			Internal (IS)		
	Ar	All	1	2	3	1	2	3
FB-MW3DB								<
TB-20								

Date: 11/19/90 Time: 10:28 ug/L

COMPOUND: SPCC(#) CCC(*)		Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF< .05	Continuing Cal. *%D>25 %D>35	Blanks Meth.	Blanks Trip	Qualifiers (+/-)	
Chloromethane	#	All>0.05		All>0.05	All<25				
Bromomethane									
Vinyl Chloride	*								
Chloroethane									
Methylene Chloride			38			19		JBC, UJBC/UJC	
Acetone			36			17		↓ ↓ ↓	
Carbon Disulfide			~~33~~ 48						IS#1
1,1-Dichloroethene	*								
1,1-Dichloroethane	#								
1,2-Dichloroethene(total)									
Chloroform	*								
1,2-Dichloroethane									
2-Butanone									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
1,2-Dichloropropane	*								
cis-1,3-Dichloropropene									IS#2
Trichloroethene									
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene									
trans-1,3-Dichloropropene									
Bromoform	#								
4-Methyl-2-Pentanone									
2-Hexanone									
Tetrachloroethene									
1,1,2,2-Tetrachloroethane	#								IS#3
Toluene	*								
Chlorobenzene	#								
Ethylbenzene	*								
Styrene									
Xylenes(total)									

TICs Reported In Blank(s): Reported as: NONE RT (ug/kg,ug/L)

TABLE 1NY
NYSDEC VOA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Date Analyzed: 11/22/90

Instrument ID: C

Method Blank ID: VBLKC6

Sample Identifier:	Hold Time Out		Standards: (<,>)					
			Surrogate			Internal (IS)		
	Ar	All	1	2	3	1	2	3
MW-5D RE				116%				

Date: 11/19/90 Time: 07:37 ug/L

COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF< .05	Continuing Cal. *%D>25 %D>35	Blanks Meth.	Blanks Trip	Qualifiers (+/-)	
Chloromethane #	All>0.05		All>0.05	All<35				
Bromomethane								
Vinyl Chloride *								
Chloroethane								
Methylene Chloride								
Acetone		38			12		JBC	
Carbon Disulfide		36			27		UJBC	
1,1-Dichloroethene *							UJC	IS#1
1,1-Dichloroethane #								
1,2-Dichloroethene(total)								
Chloroform *								
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane *								
cis-1,3-Dichloropropene								IS#2
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform #								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene								
1,1,2,2-Tetrachloroethane #								IS#3
Toluene *								
Chlorobenzene #								
Ethylbenzene *								
Styrene								
Xylenes(total)								

TICs Reported In Blank(s):	Reported as:	RT	(ug/kg, ug/L)
	UNKNOWN	1.60 min.	5.5

TABLE 1 NY
NYSDEC BNA Qualifier Summary
Calibrations, Blanks, Holding Time, Surrogates, Internal Standards

Analysis Date: 12/20/90

Instrument ID: F

Method Blank ID(s): SBLKF1

Extract Date(s): 11/19/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Standards: (<,>) Surrogate 1	2	3	4	5	6	Internal (IS) 1	2	3	4	5	6
FB-MW3DB														
↓ 5DB														
↓ 5DP														
MW-3D														
↓ 3S														
↓ ~~*5D~~ 5D														

A =Acidic compound
BN=Base/Neutral compound

Date: 12/19/90 Time: 1402 ug/L

	COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF<.05	Continuing Cal. %D >25	Blanks		Qualifiers (+/-)	
A	Phenol *	All >0.05		All >0.05					–
BN	bis(2-Chloroethyl)ether								
A	2-Chlorophenol								
BN	1,3-Dichlorobenzene								
BN	1,4-Dichlorobenzene *								
BN	Benzyl Alcohol								IS#1
BN	1,2-Dichlorobenzene								
A	2-Methylphenol								
BN	bis(2-Chloroisopropyl)ether								
A	4-Methylphenol								
BN	N-Nitroso-Dipropylamine #								
BN	Hexachloroethane								
BN	Nitrobenzene								–
BN	Isophorone								
A	2-Nitrophenol *								
A	2,4-Dimethyl Phenol								
A	Benzoic Acid								
BN	bis(2-Chloroethoxy)methane								IS#2
A	2,4-Dichlorophenol								
BN	1,2,4-Trichlorobenzene								
BN	Naphthalene								
BN	4-Chloroaniline								
BN	Hexachlorobutadiene *								
A	4-Chloro-3-methylphenol *								
BN	2-Methylnaphthalene								
BN	Hexachlorocyclopentadiene #		37						–
A	2,4,6-Trichlorophenol *							J-C/UJ-C	
A	2,4,5-Trichlorophenol								
BN	2-Chloronaphthalene								IS#3
BN	2-Nitroaniline								
BN	Dimethyl Phthalate								
BN	Acenaphthylene								
BN	2,6-Dinitrotoluene								

TABLE 1 NY (BNA)

Analysis Date: 12/20/90

Instrument ID: F

Date: 12/19/90 Time: 14:02 MG12

	COMPOUND: SPCC(#) CCC(*)	Initial Cal. RRF<.05	Initial Cal. *%RSD>30 %RSD>35	Continuing Cal. RRF <.05	Continuing Cal. %D>25	Blanks		Qualifiers (+/-)	
BN	3-Nitroaniline								
BN	Acenaphthene *								IS#3
A	2,4-Dinitrophenol #								
A	4-Nitrophenol #								
BN	Dibenzofuran								
BN	2,4-Dinitrotoluene								
BN	Diethyl Phthalate								
BN	4-Chlorophenyl-phenylether								
BN	Fluorene								
BN	4-Nitroaniline								IS#4
A	4,6-Dinitro-2-Methylphenol								
BN	N-Nitrosodiphenylamine *								
BN	4-Bromophenyl-phenylether								
BN	Hexachlorobenzene								
A	Pentachlorophenol *								
BN	Phenanthrene								
BN	Anthracene								
BN	Di-n-Butyl Phthalate								
BN	Fluoranthene *					24		JB, VJB / —	
BN	Pyrene								
BN	Butylbenzyl Phthalate				32			J-C / VJ-C	—
BN	3,3'-Dichlorobenzidene								IS#5
BN	Benzo(a)anthracene								
BN	bis(2-ethylhexyl)phthalate								
BN	Chrysene								
BN	Di-n-Octyl Phthalate *								—
BN	Benzo(b)fluoranthene								
BN	Benzo(k)fluoranthene								IS#6
BN	Benzo(a)pyrene *								
BN	Indeno(1,2,3-cd)pyrene								
BN	Dibenz(a,h)anthracene								
BN	Benzo(g,h,i)perylene								—

TICs Reported In Blank(s): NONE Reported as: RT (ug/kg,ug/L)

TABLE 1
Pesticide/PCB Qualifier Summary
Calibrations, Method Blank, Holding Time, Surrogate Recovery

Analysis Date: 11/29/90

Instrument ID: PE1B

Method Blank ID(s): PBLK11

Extract Date(s): 11/19/90

Sample Identifier:	Hold Time Out Ext.	Hold Time Out Anal.	Surr Rec. <,>	Last IND Standard Before Analysis: 1	2	3	4	5	6	7
FB-MW3DB										
5DB										
5DP										
3D										
3S										
5D										

PRIMARY COLUMN: DB608	Calibrations: Initial %RSD>10	Continuing: %D > 15% / 20% * 1	2	3	4	5	6	7	Blank Conc.	Qualifiers (+/-)
Cont.Cal.Date, Month:	Day:	11/28	11/28							
COMPOUND:	Time:	1637	1716							
alpha-BHC		<15	<15						NOT DETECTED	NONE
beta-BHC										
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin	<10									
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin	<10									
Endosufan II										
4,4'-DDD										
Endosufan sulfate										
4,4'-DDT	<10									
Methoxychlor										
Endrin Ketone										
alpha-Chlordane										
gamma-Chlordane										
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
Aroclor-1260										
Dibutylchlorendate(surr.)	<10									

* Validation Criteria:

	Quantitation Column		Confirmation Column
Compound Detected	%D < 15	and	%D < 20
Compound Undetected	%D < 20	or	%D < 20

TABLE 2 - SURROGATE RECOVERIES

VOA FRACTION

A. Sample Numbers	MW-5D																							
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
B. Surrogate(s) exceeding QC limits (show %R)	112	—	—															
C. Compound less than 10%? (Y/N)	N	—	—															
D. Reanalysis required? (Y/N)	Y																	
o If blank, were associated samples reanalyzed? (Y/N)	—																	
E. Sample Number for reanalysis.	MW-5D RE																	
F. Reanalysis within limits? (show % R)	—	116	—															
G. Qualifier, if required.	J-S/UJ-S																	

QC Limits (%R)	SOIL	WATER
VOA S1 = Toluene-d8	81-117	88-110
VOA S2 = Bromofluorobenzene	74-121	86-115
VOA S3 = 1,2-Dichloroethane-d4	70-121	76-114

Note: ~~The circled sample number is the analysis/reanalysis recommended for use.~~

Both sets of VOA data for sample MW 5D are submitted as validated

PESTICIDE FRACTION

A. Sample Numbers	All samples																							
	S1			S1			S1			S1			S1			S1		
B. QC limits exceded (show %R)	NONE																	
C. Qualifier, if applied.	NONE																	

QC Limits (%R)	SOIL	WATER
Pesticide S1 = Dibutylchlorendate	20-150	24-154

A:\SHELL\SURROG-1.WK3

TABLE 2 - SURROGATE RECOVERIES

BASE/NEUTRAL FRACTION

A. Sample Numbers	All Samples																							
B. Surrogate(s) exceeding QC limits (show %R)	S1 —	S2 —	S3 —	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
C. Compound less than 10%? (Y/N)																								
D. Reanalysis required? (Y/N)	N																							
o If blank, were associated samples reanalyzed? (Y/N)																								
E. Sample Number for reanalysis.																								
F. Reanalysis within limits? (show % R)																								
G. Re-extraction required? (Y/N)	N																							
o If blank, were associated samples re-extracted? (Y/N)																								
H. Sample number for re-extract.																								
I. Re-extraction within limits? (show % R)																								
J. Qualifier, if required.	NONE																							

ACID FRACTION

A. Sample Numbers	All Samples																							
B. Surrogate(s) exceeding QC limits (show %R)	S4 —	S5 —	S6 —	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6	S4	S5	S6
C. Compound less than 10%? (Y/N)																								
D. Reanalysis required? (Y/N)	N																							
o If blank, were associated samples reanalyzed? (Y/N)																								
E. Sample Number for reanalysis.																								
F. Reanalysis within limits? (show % R)																								
G. Re-extraction required? (Y/N)	N																							
o If blank, were associated samples re-extracted? (Y/N)																								
H. Sample number for re-extract.																								
I. Re-extraction within limits? (show % R)																								
J. Qualifier, if required.	NONE																							

QC Limits (%R)	SOIL	WATER		SOIL	WATER
B/N S1 = Nitrobenzene-d5	23-120	35-114	Acid S4 = Phenol-d6	24-113	10-94
B/N S2 = 2-Fluorobiphenyl	30-115	43-116	Acid S5 = 2-Fluorophenol	25-121	21-100
B/N S3 = Terphenyl-d14	18-137	33-141	Acid S6 = 2,4,6-Tribromophenol	19-122	10-123

Note: The circled sample number is the analysis/reanalysis recommended for use.

A:\SHELL\SURROG-2.WK3

Jc LM

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

RESUBMISSION

April 29, 1991

C.C.J.M.
MAY - 1 1991
RECEIVED

C.C Johnson & Malhotra, P.C
215 Union Blvd., Suite 215
Lakewood, CO 80228

Attention: Roger Simon, Jeralyn Guthrie, Richard Cheatham, CCJM/DENVER
Reference: Additional information requested for NEI Log In No's 6546, 6559, 6533 and 6496, 6527 - Organics

To Whom it May Concern:

This letter is in response to your memorandums dated 4/24/91, and 4/25/91 and 4/26/91 (Document No's: SVMSI002.MEM, SVMSI004.MEM and SVMSI006.MEM).

All calibration data for the Volatile analysis has been re-reviewed and verified as requested. Please note the following:

ATTACHMENT I Log In 6546

Requantitation of Styrene and Xylene response factors for the 20ng standard on 11/19/90 have confirmed the original values reported on FORM VI. Enclosed are the hardcopy of peaks, the corresponding area counts and manual calculations which document our original values reported. Styrene was also requantitated for the 100ng standard on 11/19/90 and again we obtained consistent values with those originally reported. Styrene was also requantitated for the 50ng continuing calibration on 11/22/90 and again we obtained consistent values with those originally reported. During the TCA procedure on the Finnigan GC/MS system, these compound area counts were not picked up. Manual integrations were inadvertently not submitted with the data package however they were originally performed and quantitated as required. For the 50ng continuing calibration on 11/21/90 Carbon Tetrachloride was listed on the quantitation report at the same retention time as 1,1,1 Trichloroethane. Manual integration was performed and the response factor was originally reported appropriately. Enclosed is the documentation of the corresponding area counts and calculation.

ATTACHMENT II Log In 6559

All calibration data has been verified and results remain as previously reported. Enclosed is the back-up data for the initial calibration on 11/19/90 as described in Attachment I.

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT
nytest environmental inc.

RESUBMISSION

ATTACHMENT III Log In 6533

All calibration data has been verified and results remain as previously reported. Enclosed is the back-up data for the initial calibration on 11/19/90 and for the continuing calibration on 11/22/90 as described in Attachment I.

ATTACHMENT IV Log In 6496 & 6527

FORM VI for the initial calibration on 11/19/91 was not submitted correctly. All samples, however, have utilized the correct response factor for quantitations.

FORM VII's have therefore not been reported correctly due to the inappropriate average response factors. Enclosed are the resubmittals requested. Ethylbenzene %D was found to exceed the required 25% limit for the continuing calibration on 11/21/91 (C1557). This continuing calibration is only applicable to the reanalysis of sample MW5S. We feel that this does not effect data usability (since this target analyte was not detected) and the data validity has not been compromised.

Carbon Tetrachloride has been verified for the continuing calibration on 11/21/90 (Data File C1557) and results remain as previously reported.

FORM VIII for samples FBMW1DB, MW1S, MSB and the corresponding method blank (VBLKC9) was inadvertently not submitted. Enclosed is the corrected page 307.

We hope that this clarifies any problems you may have had with the above referenced data packages. If we may be of any further assistance, please do not hesitate to contact us.

Very truly yours,

Remo Gigante
Exec. Vice President

box 1518 □ 60 seaview blvd., port washington, ny 11050 □ (516) 625-5500

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW308

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533005

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1550

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/20/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	15	B
67-64-1	Acetone	15	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533005

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1550

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	FREON 1,1,3	12.50	5.0	J

NJ

VOLATILE ORGANICS 1A ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW500

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533004

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1563

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	38	B
67-64-1	Acetone	63	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW5D8

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533004

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1563

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.80	23	J

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW5DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1562

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	(5) ~~3~~	BJ
67-64-1	Acetone	18	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBMW50P

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1562

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1570

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	7	B
67-64-1	Acetone	16	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1570

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW33

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1569

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	9	B
67-64-1	Acetone	22	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW35

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1569

Level: (low/med) LOW Date Received: 11/14/96

% Moisture: not dec. ____ Date Analyzed: 11/21/

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.67	36	J
2.	UNKNOWN	11.30	6.7	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW5D

Lab Name: NYTEST ENV INC Contract: 0237-23

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533003

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1571

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	B
67-64-1	Acetone	11	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	7	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	3	J
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloroproene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	6	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	1	J

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW5D

Lab Name: NYTEST ENV INC Contract: 68-17423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533003

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1571

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW5DRE

Lab Name: NYTEST ENV INC

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533003

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1582

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	BJ
67-64-1	Acetone	36	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	8	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	3	J
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	3	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	6	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	3	J

SHS

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW5DRE

Lab Name: NYTEST ENV INC Contract: 3017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533003

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1582

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1020

NYTEST ENV INC 0017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533008

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1547

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/20/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	B
67-64-1	Acetone	13	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2 Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB20

Lab Name: NYTEST ENV. INC. Contract: 2017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533008

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1547

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB23

Lab Name: NYTEST ENV INC Contract: 9017A23

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1561

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	19	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloroproene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB23

Lab Name: NYTEST Contract: 9017403

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1561

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ Date Analyzed: 11/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW3DB

Lab Name: [illegible] Contract: [illegible]

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5348

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBNW3DB

Lab Name: NYTEST ENV INC

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5348

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	9	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	8	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSMW3DS

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5348

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

F8MW50B

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5347

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW50B

Lab Name: NYTEST ENV. LAB Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5347

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	7	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyren	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	20	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBMW5DB

Lab Name: NYTEST EXV Inc. Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5347

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW5DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5349

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW5DP

Lab Name: NYTEST ENV INC Contract: 5017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5349

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	8	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	8	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBMW50P

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5349

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	50.09	10	J

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EPA SAMPLE NO.

MW30

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5345

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5345

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	120	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	14	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW5D

Lab Name: NYTEST ENV INC Contract: 9017433

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5345

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	14.90	12	J
2.	UNKNOWN ALCOHOL	23.80	12	J

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW35

Lab Name: NYTEST ENV INC Contract: [illegible]

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5344

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3S

Lab Name: NYTEST ENV INC Contract: 3017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 653300

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F53

Level: (low/med) LOW Date Received: 11/ 4/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	2	J
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	130	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	30	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW3S

Lab Name: NYTEST ENV INC

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5344

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN CYCLIC	4.72	18	J
2.	UNKNOWN	6.37	15	J
3.	UNKNOWN	9.49	41	J
4.	UNKNOWN	10.80	7.0	J
5.	UNKNOWN	12.09	21	J
6.	UNKNOWN ALCOHOL	23.77	11	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW50

Lab Name: NYTEST ENV INC Contract: 5917423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5346

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW5U

Lab Name: NYTEST ENV INC Contract: 901/423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5346

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	100	B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	89	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW5D

Lab Name: NYTEST ENV Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F5346

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/20/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	14.90	9.4	J

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW3DB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW5DB

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW5DP

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1b

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

MW3D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3S

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	4.0	
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

PESTICIDE [illegible] SHEET

EPA SAMPLE NO.

MW5D

Lab Name: NYTEST ENV INC Contract: 9017423

Lab Code: NYTEST Case No.: 6533 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 6533003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 11/14/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/19/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/29/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

APPENDIX K

APPENDIX K

DATA VALIDATION REPORTS

(C.C. JOHNSON & MALHOTRA, P.C.)

Case No.	Analysis
6546, 6559	TAL Inorganic, Cyanide
6496, 6527, 6533	TAL Inorganic, Cyanide

CCJM

ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
DENVER
GRAND RAPIDS

RECEIVED
MAY 8 1991
R. E. PUSTORINO, P.C.

MEMORANDUM

TO: Robert Burgner, R.E. Pustorino, P.C./Commack

FROM: Jeralyn Guthrie, Richard Cheatham, CCJM/Denver

DATE: May 7, 1991

DOCUMENT NO: SVTRS012.MEM

SUBJECT: Transmittal of Sayville LF Data Validation Reports

RE: Town of Islip, Sayville (Lincoln Avenue Landfill, Phase II Investigation, REP No. 86082-F

Enclosed is the data validation report(s) and the attached copies of data results forms (Form I's) which have data reviewer qualifiers added. Each data review report is identified as follows:

Case No.	SDG No.	Analysis
6546, 6559	SDG 309	TAL Inorganic, Cyanide
6533	11/14/90	VOA, BNA, Pesticide/PCB
6496,6527,6533	SDG308	TAL Inorganic, Cyanide

If you have any questions concerning this submittal, please call us at (303) 987-2928.

cc: Sayville - PF

CCJM
ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
DENVER
GRAND RAPIDS

DOCUMENT NO.: SVIDS001.RVW

INORGANICS DATA REVIEW SUMMARY - Form NY

Case No. 6546 Project No. _____

Site Sayville Landfill

Contract Laboratory Nytest Environmental

Sample Delivery Group (SDG) SDG 309 Sampling Date (Month/Year) 11/90

Sample Matrix 9 low waters

Type of Analyses/Special Request TAL Inorganics, Cyanide

Sample No.	FBMW4DP	MW-04D	MW-06S	
	FBMW4SB	MW-04S		
	FBMW6DB	MW-06D		
	FBMW6IP	MW-06I		
Lab QC Samples	MW-06D MS	MW-06D Dup.		

Data Reviewer Roger Simon RS Date 5/7/91

QA Review by Jeralyn Guthrie JG Date 5/7/91

CCJM Approval by Richard Cheatham RC Date 5/7/91

Telephone logs/Correspondence attached? Yes X No ____
Contractual violations found? Yes X No ____ Not Appl. ____
Laboratory Case Narrative attached? Yes ____ No ____ Not Aval. X

Remarks: _____

Note:
-- The EPA Functional Guidelines for Evaluating Inorganics Analyses (Data Review SOP), NYSDEC protocols, and project specific planning documents have been used by the data reviewer as a basis for reviewing the data and applying qualifiers, except as specifically noted in review comments.

-- Please see data qualifier and sub-qualifier definitions on the last page. This scheme of qualifiers is intended to help indicate the reasons or problems which cause sample values to be qualified.

Form NY

NYSDEC CLP Year: 1989

Inorganic Data Completeness Checklist

P	Inorganic Cover Page
P	Inorganic analysis data sheets (Form 1)
P	Initial calibration and calibration verification results (Form 2A)
P	Continuing calibration verification (Form 2A)
P	CRDL Standard Analysis (Form 2B)
P	Blank results (Form 3)
P	ICP interference check sample (Form 4)
P	Spike results (Form 5A)
P	Post-digest spike results (Form 5B)
P	Duplicate results (Form 6)
P	Standard Addition results (Form 8)
P	Laboratory Control Sample (LCS) Results (Form 7)
P	Serial Dilution Results (Form 9)
P	Instrument Detection Limits (Form 10)
P	ICP Interelement Correction Factors (Form 11)
P	ICP Linear Ranges (Form 12)
P	Preparation Log (Form 13)
P	Analysis Run log (Form 14)
P	Raw data for samples
P	Raw data for calibration standards
P	Raw data for blanks
P	Raw data for ICP quality control (ICS and Serial Dilution)
P	Raw data for spikes
P	Raw data for duplicates
P	Raw data for LCS
P	Raw data for graphite furnace AA
P	Raw data for mercury analysis
P	Raw data for cyanide analysis
NR	Percent solids calculation - soils only
RS	Sample prep/digestion logs
P	Chain of Custody Records
P	Sample description
NP	Case narrative

P = Provided in original data package
RS = Provided as resubmission
NP = Not provided
NR = Not required

I. Deliverables

All deliverables were present as specified in the statement of work.

Yes _____ No __X__

Comments:

1. A case narrative that addressed TAL Inorganics was not found in this data package or in its associated TCL Organics data package.

2. Raw data locations showing cyanide distillation and ICP, GFAA and mercury preparation information was provided as a resubmission.

II. Detection Limits

All results met the contract required detection limits (CRDL).

Yes __X__ No _____

Comments: No comments.

III. Holding Times

All holding times were met as specified in NYSDEC CLP protocols or in project plans, as applicable.

Yes __X__ No _____

Comments: Cyanide distillation (preparation) information did not show distillation dates. Since holding times were evaluated based on analysis date and VTSR, no action was taken by the reviewer.

IV. Calibration Quality Control

A. All initial instrument calibrations were performed as specified in the statement of work.

Yes _____ No __X__

Comments:

1. Initial instrument calibration standards were not analyzed at the CRDL for GFAA analytes as required in Section 7, p. 104 of the 1989 NYSDEC ASP. Since CRA standards for all GFAA analyses showed acceptable performance, no action was taken by the reviewer concerning this contractual violation.

2. Laboratory resubmission established that all initial instrument calibration standards used for cyanide analysis were distilled.

B. The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were analyzed at the contract specified frequency.

Yes __X__ No _____

Comments: No comments.

C. The ICV and CCV standard recovery results were within the contract specified control limits.

Yes _____ No __X__

Comments: The following is a table of samples, analytes, recoveries and qualifiers associated with a non-compliant ICV or CCV standard:

Sample	Analyte	Recovery	Qualifier
MW-04S	cyanide	80%	UJC
MW-04D	cyanide	80%	UJC
MW-06I	cyanide	80%	UJC
FBMW6IP	cyanide	80%	UJC
FBMW4SB	cyanide	80%	UJC
FBMW4DP	cyanide	80%	UJC

D. The CRDL check standards (concentration = 2XCRDL for ICP and 1XCRDL for GFAA) were run at the contract specified frequency for the required analytes.

Yes __X__ No ____

Comments: No comments.

E. The 2XCRDL check standard for ICP (CRI) exhibited recoveries which indicate that linearity problems are not likely at the lower end of the calibration curve.

Yes __X__ No ____

Comments: No comments.

F. The 1XCRDL check standards for GFAA (CRA) exhibited values which indicate that an adequate response was found at the low end of the calibration curve.

Yes __X__ No ____

Comments: No comments.

V. Blank Quality Control

A. The initial calibration blanks (ICB) and continuing calibration blanks (CCB) were analyzed at the contract specified frequency.

Yes __X__ No ____

Comments: No comments.

B. The ICB and CCB results were within the contract specified control limits.

Yes __X__ No _____

1. The following is a table of samples, analytes, blank values and qualifiers associated with a compliant ICB or CCB standard which exhibited contaminant levels that affect reported sample results:

Sample	Analyte	Sample Amount	Blank Amount (ug/L)	Qualifier
MW-06S	zinc	37.0	-7.7 B	JK
MW-06D	zinc	29.3	-7.9 B	JK
FBMW6DB	zinc	4.4 U	-7.9 B	UJK
MW-04S	zinc	20.1	-8.3 B	JK
MW-04D	zinc	36.9	-8.3 B	JK
FBMW6IP	zinc	4.4 U	-8.3 B	UJK
FBMW4SB	zinc	4.4 U	-8.3 B	UJK
FBMW4DP	zinc	8.2 B	-8.3 B	JK
MW-06D	silver	7.4 B	8.7 B	UJB
MW-06I	beryllium	1.2 U	-3.4 B	UJK
MW-06D	beryllium	1.2 U	-3.4 B	UJK
MW-04S	beryllium	1.2 U	-3.4 B	UJK
MW-04D	beryllium	1.2 U	-3.4 B	UJK
FBMW6IP	beryllium	1.2 U	-3.4 B	UJK
FBMW6DB	beryllium	1.2 U	-3.4 B	UJK
FBMW4SB	beryllium	1.2 U	-3.4 B	UJK
FBMW4DP	beryllium	1.2 U	1.5 B	JK
FBMW4DP	copper	5.5 U	-13.3 B	UJK
FBMW4SB	copper	5.5 U	-13.3 B	UJK
FBMW6DB	copper	5.5 U	-13.3 B	UJK
FBMW6IP	copper	5.5 U	-13.3 B	UJK
MW-04D	copper	7.7 B	-13.3 B	JK
MW-04S	copper	15.6 B	-13.3 B	JK
MW-06D	copper	11.2 B	-13.3 B	JK
MW-06I	copper	17.8 B	-13.3 B	JK
MW-06S	copper	24.3 B	-15.2 B	JK
MW-04S	aluminum	101 B	-67.4 B	JK
MW-06I	aluminum	204	-67.4 B	JK
FBMW4DP	aluminum	45.8 U	-67.4 B	UJK
FBMW4SB	aluminum	45.8 U	-67.4 B	UJK
FBMW6IP	aluminum	45.8 U	-67.4 B	UJK

2. When blank results with negative values are reported and sample results are either less than five times the absolute value of the blank or undetected, there exists the possibility that positive values may be biased low and undetected values may be false negatives. Samples affected have been qualified as estimated (JK or UJK).

3. Blank results whose absolute values were greater than the IDL were reported for aluminum. However, no sample result qualification has occurred when the associated sample analyte values were greater than five times the blank amount and/or were reported as undetected.

C. A Preparation blank was prepared and analyzed at the contract specified frequency.

Yes __X__ No _____

Comments: Laboratory resubmission stated that since CCB's were taken through the digestion process, these served as preparation blanks for mercury and cyanide analyses. Although cyanide CCB distillation is not identified in the raw data, laboratory resubmission noted that all initial instrument calibration standards were distilled, thus making the initial blank equivalent to a preparation blank.

D. All analytes in the preparation blank were below the CRDL.

Yes __X__ No _____

Comments: No comments.

E. All analytes in the preparation blank were less than the instrument detection limit (IDL).

Yes _____ No __X__

Comments: The following is a table of qualifiers, analytes, associated blank values and samples (with analyte values from the IDL to five times the IDL) associated with a possibly contaminated but contractually compliant preparation blank:

Sample	Analyte	Sample Amount (ug/L)		Blank Amount (ug/L)		Qualifier
MW-04S	aluminum	101	B	51.0	B	UJB
MW-06I	aluminum	204		51.0	B	UJB
MW-04D	copper	7.7	B	16.2	B	UJB
MW-04S	copper	15.6	B	16.2	B	UJB
MW-06D	copper	11.2	B	16.2	B	UJB
MW-06I	copper	17.8	B	16.2	B	UJB
MW-06S	copper	24.3	B	16.2	B	UJB
FBMW4SB	potassium	1590	B	1699.8	B	UJB
MW-06D	potassium	1700	B	1699.8	B	UJB
MW-06S	potassium	5970		1699.8	B	UJB
MW-06D	silver	7.4	B	6.1	B	UJB
FBMW4DP	sodium	237	B	210.8	B	UJB
FBMW6DB	sodium	728	B	210.8	B	UJB
FBMW6IP	sodium	154	B	210.8	B	UJB

F. The package contained other types of blanks submitted to the laboratory with the field samples.

Yes __X__ No _____ Not Identified _____

Comments: The following list shows the other types of blanks included in the package and contaminants found in these blanks. Sample values have not been qualified by the reviewer due to contaminants reported in these blanks.

Sample Number	Blank Type	Analyte	Amount (ug/L)
FBMW4DP		beryllium	1.5 B
		sodium	237 B
		zinc	8.2 B
FBMW4SB		cadmium	6.0
		potassium	1590 B

Sample Number	Blank Type	Analyte	Amount (ug/L)	
FBMW4DP		sodium	728	B
FBMW6I		sodium	154	B

VI. Accuracy Statements

A. Matrix (pre-digest) spike frequency was met.

Yes __X__ No _____

Comments: Sample MW-06D was used for matrix spiking. It was noted by the reviewer that a cyanide matrix spike analysis was performed on sample MW-04S, but not reported.

B. Matrix spike recoveries were within contract specified control limits (75 - 125%).

Yes _____ No __X__

Comments:

1. The following is a table of samples, analytes, recoveries and qualifiers associated with spike recoveries exceeding the contract specified control limits:

Matrix Spike Sample	Sample	Matrix	Analyte	Percent Recovery	Qualifier
MW-06D	all	water	antimony	167	see note 3
MW-06D	all	water	silver	41	UJS
MW-04S	all	water	cyanide	129	see note 3

2. Low recoveries for the above analytes indicate that the reported results may be biased low and that there is a possibility of false negatives being reported. The results for those analytes having high recoveries may be biased high and false positives may be reported.

3. No qualification by the data reviewer is required in the situation where an analyte having a high spike recovery is not detected in the sample.

C. All analysis (post digest) spike requirements were met for the above samples that required "N" flags. This is not required for GFAA analysis.

Yes __X__ No _____ Not Applicable _____

Comments:

The following is a table of samples and analytes for which analysis (post-digest) spikes were required:

Sample	Matrix	Analyte	Percent Recovery
MW-06D	water	antimony	141

Note: Data qualifiers are not added or eliminated based on the above post-digest spike results.

D. Laboratory control sample (LCS) frequency was met.

Yes __X__ No _____

Comments: No comments.

E. LCS recoveries were within contract specified control limits (aqueous = 80-120%, except Ag, Sb, Hg and CN; soil = as established for the specific material).

Yes __X__ No _____

Comments: No comments.

VII. Precision Statement

A. Matrix (pre-digest) duplicate frequency was met.

Yes __X__ No _____

Comments: Sample MW-06D was used for duplicate analysis.

B. Matrix (pre-digest) duplicate differences were within contract specified control limits (± 20 RPD or ± CRDL for results less than 5X the CRDL).

Yes __X__ No _____

Comments: No comments.

C. This package contained a field duplicate.

Yes _____ No _____ Not Identified __X__

Comments: No comments.

VIII. ICP Quality Control

A. Serial dilution frequency was met.

Yes __X__ No _____

Comments: Sample MW-06D was used for serial dilution analyses.

B. Differences for the serial dilution were within contract specified control limits (10% difference).

Yes __X__ No _____

Comments: No comments.

C. The interference check sample (ICS) was run at the required frequency for all required ICS analytes.

Yes __X__ No _____

Comments: No comments.

D. ICS percent recovery results were within contract specified control limits.

Yes __X__ No _____

Comments: No comments.

E. Any positive or negative values reported for elements not required to be in ICS solution A were examined per Functional Guidelines requirements.

Yes __X__ No _____

Comments: No comments.

F. Any positive or negative values reported for elements not required to be in ICS solution AB were examined per Functional Guidelines requirements.

Yes __X__ No _____

Comments: No comments.

IX. Graphite Furnace (GFAA) Quality Control

A. Duplicate injections were performed, where required, for all GFAA analyses and had RSDs of less than 20% where results were above the CRDL.

Yes __X__ No _____

Comments: No comments.

B. GFAA analysis (post-digest) spikes were performed on all required samples and at the concentration (2X CRDL) required.

Yes __X__ No _____

Comments: No comments.

C. Sample dilution and re-spiking was performed on all samples whose initial spike %R was less than 40%.

Yes _____ No _____ Not Applicable __X__

Comments: All recoveries were greater than 40%.

D. The analysis spike recoveries were all within the 85-115% control limits for those GFAA analysis sample results that were less than 50% of the post digest spike amount (absorbance).

Yes _____ No __X__ Not Applicable _____

Comments:

1. The following is a table of samples, analytes and qualifiers associated with GFAA analyses which did not require MSA but whose spike recoveries were outside control limits:

Sample	Analyte	Percent Recovery	Qualifier
MW-04D	arsenic	134	UJI
MW-06I	arsenic	116	JI
FBMW4SB	lead	118	UJI
MW-06D	lead	121	UJI
FBMW4DP	selenium	119	UJI
FBMW4SB	selenium	118	UJI
FBMW6DB	selenium	127	UJI
FBMW6IP	selenium	126	UJI
MW-06D	selenium	118	UJI
MW-06S	selenium	117	UJI
MW-06D	thallium	128	UJI
MW-06S	thallium	121	UJI

2. The following table is a listing of laboratory QC samples (e.g., prep blank, LCS, duplicate) that had analysis spike recoveries outside the 85-115% control limits. No data qualifiers are required due to these deficiencies.

Sample Number	Analyte	Percent Recovery
LCS	selenium	72
MW-06D Dup	thallium	128
MW-06D Dup	selenium	118

E. MSA was performed when required for GFAA analysis and followed the criteria specified in Exhibit E of the Statement of Work.

Yes __X__ No _____ Not Applicable _____

Comments: No comments.

X. General Comments

Attached is the New York State Department of Environmental Conservation Compliancy Summary.

Definition of Qualifiers
(Used by Data Reviewer)

The following qualifiers are those whose use is mandated by the Functional Guidelines for Inorganic Data Validation.

(R) = Rejected - Data are unusable (Note: Analyte may or may not be present)

(UJ) = Undetected, but the number that is reported as the detection limit is an estimated value (i.e. the quantitation limit is estimated)

(J) = Estimated value

The following subqualifiers give further detail of the type and amount of qualification a given data point has received.

-H = Qualified due to holding time violation

-I = Qualified due to interference problems (ICP serial dilution or ICS, or poor analytical spike recovery by graphite furnace)

-D = Qualified due to duplicate control limits being exceeded

-S = Qualified due to matrix spike recoveries outside control limits

-C = Qualified due to instrument calibration problems

-L = Qualified due to LCS recoveries outside control limits

-B = Qualified due to blank contamination problems

-K = Qualified due to negative blank value problems

-Q = Qualified for other reasons not stated above - refer to the text of the report

Example: The percent recovery of the Aluminum matrix spike was only 65%. Undetected values (e.g., Al <u>200u</u>) will be flagged as follows:

Al <u>200u</u> (UJ-S)

meaning the number being reported at the detection limit (200u) is estimated (UJ) due to spike recovery problems (-S).

Reported positive Aluminum values (e.g., Al <u>250</u>) will be flagged as follows:

Al <u>250</u> (J-S)

meaning the reported positive result (250) is estimated (J) due to spike recovery problems (-S).

Form NY

TABLE 1

Summary of Sample Data Qualifiers

Case/SDG: SDG309/6546 Project: Sayville

Sample ID	Matrix	Al	As	Be	Cu	Pb	K	Se	Ag	Na
FBMW4DP	water	UJK		JK	UJK			UJI	UJS	UJB
FBMW4SB	water	UJK		UJK	UJK	UJI	UJB	UJI	UJS	
FBMW6DB	water			UJK	UJK			UJI	UJS	UJB
FBMW6IP	water	UJK		UJK	UJK			UJI	UJS	UJB
MW-04D	water		UJI	UJK	UJKB				UJS	
MW-04S	water	UJKB		UJK	UJKB				UJS	
MW-06D	water			UJK	UJKB	UJI	UJB	UJI	UJBS	
MW-06I	water	UJKB	JI	UJK	UJKB				UJS	
MW-06S	water				UJKB		UJB	UJI	UJS	

Form NY

TABLE 1

Summary of Sample Data Qualifiers

Case/SDG: SDG309/6546 Project: Sayville

Sample ID	Matrix	Tl	Zn	CN						
FBMW4DP	water		JK	UJC						
FBMW4SB	water		UJK	UJC						
FBMW6DB	water		UJK							
FBMW6IP	water		UJK	UJC						
MW-04D	water		JK	UJC						
MW-04S	water		JK	UJC						
MW-06D	water	UJI	JK							
MW-06I	water			UJC						
MW-06S	water	UJI	JK							

Project: Sayville

NYSDEC Compliancy Summary Table

SDG/Case NO.	DATE	NYSDEC CLP YEAR	SAMPLE NO.	MATRIX	VOA COMPLIANCY	BNA COMPLIANCY	PEST/PCB COMPLIANCY	METALS COMPLIANCY	CN-	OTHER	NON-COMPLIANCY
SDG309 6546	11/90	1989	FBMW4DP	water	NA	NA	NA	No	No		1,2
			FBMW4SB	water	NA	NA	NA	No	No		1,2
			FBMW6DB	water	NA	NA	NA	No	Yes		1
			FBMW6IP	water	NA	NA	NA	No	No		1,2
			MW-04D	water	NA	NA	NA	No	No		1,2
			MW-04S	water	NA	NA	NA	No	No		1,2
			MW-06D	water	NA	NA	NA	No	Yes		1
			MW-06I	water	NA	NA	NA	No	No		1,2
			MW-06S	water	NA	NA	NA	No	Yes		1

1. GFAA calibration standards at the CRDL not analyzed.
2. Cyanide continuing calbration check standard recovery outside of control limits.

A:SVIDS001.WK3

CCJM
ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
DENVER
GRAND RAPIDS

MEMORANDUM

TO: Remo Gigante, Nytest Environmental

FROM: Roger Simon, Jeralyn Guthrie, Richard Cheatham, CCJM/Denver

DATE: April 24, 1991

DOCUMENT NO: SVMSI002.MEM

SUBJECT: Inorganic and Organic Analyses: Requests for Additional Information/Data for SDG308/ Cases 6496, 6527, 6533 and Cases 6546 and 6559

Preliminary data review has been performed on the data packages generated for Sayville identified as SDG308/Case 6496, 6527, 6533 and Cases 6546 and 6559. The following items require clarification and potential resubmissions for completion of the review process:

Inorganics:

1. ~~The ICP raw data for sample FBMW2DB was not found in the data package. This sample cannot be fully validated until this information is provided.~~

2. Were mercury and cyanide preparation blanks prepared with this group of samples? If so, please identify them in the raw data.

3. Are raw data cyanide distillation logs and ICP, GFAA and mercury digestion logs available? Form 13 summaries cannot be verified without this information.

4. Which, if any, of the cyanide initial instrument calibration standards was distilled?

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

hytest environmental inc.

RESUBMISSION

C.C. Johnson & Malhotra, P.C.
215 Union Boulevard
Suite 215
Lakewood, Colorado 80228

C.C.J.M.
1 1991
RECEIVED

C.C.J.M.
1 1991
RECEIVED

April 29, 1991

Dear Mr. Simon,

This is in response to your request for additional inorganics information/data for SDG308 cases 6946, 6527, 6533.

1. A copy of the ICP raw data for sample number FBMW2DB is attached.

2. Since all QC samples are digested in the same manner along with the orignal samples, Continuing Calibration Blanks (CCB's) can be considered preparation blanks.

3. Cyanide and Mercury digestion information is recorded on the same logbook pages as the data. ICAP and GFAA digestion information is found on page 00311 of the data package. A new sheet indicating that this is the digestion logbook is attached.

4. All cyanide initial instrument calibration standards were distilled.

5. Mercury results on forms 5 and 6 have been corrected and new copies are attached.

6. No, duplicate and spike results for mercury sample no. MW-03S are not applicable to this data package.

Sincerely,

Remo Gigante
Vice President

box 1518 □ 60 seaview blvd., port washington, ny 11050 □ (516) 625-5500

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW4D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N54606

Level (low/med): LOW Date Received: 11/15/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	45.8	U		P	UJK
7440-36-0	Antimony	38.6	U	N	P	
7440-38-2	Arsenic	5.0	U		F	
7440-39-3	Barium	17.0	U		P	
7440-41-7	Beryllium	1.5	B		P	UJK
7440-43-9	Cadmium	4.5	U		P	
7440-70-2	Calcium	139	U		P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	9.8	U		P	
7440-50-8	Copper	5.5	U		P	UJK
7439-89-6	Iron	16.2	U		P	
7439-92-1	Lead	3.0	U		F	
7439-95-4	Magnesium	568	U		P	
7439-96-5	Manganese	1.7	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	38.0	U		P	
7440-09-7	Potassium	1300	U		P	
7782-49-2	Selenium	5.0	U	W	F	UJ
7440-22-4	Silver	4.8	U	N	P	UJ
7440-23-5	Sodium	237	B		P	UJ
7440-28-0	Thallium	5.0	U		F	
7440-62-2	Vanadium	7.8	U		P	
7440-66-6	Zinc	8.2	B		P	JK
	Cyanide	10.0	U		AS	UJ

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW4DP

1/23/91

FORM I - IN

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW4S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N54605

Level (low/med): LOW Date Received: 11/15/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	45.8	U		P	UJK
7440-36-0	Antimony	38.6	U	N	P	
7440-38-2	Arsenic	5.0	U		F	
7440-39-3	Barium	17.0	U		P	
7440-41-7	Beryllium	1.2	U		P	UJK
7440-43-9	Cadmium	6.0			P	
7440-70-2	Calcium	139	U		P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	9.8	U		P	
7440-50-8	Copper	5.5	U		P	UJK
7439-89-6	Iron	16.2	U		P	
7439-92-1	Lead	3.0	U	W	F	UJI
7439-95-4	Magnesium	568	U		P	
7439-96-5	Manganese	1.7	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	38.0	U		P	
7440-09-7	Potassium	1590	B		P	UJB
7782-49-2	Selenium	5.0	U	W	F	UJI
7440-22-4	Silver	4.8	U	N	P	UJC
7440-23-5	Sodium	125	U		P	
7440-28-0	Thallium	5.0	U		F	
7440-62-2	Vanadium	7.8	U		P	
7440-66-6	Zinc	4.4	U		P	UJK
	Cyanide	10.0	U		AS	UJK

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW4SB

JS 4/23/91

FORM I - IN

7/88

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW6D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N55905

Level (low/med): LOW Date Received: 11/16/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U		P
7440-36-0	Antimony	38.6	U	N	P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	16.2	U		P
7439-92-1	Lead	3.0	U		F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	1.7	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U	W	F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	728	B		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	4.4	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW6DB

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW6I

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N54604

Level (low/med): LOW Date Received: 11/15/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	45.8	U		P	UJK
7440-36-0	Antimony	38.6	U	N	P	
7440-38-2	Arsenic	5.0	U		F	
7440-39-3	Barium	17.0	U		P	
7440-41-7	Beryllium	1.2	U		P	UJK
7440-43-9	Cadmium	4.5	U		P	
7440-70-2	Calcium	139	U		P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	9.8	U		P	
7440-50-8	Copper	5.5	U		P	UJK
7439-89-6	Iron	16.2	U		P	
7439-92-1	Lead	3.0	U		F	
7439-95-4	Magnesium	568	U		P	
7439-96-5	Manganese	1.7	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	38.0	U		P	
7440-09-7	Potassium	1300	U		P	
7782-49-2	Selenium	5.0	U	W	F	UJ
7440-22-4	Silver	4.8	U	N	P	UJS
7440-23-5	Sodium	154	B		P	UJB
7440-28-0	Thallium	5.0	U		F	
7440-62-2	Vanadium	7.8	U		P	
7440-66-6	Zinc	4.4	U		P	UJK
	Cyanide	10.0	U		AS	UJ

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW6IP

4/23/91

FORM I - IN

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ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
DENVER
GRAND RAPIDS

DOCUMENT NO.: SVIDS005.RVW

INORGANICS DATA REVIEW SUMMARY - Form NY

Case No. 6496, 6527, 6533 Project No. _____

Site Sayville Landfill

Contract Laboratory Nytest Environmental Inc.

Sample Delivery Group (SDG) SDG308 Sampling Date (Month/Year) 11/90

Sample Matrix 16 low waters

Type of Analyses/Special Request TAL Inorganics, Cyanide

Sample No.	MW-1S	MW-2S	FBMW2DB	FBMW5DB	
	MW-1D	MW-2D	FBMW2SP	FBMW3DB	
	FB11:45	MW-5S	MW-3S	FBMW5DP	
	FB09:00	FBMW5SP	MW-3D	MW-5D	
Lab QC Samples	MW-1SMS	MW-1S DUP			

Data Reviewer Roger Simon RS Date 5/7/91

QA Review by Jeralyn Guthrie JG Date 5/7/91

CCJM Approval by Richard A. Cheatham RAC Date 5/7/91

Telephone logs/Correspondence attached? Yes X No ____
Contractual violations found? Yes X No ____ Not Appl. ____
Laboratory Case Narrative attached? Yes X No ____ Not Aval. ____

Remarks: This review is based on laboratory resubmissions (received CCJM 5/1/91) and is being considered as final.

Note:
-- The EPA Functional Guidelines for Evaluating Inorganics Analyses (Data Review SOP), NYSDEC protocols, and project specific planning documents have been used by the data reviewer as a basis for reviewing the data and applying qualifiers, except as specifically noted in review comments.

-- Please see data qualifier and sub-qualifier definitions on the last page. This scheme of qualifiers is intended to help indicate the reasons or problems which cause sample values to be qualified.

C.C. JOHNSON & MALHOTRA, P.C.
215 UNION BOULEVARD, SUITE 215 • LAKEWOOD, COLORADO 80228 • (303) 987-2928

Form NY

NYSDEC CLP Year: 1989

Inorganic Data Completeness Checklist

P	Inorganic Cover Page
P	Inorganic analysis data sheets (Form 1)
P	Initial calibration and calibration verification results (Form 2A)
P	Continuing calibration verification (Form 2A)
P	CRDL Standard Analysis (Form 2B)
P	Blank results (Form 3)
P	ICP interference check sample (Form 4)
P	Spike results (Form 5A)
P	Post-digest spike results (Form 5B)
P	Duplicate results (Form 6)
P	Standard Addition results (Form 8)
P	Laboratory Control Sample (LCS) Results (Form 7)
P	Serial Dilution Results (Form 9)
P	Instrument Detection Limits (Form 10)
P	ICP Interelement Correction Factors (Form 11)
P	ICP Linear Ranges (Form 12)
P	Preparation Log (Form 13)
P	Analysis Run log (Form 14)
P/RS	Raw data for samples
P	Raw data for calibration standards
P	Raw data for blanks
P	Raw data for ICP quality control (ICS and Serial Dilution)
P	Raw data for spikes
P	Raw data for duplicates
P	Raw data for LCS
P	Raw data for graphite furnace AA
P	Raw data for mercury analysis
P	Raw data for cyanide analysis
NR	Percent solids calculation - soils only
RS	Sample prep/digestion logs
P	Chain of Custody Records
P	Sample description
P	Case narrative

P = Provided in original data package
RS = Provided as resubmission
NP = Not provided
NR = Not required

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-06S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N55901

Level (low/med): LOW Date Received: 11/16/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1920			P	
7440-36-0	Antimony	38.6	U	N	P	
7440-38-2	Arsenic	5.0	U		F	
7440-39-3	Barium	41.7	B		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	4.5	U		P	
7440-70-2	Calcium	15500			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	9.8	U		P	
7440-50-8	Copper	24.3	B		P	
7439-89-6	Iron	5610			P	
7439-92-1	Lead	4.3			F	
7439-95-4	Magnesium	3870	B		P	
7439-96-5	Manganese	314			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	38.0	U		P	
7440-09-7	Potassium	5970			P	
7782-49-2	Selenium	5.0	U	W	F	
7440-22-4	Silver	4.8	U	N	P	
7440-23-5	Sodium	15400			P	
7440-28-0	Thallium	5.0	U	W	F	
7440-62-2	Vanadium	7.8	B		P	
7440-66-6	Zinc	37.0			P	
	Cyanide	10.0	U		AS	

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-6S

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-06D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N55902

Level (low/med): LOW Date Received: 11/16/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	45.8	U		P	
7440-36-0	Antimony	38.6	U	N	P	
7440-38-2	Arsenic	5.0	U		F	
7440-39-3	Barium	17.0	U		P	
7440-41-7	Beryllium	1.2	U		P	UJK
7440-43-9	Cadmium	4.5	U		P	
7440-70-2	Calcium	6630			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	11.9	B		P	
7440-50-8	Copper	11.2	B		P	UJKB
7439-89-6	Iron	277			P	
7439-92-1	Lead	3.0	U	W	F	UJI
7439-95-4	Magnesium	2120	B		P	
7439-96-5	Manganese	268			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	38.0	U		P	
7440-09-7	Potassium	1700	B		P	UJB
7782-49-2	Selenium	5.0	U	W	F	UJI
7440-22-4	Silver	7.4	B	N	P	UJSP
7440-23-5	Sodium	12400			P	
7440-28-0	Thallium	5.0	U	W	F	UJI
7440-62-2	Vanadium	7.8	U		P	
7440-66-6	Zinc	29.3			P	JK
	Cyanide	10.0	U		AS	~~P~~

Color Before: YELLOW Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-6D

4/23/91

FORM I - IN

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-06I

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N54603

Level (low/med): LOW Date Received: 11/15/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	204			P	
7440-36-0	Antimony	38.6	U	N	P	
7440-38-2	Arsenic	6.2	B	W	F	J I
7440-39-3	Barium	114	B		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	5.5			P	
7440-70-2	Calcium	39200			P	
7440-47-3	Chromium	11.6			P	
7440-48-4	Cobalt	10.6	B		P	
7440-50-8	Copper	17.8	B		P	
7439-89-6	Iron	22600			P	
7439-92-1	Lead	134			F	
7439-95-4	Magnesium	17600			P	
7439-96-5	Manganese	394			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	38.0	U		P	
7440-09-7	Potassium	37200			P	
7782-49-2	Selenium	5.0	U		F	
7440-22-4	Silver	4.8	U	N	P	
7440-23-5	Sodium	55900			P	
7440-28-0	Thallium	5.0	U		F	
7440-62-2	Vanadium	10.3	B		P	
7440-66-6	Zinc	67.8			P	
	Cyanide	10.0	U		AS	

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-6I
LEAD 1:5 DIL

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-04D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N54602

Level (low/med): LOW Date Received: 11/15/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2250			P	
7440-36-0	Antimony	38.6	U	N	P	
7440-38-2	Arsenic	5.0	U	W	F	UJ
7440-39-3	Barium	75.4	B		P	
7440-41-7	Beryllium	1.2	U		P	UJK
7440-43-9	Cadmium	4.5	U		P	
7440-70-2	Calcium	73900			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	9.8	U		P	
7440-50-8	Copper	7.7	B		P	UJNB
7439-89-6	Iron	13300			P	
7439-92-1	Lead	135			F	
7439-95-4	Magnesium	7500			P	
7439-96-5	Manganese	2060			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	38.0	U		P	
7440-09-7	Potassium	13600			P	
7782-49-2	Selenium	5.0	U		F	
7440-22-4	Silver	4.8	U	N	P	UJ
7440-23-5	Sodium	23400			P	
7440-28-0	Thallium	5.0	U		F	
7440-62-2	Vanadium	7.8	U		P	
7440-66-6	Zinc	36.9			P	JK
	Cyanide	10.0	U		AS	UJ

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-4D
LEAD 1:5 DIL

25
4/23/91

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-04S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6546 SAS No.: SDG No.: SDG309

Matrix (soil/water): WATER Lab Sample ID: N54601

Level (low/med): LOW Date Received: 11/15/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	101	B		P	UJKR
7440-36-0	Antimony	38.6	U	N	P	
7440-38-2	Arsenic	9.9	B		F	
7440-39-3	Barium	101	B		P	
7440-41-7	Beryllium	1.2	U		P	UJK
7440-43-9	Cadmium	4.5	U		P	
7440-70-2	Calcium	51500			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	9.8	U		P	
7440-50-8	Copper	15.6	B		P	UJKB
7439-89-6	Iron	11800			P	
7439-92-1	Lead	16.0		S	F	
7439-95-4	Magnesium	19500			P	
7439-96-5	Manganese	794			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	38.0	U		P	
7440-09-7	Potassium	38100			P	
7782-49-2	Selenium	5.0	U	W	F	
7440-22-4	Silver	4.8	U	N	P	UJS
7440-23-5	Sodium	52000			P	
7440-28-0	Thallium	5.0	U		F	
7440-62-2	Vanadium	7.8	U		P	
7440-66-6	Zinc	20.1			P	JK
	Cyanide	10.0	U		AS	UJK

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-4S

JS 4/23/91

FORM I - IN

I. Deliverables

All deliverables were provided as specified in the statement of work.

Yes __X__ No _____

Comments:

1. ICP raw data for sample FBMW2DB was provided as a resubmission.

2. Raw data locations showing cyanide distillation and ICP, GFAA and mercury preparation information were provided as a resubmission.

II. Detection Limits

All results met the contract required detection limits (CRDL).

Yes __X__ No _____

Comments: No comments

III. Holding Times

All holding times were met as specified in NYSDEC CLP protocols or in project plans, as applicable.

Yes __X__ No _____

Comments: Cyanide distillation (preparation) information did not show distillation dates. Since holding times were evaluated based on analysis date and VTSR, no action was taken by the reviewer.

IV. Calibration Quality Control

A. All initial instrument calibrations were performed as specified in the statement of work.

Yes _____ No __X__

Comments:

1. Initial instrument calibration standards were not analyzed at the CRDL for GFAA analytes as required in Section 7, p. 104 of the 1989 NYSDEC ASP. Since CRA standards for all GFAA analyses showed acceptable performance, no action was taken by the reviewer concerning this contractual violation.

2. Laboratory resubmission established that all initial instrument calibration standards used for cyanide analysis were distilled.

B. The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were analyzed at the contract specified frequency.

Yes __X__ No _____

Comments: No comments.

C. The ICV and CCV standard recovery results were within the contract specified control limits.

Yes __X__ No _____

Comments: No comments.

D. The CRDL check standards (concentration = 2XCRDL for ICP and 1XCRDL for GFAA) were run at the contract specified frequency for the required analytes.

Yes __X__ No _____

Comments: No comments.

E. The 2XCRDL check standard for ICP (CRI) exhibited recoveries which indicate that linearity problems are not likely at the lower end of the calibration curve.

Yes __X__ No _____

Comments: No comments.

F. The 1XCRDL check standards for GFAA (CRA) exhibited values which indicate that an adequate response was found at the low end of the calibration curve.

Yes __X__ No _____

Comments: No comments.

V. Blank Quality Control

A. The initial calibration blanks (ICB) and continuing calibration blanks (CCB) were analyzed at the contract specified frequency.

Yes __X__ No _____

Comments: No comments.

B. The ICB and CCB results were within the contract specified control limits.

Yes __X__ No _____

1. The following is a table of samples, analytes, blank values and qualifiers associated with a compliant ICB or CCB standard which exhibited contaminant levels or negative blank problems that affect reported sample results:

Sample	Analyte	Sample Amount		Blank Amount (ug/L)		Qualifier
MW-1S	beryllium	1.2	U	- 2.0	B	UJK
MW-1S	copper	6.9	B	-14.3	B	JK
MW-1S	zinc	23.7		- 6.4	B	JK
FB11:45	aluminum	45.8	U	-48.6	B	UJK
FB09:00	aluminum	45.8	U	-48.6	B	UJK
MW-2D	aluminum	76.6	B	-48.6	B	JK
MW-5S	aluminum	45.8	U	-48.6	B	UJK
FBMW5SP	aluminum	45.8	U	-48.6	B	UJK
FBMW2DB	aluminum	45.8	U	-48.6	B	UJK
FBMW2SP	aluminum	45.8	U	-48.6	B	UJK
MW-3D	aluminum	51.3	B	-48.6	B	JK
FBMW5DB	aluminum	45.8	U	-48.6	B	UJK
FBMW3DB	aluminum	45.8	U	-48.6	B	UJK
FBMW5DP	aluminum	45.8	U	-48.6	B	UJK
MW-1D	copper	13.1	B	-15.2	B	JK
FB11:45	copper	5.5	U	-15.2	B	UJK
FB09:00	copper	5.5	U	-15.2	B	UJK
MW-2S	copper	20.0	B	-15.2	B	JK
MW-2D	copper	7.0	B	-15.2	B	JK
MW-5S	copper	5.5	U	-15.2	B	UJK
FBMW5SP	copper	5.5	U	-15.2	B	UJK
FBMW2DB	copper	5.5	U	-15.2	B	UJK
FBMW2SP	copper	5.5	U	-15.2	B	UJK
MW-3S	copper	16.3	B	-15.2	B	JK
MW-3D	copper	7.1	B	-15.2	B	JK
MW-5D	copper	11.9	B	-15.2	B	JK
FBMW5DB	copper	5.5	U	-15.2	B	UJK
FBMW3DB	copper	5.5	U	-15.2	B	UJK
FBMW5DP	copper	5.5	U	-15.2	B	UJK
MW-1D	zinc	25.9		- 7.7	B	JK
FB11:45	zinc	4.4	U	- 7.7	B	UJK
FB09:00	zinc	4.4	U	- 7.7	B	UJK
MW-2D	zinc	6.8	B	- 7.7	B	JK
MW-5S	zinc	4.4	U	- 7.7	B	UJK

Sample	Analyte	Sample Amount		Blank Amount (ug/L)		Qualifier
FBMW5SP	zinc	5.5	U	- 7.7	B	UJK
FBMW2DB	zinc	4.5	B	- 7.7	B	JK
FBMW2SP	zinc	4.4	U	- 7.7	B	UJK
MW-3S	zinc	18.8	B	- 7.7	B	JK
MW-3D	zinc	20.0		- 7.7	B	JK
MW-5D	zinc	37.3		- 7.7	B	JK
FBMW5DB	zinc	4.4	U	- 7.7	B	UJK
FBMW3DB	zinc	10.1	B	- 7.7	B	JK
FBMW5DP	zinc	4.9	B	- 7.7	B	JK

2. When blank results with negative values are reported and sample results are either less than five times the absolute value of the blank or undetected, there exists the possibility that positive values may be biased low and undetected values may be false negatives. Samples affected have been qualified as estimated (JK or UJK).

3. Blank results whose absolute values were greater than the IDL were reported for potassium and silver. However, no sample result qualification has occurred when the associated sample analyte values were greater than five times the blank amount and/or were reported as undetected.

C. A Preparation blank was prepared and analyzed at the contract specified frequency.

Yes __X__ No _____

Comments: Laboratory resubmission stated that since CCB's were taken through the digestion process, these served as preparation blanks for mercury and cyanide analyses. Although cyanide CCB distillation was not documented in the raw data, laboratory resubmission stated that all initial instrument calibration standards were distilled thus making the initial blank equivalent to a preparation blank.

D. All analytes in the preparation blank were below the CRDL.

Yes __X__ No _____

Comments: No comments.

E. All analytes in the preparation blank were less than the instrument detection limit (IDL).

Yes _____ No __X__

Comments:

1. The following is a table of qualifiers, analytes, associated blank values and samples (with analyte values from the IDL to five times the IDL) associated with a contractually compliant preparation blank that exhibited contaminant levels or negative blank values that affect reported sample results.

Sample	Analyte	Sample Amount (ug/L or mg/kg)		Blank Amount (ug/L or mg/kg)		Qualifier
FB11:45	iron	41.5	B	38.4	B	UJB
FB09:00	iron	43.0	B	38.4	B	UJB
MW-02D	iron	74.9	B	38.4	B	UJB
MW-05S	iron	43.4	B	38.4	B	UJB
MW-01S	potassium	1300	U	-2108.9	B	UJK
MW-01D	potassium	1300	U	-2108.9	B	UJK
FB11:45	potassium	1300	U	-2108.9	B	UJK
FB09:00	potassium	1410	B	-2108.9	B	JK
MW-02S	potassium	3500	B	-2108.9	B	JK
MW-02D	potassium	5030		-2108.9	B	JK
MW-05S	potassium	8730		-2108.9	B	JK
FBMW5SP	potassium	1300	U	-2108.9	B	UJK
FBMW2DB	potassium	1300	U	-2108.9	B	UJK
FBMW2SP	potassium	1300	U	-2108.9	B	UJK
MW-3S	potassium	7470		-2108.9	B	JK
MW-5D	potassium	7670		-2108.9	B	JK
FBMW5DB	potassium	1300	U	-2108.9	B	UJK
FBMW3DB	potassium	1300	U	-2108.9	B	UJK
FBMW5DP	potassium	1300	U	-2108.9	B	UJK
FBMW5SP	sodium	318	B	280.4	B	UJB
FBMW2SP	sodium	188	B	280.4	B	UJB
FBMW5DB	sodium	160	B	280.4	B	UJB
FBMW3DB	sodium	159	B	280.4	B	UJB

2. When blank results with negative values are reported and sample results are either less than five times the absolute value of the blank or undetected, there exists the possibility that positive values may be biased low and undetected values may be false negatives. Samples affected have been qualified as estimated (JK or UJK).

F. The package contained other types of blanks submitted to the laboratory with the field samples.

Yes __X__ No _____ Not Identified _____

Comments: The following list shows the other types of blanks included in the package and contaminants found in these blanks. Sample values have not been qualified by the reviewer due to contaminants reported in these blanks.

Sample Number	Blank Type	Analyte	Amount (ug/L)	
FB11:45	Field blank	iron	41.5	B
		manganese	2.0	B
FB09:00	Field blank	iron	43.0	B
		manganese	2.0	B
		potassium	1410	B
		vanadium	8.9	B
FBMW5SP	Field Blank	sodium	318	B
FBMW2DB	Field Blank	zinc	4.5	B
FBMW2SP	Field Blank	sodium	188	B
FBMW5DB	Field Blank	sodium	160	B
FBMW3DB	Field Blank	sodium	159	B
		zinc	10.1	B
FBMW5DP	Field Blank	zinc	4.9	B

VI. Accuracy Statements

A. Matrix (pre-digest) spike frequency was met.

Yes __X__ No _____

Comments: Sample MW-1S was used for matrix spiking.

B. Matrix spike recoveries were within contract specified control limits (75 - 125%).

Yes _____ No __X__

Comments:

1. The following is a table of samples, analytes, recoveries and qualifiers associated with spike recoveries exceeding the contract specified control limits:

Samples	Matrix	Analyte	Percent Recovery	Qualifier
All	water	aluminum	348	JS, see note 3
		iron	909	JS, see note 3
		manganese	178	JS, see note 3
		silver	58	UJS
		lead	131	JS, see note 3

2. Low recoveries for the above analytes indicate that the reported results may be biased low and that there is a possibility of false negatives being reported. The results for those analytes having high recoveries may be biased high and false positives may be reported.

3. No qualification by the data reviewer is required in the situation where an analyte having a high spike recovery is not detected in the sample.

C. All analysis (post digest) spike requirements were met for the above samples that required "N" flags. This is not required for GFAA analysis.

Yes __X__ No _____ Not Applicable _____

Comments:

The following is a table of samples and analytes for which analysis (post-digest) spikes were required:

Sample	Matrix	Analyte	Percent Recovery
MW-1S	water	aluminum	98.5
		iron	84.3
		magnesium	108.4

Note: Data qualifiers are not added or eliminated based on the above post-digest spike results.

D. Laboratory control sample (LCS) frequency was met.

Yes __X__ No _____

Comments: No comments.

E. LCS recoveries were within contract specified control limits (aqueous = 80-120%, except Ag, Sb, Hg and CN; soil = as established for the specific material).

Yes __X__ No _____

Comments: No comments.

VII. Precision Statement

A. Matrix (pre-digest) duplicate frequency was met.

Yes __X__ No _____

Comments: Sample MW-1S was used for duplicate analysis.

B. Matrix (pre-digest) duplicate differences were within contract specified control limits (± 20 RPD or ± CRDL for results less than 5X the CRDL).

Yes __X__ No _____

Comments: No comments.

C. This package contained a field duplicate.

Yes _____ No _____ Not Identified __X__

Comments: No comments.

VIII. ICP Quality Control

A. Serial dilution frequency was met.

Yes __X__ No _____

Comments: Sample MW-1S was used for serial dilution analyses.

B. Differences for the serial dilution were within contract specified control limits (10% difference).

Yes __X__ No _____

Comments: No comments.

C. The interference check sample (ICS) was run at the required frequency for all required ICS analytes.

Yes __X__ No _____

Comments: No comments.

D. ICS percent recovery results were within contract specified control limits.

Yes __X__ No _____

Comments: No comments.

E. Any positive or negative values reported for elements not required to be in ICS solution A were examined per Functional Guidelines requirements.

Yes __X__ No _____

Comments: The following samples were qualified due to potential interferant effects as determined by Functional Guidelines procedures.

Sample Number	Analyte	Matrix	Interference Effect	Qualifier
MW-02S	cadmium	water	1	UJI
MW-05S	cadmium	water	1	UJI
MW-05S	silver	water	1	UJI
MW-03S	cadmium	water	1	UJI
MW-03S	silver	water	1	UJI
MW-03S	vanadium	water	2	JI
MW-03S	zinc	water	3	JI
MW-03D	cadmium	water	1	UJI
MW-03D	silver	water	1	UJI
MW-03D	zinc	water	2	JI
MW-05D	cadmium	water	1	UJI

1 = Possible false negative
2 = Possible false positive
3 = Possible high bias

F. Any positive or negative values reported for elements not required to be in ICS solution AB were examined per Functional Guidelines requirements.

Yes __X__ No ____

Comments: No comments.

IX. Graphite Furnace (GFAA) Quality Control

A. Duplicate injections were performed, where required, for all GFAA analyses and had RSDs of less than 20% where results were above the CRDL.

Yes __X__ No ____

Comments: No comments.

B. GFAA analysis (post-digest) spikes were performed on all required samples and at the concentration (2X CRDL) required.

Yes __X__ No ____

Comments: No comments.

C. Sample dilution and re-spiking was performed on all samples whose initial spike %R was less than 40%.

Yes ____ No ____ Not Applicable __X__

Comments: All recoveries were greater than 40%.

D. The analysis spike recoveries were all within the 85-115% control limits for those GFAA analysis sample results that were less than 50% of the post digest spike amount (absorbance).

Yes _____ No __X__ Not Applicable _____

Comments: The following is a table of samples, analytes and qualifiers associated with GFAA analyses which did not require MSA but whose spike recoveries were outside control limits:

Sample	Analyte	Percent Recovery	Qualifier
MW-2D	lead	117	UJI
MW-5S	lead	117	UJI
MW-3D	lead	124	JI
FBMW3DB	lead	117	UJI
FBMW2SP	selenium	118	UJI
FBMW5DP	selenium	123	UJI

E. MSA was performed when required for GFAA analysis and followed the criteria specified in Exhibit E of the Statement of Work.

Yes __X__ No _____ Not Applicable _____

Comments: No comments.

X. General Comments

1. Attached is the New York State Department of Environmental Conservation Compliancy Summary.

2. Laboratory resubmission provided corrected Forms 5A and 6 summaries.

3. Laboratory resubmission established that matrix spike and matrix duplicate results for sample MW-3S were not applicable to this data package.

4. Sample MW-3D was unnecessarily flagged with a "W" for selenium. Its post digestion spike recovery was 85 percent.

Definition of Qualifiers
(Used by Data Reviewer)

The following qualifiers are those whose use is mandated by the Functional Guidelines for Inorganic Data Validation.

(R) = Rejected - Data are unusable (Note: Analyte may or may not be present)

(UJ) = Undetected, but the number that is reported as the detection limit is an estimated value (i.e. the quantitation limit is estimated)

(J) = Estimated value

The following subqualifiers give further detail of the type and amount of qualification a given data point has received.

-H = Qualified due to holding time violation

-I = Qualified due to interference problems (ICP serial dilution or ICS, or poor analytical spike recovery by graphite furnace)

-D = Qualified due to duplicate control limits being exceeded

-S = Qualified due to matrix spike recoveries outside control limits

-C = Qualified due to instrument calibration problems

-L = Qualified due to LCS recoveries outside control limits

-B = Qualified due to blank contamination problems

-K = Qualified due to negative blank value problems

-Q = Qualified for other reasons not stated above - refer to the text of the report

Example: The percent recovery of the Aluminum matrix spike was only 65%. Undetected values (e.g., Al <u>200u</u>) will be flagged as follows:

Al <u>200u</u> (UJ-S)

meaning the number being reported at the detection limit (200u) is estimated (UJ) due to spike recovery problems (-S).

Reported positive Aluminum values (e.g., Al <u>250</u>) will be flagged as follows:

Al <u>250</u> (J-S)

meaning the reported positive result (250) is estimated (J) due to spike recovery problems (-S).

Form NY

TABLE 1

Summary of Sample Data Qualifiers

Case/SDG: SDG308/6496,6527,6533 Project: Sayville

Sample ID	Matrix	Al	Be	Cd	Cu	Fe	Pb	Mn	K	Se	Ag	Na	V	Zn
MW-1S	water	JS	UJK		JK	JS	JS	JS	UJK		UJS			JK
MW-1D	water	JS			JK	JS	JS	JS	UJK		UJS			JK
FB11:45	water	UJK			UJK	UJBS		JS	UJK		UJS			UJK
FB09:00	water	UJK			UJK	UJBS		JS	JK		UJS			UJK
MW-2S	water	JS		UJI	JK	JS	JS	JS	JK		UJS			
MW-2D	water	JKS			JK	UJBS	UJI	JS	JK		UJS			JK
MW-5S	water	UJK		UJI	UJK	UJBS	UJI	JS	JK		UJSI			UJK
FBMW5SP	water	UJK			UJK				UJK		UJS	UJB		UJK
FBMW2DB	water	UJK			UJK				UJK		UJS			JK
FBMW2SP	water	UJK			UJK				UJK	UJI	UJS	UJB		UJK
MW-3S	water	JS		UJI	JK	JS	JS	JS	JK		UJSI		JI	JKI
MW-3D	water	JKS		UJI	JK	JS	JSI	JS			UJSI			JKI
MW-5D	water	JS		UJI	JK	JS	JS	JS	JK		UJS			JK
FBMW5DB	water	UJK			UJK				UJK		UJS	UJB		UJK
FBMW3DB	water	UJK			UJK		UJI		UJK		UJS	UJB		JK
FBMW5DP	water	UJK			UJK				UJK	UJI	UJS			JK

Project: Sayville

NYSDEC Compliancy Summary Table

SDG/Case NO.	DATE	NYSDEC CLP YEAR	SAMPLE NO.	MATRIX	VOA COMPLIANCY	BNA COMPLIANCY	PEST/PCB COMPLIANCY	METALS COMPLIANCY	CN-	OTHER	NON-COMPLIANCY
SDG308 6496,6527, 6533	11/90	1989	MW-1S	water	NA	NA	NA	No	No		1
			MW-1D	water	NA	NA	NA	No	No		1
			FB11:45	water	NA	NA	NA	No	No		1
			FB09:00	water	NA	NA	NA	No	No		1
			MW-2S	water	NA	NA	NA	No	No		1
			MW-2D	water	NA	NA	NA	No	No		1
			MW-5S	water	NA	NA	NA	No	No		1
			FBMW5SP	water	NA	NA	NA	No	No		1
			FBMW2DB	water	NA	NA	NA	No	No		1
			FBMW2SP	water	NA	NA	NA	No	No		1
			MW-3S	water	NA	NA	NA	No	No		1
			MW-3D	water	NA	NA	NA	No	No		1
			MW-5D	water	NA	NA	NA	No	No		1
			FBMW5DB	water	NA	NA	NA	No	No		1
			FBMW3DB	water	NA	NA	NA	No	No		1
			FBMW5DP	water	NA	NA	NA	No	No		1

1. Initial instrument standards for GFAA not analyzed at the CRDL.

A:SVIDS005.WK3

CCJM
ENVIRONMENTAL ENGINEERS & SCIENTISTS

SILVER SPRING
CHICAGO
DENVER
GRAND RAPIDS

MEMORANDUM

TO: Remo Gigante, Nytest Environmental

FROM: Roger Simon, Jeralyn Guthrie, Richard Cheatham, CCJM/Denver

DATE: April 24, 1991

DOCUMENT NO: SVMSI002.MEM

SUBJECT: Inorganic and Organic Analyses: Requests for Additional Information/Data for SDG308/ Cases 6496, 6527, 6533 and Cases 6546 and 6559

Preliminary data review has been performed on the data packages generated for Sayville identified as SDG308/Case 6496, 6527, 6533 and Cases 6546 and 6559. The following items require clarification and potential resubmissions for completion of the review process:

Inorganics:

1. The ICP raw data for sample FBMW2DB was not found in the data package. This sample cannot be fully validated until this information is provided.

2. Were mercury and cyanide preparation blanks prepared with this group of samples? If so, please identify them in the raw data.

3. Are raw data cyanide distillation logs and ICP, GFAA and mercury digestion logs available? Form 13 summaries cannot be verified without this information.

4. Which, if any, of the cyanide initial instrument calibration standards was distilled?

5. Please verify that mercury matrix spike and duplicate results reported on Forms 5 and 6 respectively are for sample MW-01S not MW-02S.

6. Matrix spike and duplicate results were found in the raw data for sample MW-03S, but were not reported on any summary forms. Was this analysis applicable to this data package?

Organics:

1. The Form 6A for the initial calibration performed 11/19/90 on Instrument C shows response factors reported for the 20 ug/L styrene and m-xylene standards and the 100 ug/L styrene standard, however, no values for the areas are shown in the raw data (please refer to raw data pages 175 and 183 in Case 6546 and pages 99 and 107 in Case 6559). The Form 7A for the continuing calibration on 1/22/91 has a similar problem for styrene (see raw data page 201). Please explain the source of the response factors reported on the Forms 6A and 7A and provide any necessary raw data.

2. Carbon tetrachloride for the continuing calibration performed on 11/21/90 is reported on Form 7A as having a response factor of 1.070 and a % D of 8.9%. However, the calculations performed by the reviewer using the raw data (page 193) result in the RRF for the 50 standard being 0.146 and a % D of 87%. Please explain the source of the reported values and please provide any corrections or raw data necessary to verify the values.

If you have any questions about the above requests, please call us at (303) 987-2928.

cc: Robert Burgner, R.E. Pustorino, P.C.
PF-Sayville

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

RESUBMISSION

C.C. Johnson & Malhotra, P.C.
215 Union Boulevard
Suite 215
Lakewood, Colorado 80228

C.C.J.M.
MAY - 1 1991
RECEIVED

C.C.J.M.
MAY - 1 1991
RECEIVED

April 29, 1991

Dear Mr. Simon,

This is in response to your request for additional inorganics information/data for SDG308 cases 6946, 6527, 6533.

1. A copy of the ICP raw data for sample number FBMW2DB is attached.

2. Since all QC samples are digested in the same manner along with the orignal samples, Continuing Calibration Blanks (CCB's) can be considered preparation blanks.

3. Cyanide and Mercury digestion information is recorded on the same logbook pages as the data. ICAP and GFAA digestion information is found on page 00311 of the data package. A new sheet indicating that this is the digestion logbook is attached.

4. All cyanide initial instrument calibration standards were distilled.

5. Mercury results on forms 5 and 6 have been corrected and new copies are attached.

6. No, duplicate and spike results for mercury sample no. MW-03S are not applicable to this data package.

Sincerely,

Remo Gigante
Vice President

box 1518 □ 60 seaview blvd, port washington, ny 11050 □ (516) 625-5500

CASE NARRATIVE

LOG IN NO: 6496
SDG NO: SDG308

Sample MW-1S was analyzed for duplicate and spike results for all elements except mercury and cyanide: Sample MW-1D was analyzed for mercury and Sample MW-2S for cyanide.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB0900

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N49604

Level (low/med): LOW Date Received: 11/09/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	43.0	B	N	P
7439-92-1	Lead	3.0	U	N	F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	2.0	B	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1410	B		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	125	U		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	8.9	B		P
7440-66-6	Zinc	4.4	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FB9:00

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB1145

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N49603

Level (low/med): LOW Date Received: 11/09/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	41.5	B	N	P
7439-92-1	Lead	3.0	U	N	F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	2.0	B	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	125	U		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	4.4	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FB11:45

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW2D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N52705

Level (low/med): LOW Date Received: 11/13/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	16.2	U	N	P
7439-92-1	Lead	3.0	U	N	F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	1.7	U	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	125	U		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	4.5	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW2DB

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW2S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N52706

Level (low/med): LOW Date Received: 11/13/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	16.2	U	N	P
7439-92-1	Lead	3.0	U	N	F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	1.7	U	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U	W	F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	188	B		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	4.4	U		P
	Cyanide	10.0	U		AS

olor Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

omments:
FBMW2SP

00013

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW3D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N53305

Level (low/med): LOW Date Received: 11/14/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	16.2	U	N	P
7439-92-1	Lead	3.0	U	NW	F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	1.7	U	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	159	B		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	10.1	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW3DB

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW5P

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: 53306

Level (low/med): LOW Date Received: 11/14/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	16.2	U	N	P
7439-92-1	Lead	3.0	U	N	F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	1.7	U	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	28.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U	W	F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	125	U		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	4.9	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW5DP

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW5D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N53304

Level (low/med): LOW Date Received: 11/14/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	16.2	U	N	P
7439-92-1	Lead	3.0	U	N	F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	1.7	U	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	160	B		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	4.4	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW5DB

00016

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FBMW5S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N52704

Level (low/med): LOW Date Received: 11/13/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	139	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	16.2	U	N	P
7439-92-1	Lead	3.0	U	N	F
7439-95-4	Magnesium	568	U		P
7439-96-5	Manganese	1.7	U	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	318	B		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	4.4	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FBMW5SP

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-01D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N49602

Level (low/med): LOW Date Received: 11/09/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	446		N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	17.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	1950	B		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	13.1	B		P
7439-89-6	Iron	827		N	P
7439-92-1	Lead	9.5		N	F
7439-95-4	Magnesium	1200	B		P
7439-96-5	Manganese	12.4	B	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	3370	B		P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	25.9			P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-1D

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-01S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: 49601

Level (low/med): LOW Date Received: 11/09/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2360		N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	22.9	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	5740			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	6.9	B		P
7439-89-6	Iron	3980		N	P
7439-92-1	Lead	6.5		N	F
7439-95-4	Magnesium	3210	B		P
7439-96-5	Manganese	194		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	1300	U		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	5330			P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	23.7			P
	Cyanide	10.0	U		AS

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-1S

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-02D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N52702

Level (low/med): LOW Date Received: 11/13/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	76.6	B	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	70.2	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	5420			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	7.0	B		P
7439-89-6	Iron	74.9	B	N	P
7439-92-1	Lead	3.0	U	NW	F
7439-95-4	Magnesium	3310	B		P
7439-96-5	Manganese	4970		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	5030			P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	53000			P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	6.8	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-2D

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-02S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N52701

Level (low/med): LOW Date Received: 11/13/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6920		N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	264			P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	11900			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	20.0	B		P
7439-89-6	Iron	10000		N	P
7439-92-1	Lead	12.4		NS	F
7439-95-4	Magnesium	3490	B		P
7439-96-5	Manganese	1390		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	3500	B		P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	16600			P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	12.6	B		P
7440-66-6	Zinc	61.4			P
	Cyanide	10.0	U		AS

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-2S

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-03D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N53302

Level (low/med): LOW Date Received: 11/14/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	51.3	B	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	9.1	B	S	F
7440-39-3	Barium	170	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	91300			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	7.1	B		P
7439-89-6	Iron	20500		N	P
7439-92-1	Lead	4.3		NW	F
7439-95-4	Magnesium	33100			P
7439-96-5	Manganese	971		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	29600			P
7782-49-2	Selenium	5.0	U	W	F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	96000			P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	20.0			P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-3D

00022

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-03S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N53301

Level (low/med): LOW Date Received: 11/14/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1990		N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	8.0	B		F
7440-39-3	Barium	99.6	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	58900			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	16.3	B		P
7439-89-6	Iron	16800		N	P
7439-92-1	Lead	8.8		N	F
7439-95-4	Magnesium	6280			P
7439-96-5	Manganese	594		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	7470			P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	25100			P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	12.3	B		P
7440-66-6	Zinc	18.8	B		P
	Cyanide	10.0	U		AS

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-3S

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FORM I - IN

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U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-05D

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N53303

Level (low/med): LOW Date Received: 11/14/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	680		N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	185	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	24600			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	11.9	B		P
7439-89-6	Iron	4520		N	P
7439-92-1	Lead	294		N	F
7439-95-4	Magnesium	4300	B		P
7439-96-5	Manganese	334		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	7670			P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	22100			P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	37.3			P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

MW-5D

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-05S

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9017423

Lab Code: 10195 Case No.: 6496 SAS No.: SDG No.: SDG308

Matrix (soil/water): WATER Lab Sample ID: N52703

Level (low/med): LOW Date Received: 11/13/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.8	U	N	P
7440-36-0	Antimony	38.6	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium	141	B		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	4.5	U		P
7440-70-2	Calcium	30100			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	9.8	U		P
7440-50-8	Copper	5.5	U		P
7439-89-6	Iron	43.4	B	N	P
7439-92-1	Lead	3.0	U	NW	F
7439-95-4	Magnesium	5520			P
7439-96-5	Manganese	1360		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	38.0	U		P
7440-09-7	Potassium	8730			P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	4.8	U	N	P
7440-23-5	Sodium	56800			P
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium	7.8	U		P
7440-66-6	Zinc	4.4	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
MW-5S

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