The electronic version of this file/report should have the file name:

Type of document.Spill Number.Year-Month.File *Year-Year* or Report name.pdf

letter._____._____-_____.File spillfile.pdf

report.hw905013.1990-02-01.PHASE II INVESTIGATION (VOL II).pdf

Project Site numbers will be proceeded by the following:

Municipal Brownfields - b
Superfund - hw
Spills - sp
ERP - e
VCP - v
BCP - c

non-releasable - put .nf.pdf
Example: letter.sp9875693.1998-01.Filespillfile.nf.pdf

905013

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE II INVESTIGATION

Machias Gravel Pit Site No. 905013
Town of Machias Cattaraugus County

DATE: February 1990

VOLUME II - APPENDICES A-J

RECEIVED
MAR 23 1990
DIVISION
RECEIVED
MAR 21 1990

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, *Commissioner*

Division of Hazardous Waste Remediation
Michael J. O'Toole, Jr., P.E., *Director*

By:

Lawler, Matusky & Skelly Engineers

APPENDIX A

REFERENCE DOCUMENTATION

REFERENCE DOCUMENTATION

[1] Cedergren, H.R. 1977. Seepage, Drainage and Flow Nets. 2nd ed. New York: John Wiley & Sons, Inc.

[2] Tesmer, I.H. 1975. Geology of Cattaraugus County, New York. Buffalo Society of Natural Sciences Bulletin, Vol. 27. Buffalo, NY.

[3] USGS. 1964. West Valley, New York Quadrangle Wetlands Map.

[4] State of New York Official Compilation of Codes, Rules and Regulations. 3 pp.

[5] USGS. 1964. West Valley, New York Quadrangle Map. Figure 1-1, this report.

[6] Driscoll, F.G. 1986. Groundwater and Wells. 2nd ed. St. Paul: Johnson Division.

[7] Sax, N.I., and R.J. Lewis, Sr. 1987. Hawley's Condensed Chemical Dictionary. 11th ed. New York: Van Nostrand Reinhold Company Inc.

[8] Verschueren, K. 1983. Handbook of Environmental Data on Organic Chemicals. 2nd ed. New York: Van Nostrand Reinhold Company Inc.

[9] McMahon, J. 3 October 1978. Memo to C. Halgas concerning Motorola industrial waste disposal.

[10] Satterthwaite, Walter B., Associates, Inc. February 1986. Machias gravel pit proposed clean up plan.

REFERENCE 1

Seepage, Drainage, and Flow Nets

SECOND EDITION

HARRY R. CEDERGREN

A WILEY-INTERSCIENCE PUBLICATION

JOHN WILEY & SONS,
New York • Chichester • Brisbane • Toronto • Singapore

Copyright © 1967, 1977 by John Wiley & Sons, Inc.

All rights reserved. Published simultaneously in Canada.

Reproduction or translation of any part of this work beyond that permitted by Sections 107 or 108 of the 1976 United States Copyright Act without the permission of the copyright owner is unlawful. Requests for permission or further information should be addressed to the Permissions Department, John Wiley & Sons, Inc.

Library of Congress Cataloging in Publication Data

Cedergren, Harry R.
Seepage, drainage, and flow nets.

"A Wiley-Interscience publication."
Includes bibliographies.
1. Seepage. 2. Drainage. 3. Soil percolation.
I. Title.

TC176.C4 1977 624 77-3664
ISBN 0-471-14179-8

Printed in the United States of America

10 9 8

REFERENCE 2

GEOLOGY

OF

CATTARAUGUS COUNTY

New York

By

IRVING H. TESMER

Professor of Geology
Geosciences Department
State University College at Buffalo



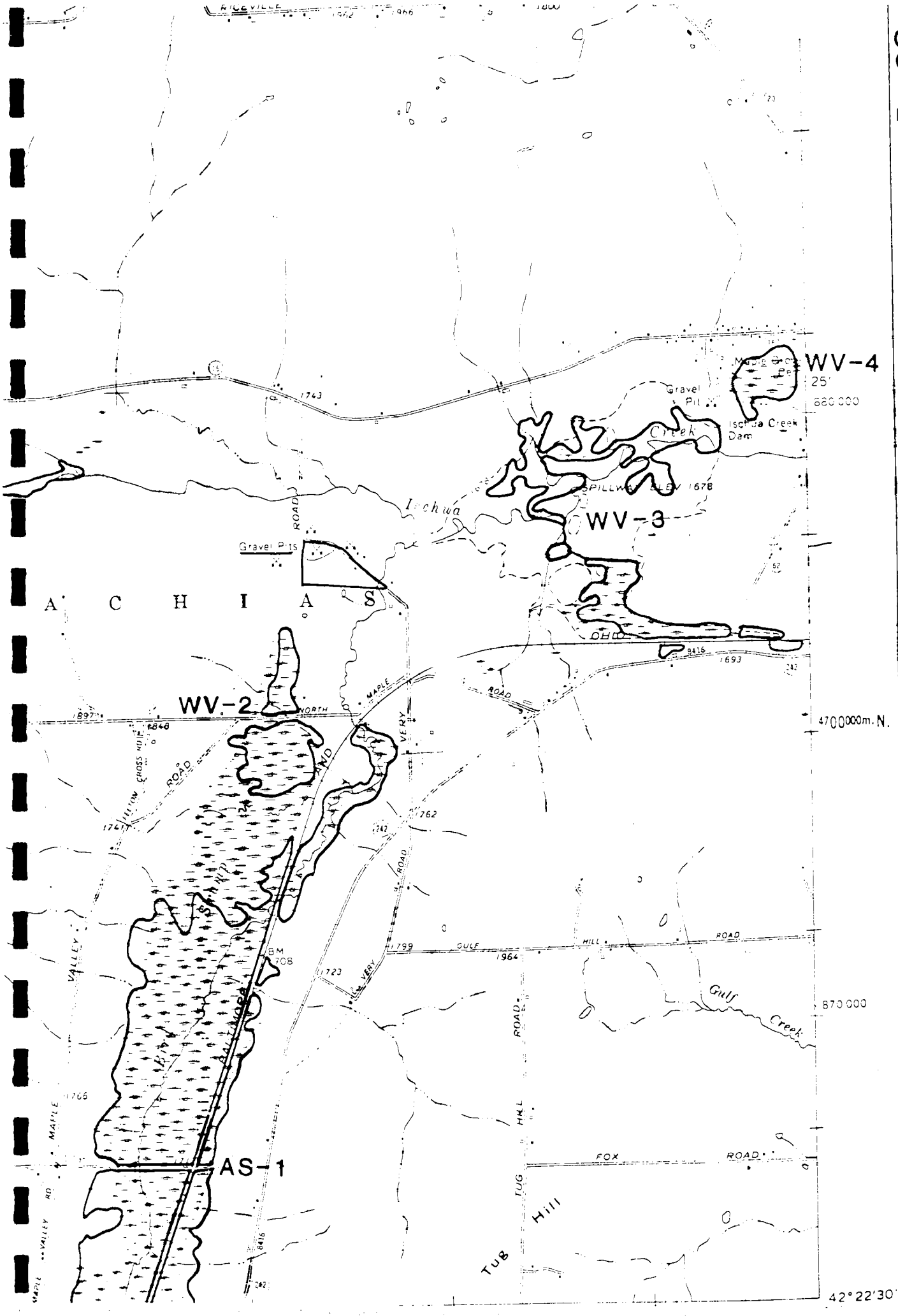
BUFFALO SOCIETY OF NATURAL SCIENCES
BULLETIN

Vol. 27

Buffalo, N. Y. 1975

QE

REFERENCE 3



Cattaraug County

Map 10 of 3

This map was
to Article 24
Conservation
Wetlands Act)
by the Comm
State Departr
Conservation.

LEGEND:

Appro
bound

Uplan

AA-00 Wetla

NOTES

This map indicat
of the actual bou
according to the

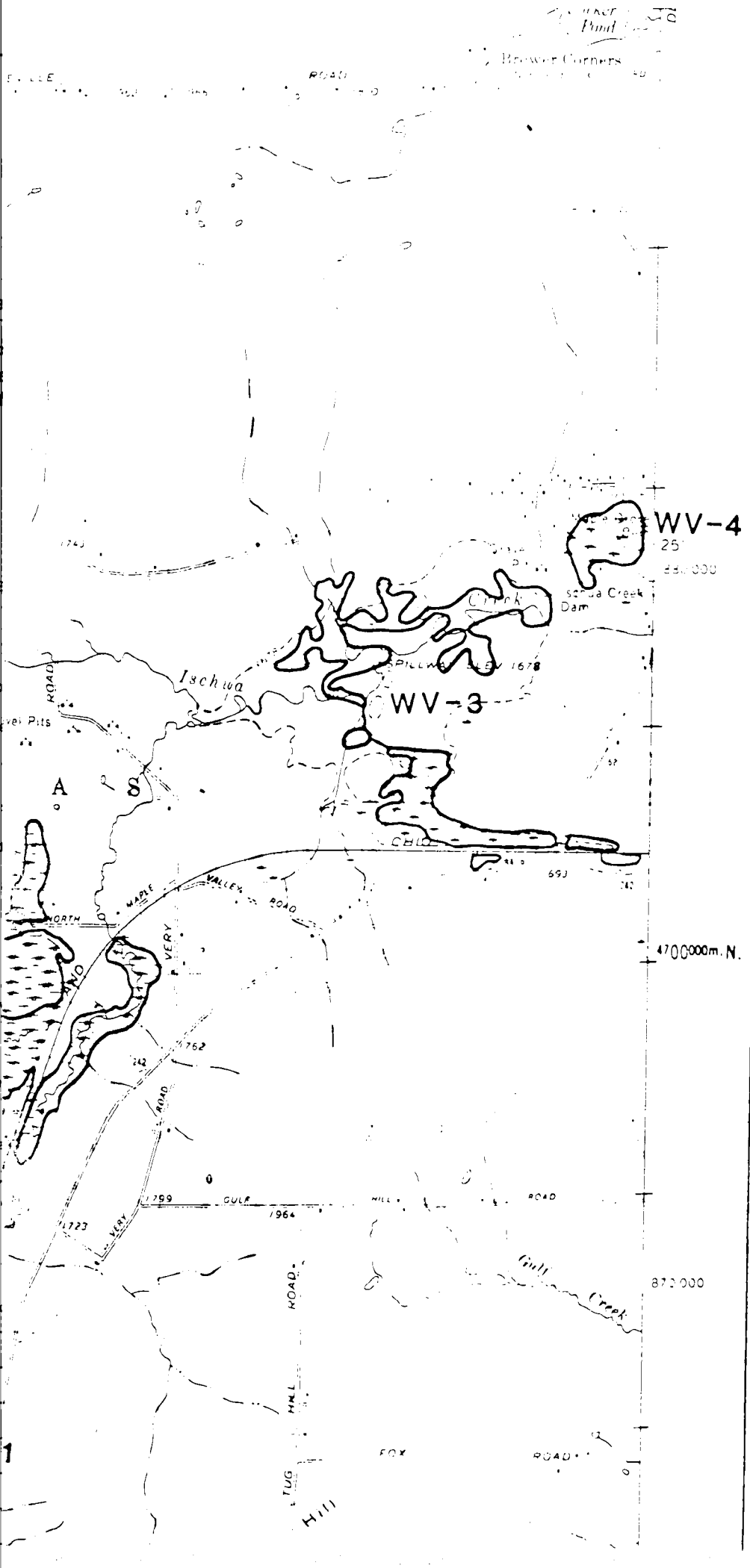
Map information
boundaries was
State Departmer
United States G
tional informatio
reference only
necessarily indic
wetland

Adjacent areas
those areas wit
the wetland The
tion pursuant to
but are not deli
cent area may b
the Commissior
Department of
the local regula

Copies of Fres
available from
Department of
Maps are availa
fices and local

REVISIONS

Date	Wetla



New York State
Freshwater Wetlands Map

Cattaraugus County

Map 10 of 33

This map was promulgated, pursuant to Article 24 of the Environmental Conservation Law (The Freshwater Wetlands Act) on September 17, 1986 by the Commissioner of New York State Department of Environmental Conservation.

LEGEND:

- Approximate wetland boundary
- U — Upland inclusion
- AA-00 — Wetland identification code

NOTES:

This map indicates the approximate location of the actual boundaries of wetlands regulated according to the Freshwater Wetlands Act.

Map information other than the wetland boundaries was prepared by the New York State Department of Transportation and the United States Geological Survey. The additional information provided on the map is for reference only. Marsh symbols do not necessarily indicate the location of a regulated wetland.

Adjacent areas of the regulated wetlands are those areas within 100 feet of the boundary of the wetland. These areas are subject to regulation pursuant to the Freshwater Wetlands Act but are not delineated on this map. An adjacent area may be extended by special order of the Commissioner of the New York State Department of Environmental Conservation or the local regulatory authority.

Copies of Freshwater Wetlands Maps are available from the regional offices of the Department of Environmental Conservation. Maps are available for inspection at these offices and local government clerk's offices.

REVISIONS

Date	Wetland #	Description of change

REFERENCE 4

CODIFIED RULES AND REGULATIONS

OF THE

STATE OF NEW YORK

(S CONSERVATION)

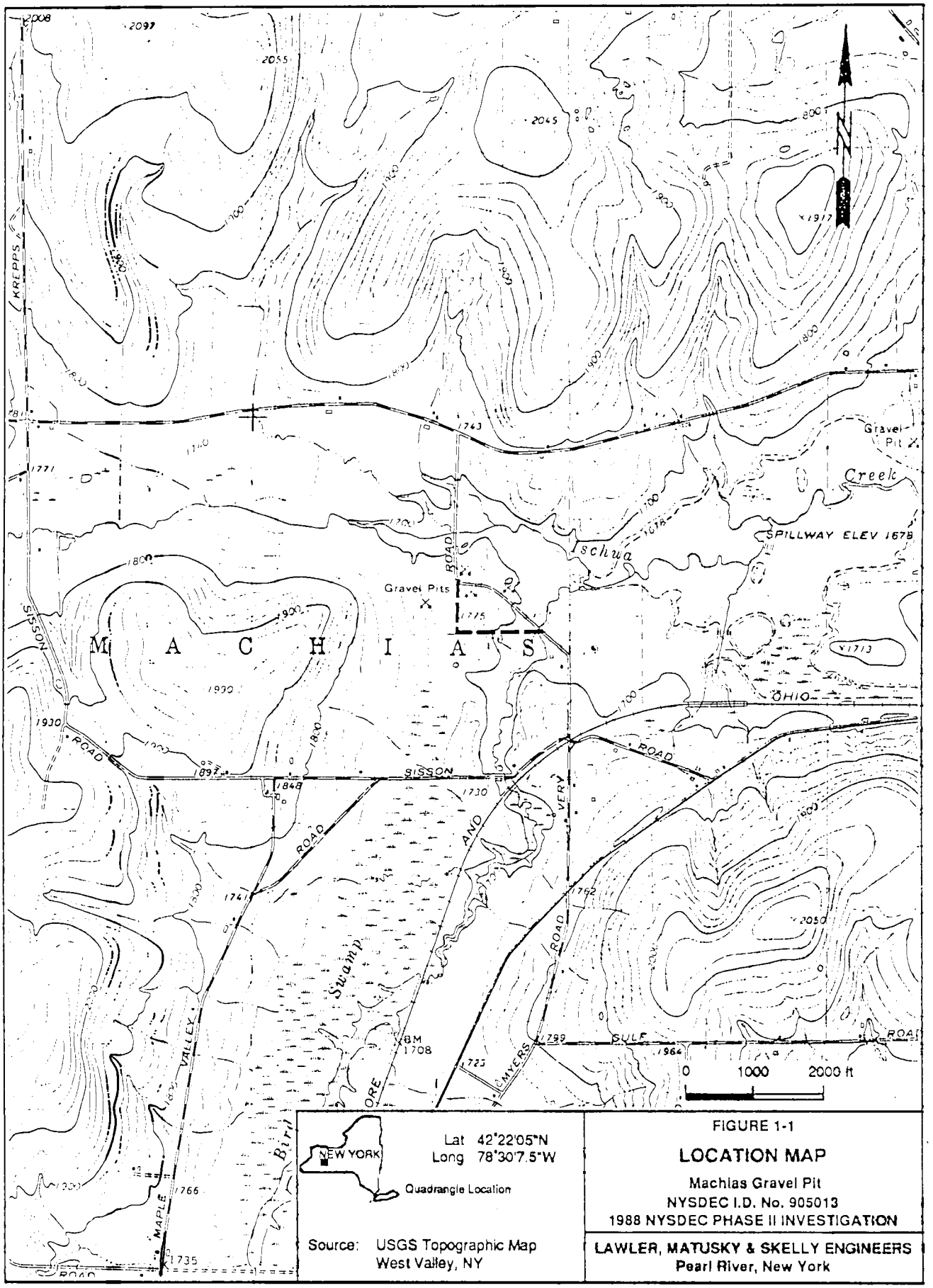
TABLE I (*cont'd.*)

Item No.	*Waters Index Number*	*Name*	*Description*	*Map Ref. No.*	*Class*	*Standards*
16	Pa 53-54-10-1a, 1, 2 and trib., 3	Tributaries of Ischua Creek	Enter Ischua Creek at approximately 1.3, 1.4, 2.8 and 3.6 miles, respectively, above mouth.		A	A
17	Pa 53-54-10-4 and trib.	Tributary of Ischua Creek	Enters Ischua Creek from east just south of Ischua.		C	C
18	Pa 53-54-10-5, 6	Tributaries of Ischua Creek	Enter Ischua Creek from east and west just north and approximately 1.0 mile north of Ischua, respectively.		C	C
19	Pa 53-54-10-7	Tributary of Ischua Creek	Enters Ischua Creek from east approximately 1.0 mile north of Ischua.		C	C
20	Pa 53-54-10-8 and trib., 9, 10	Tributaries of Ischua Creek	Enter Ischua Creek from east and west approximately 0.25 mile below Fitch and at Fitch.		C	C
21	Pa 53-54-10-11	Tributary of Ischua Creek	Enters Ischua Creek from west approximately 0.3 mile above Fitch.		C	C
22	Pa 53-54-10-12, 13, 14, 15, 16, 17, 18, 19, 20, and all tribs.	Tributaries of Ischua Creek			C	C

TABLE I (*cont'd.*)

Item No.	*Waters Index Number*	*Name*	*Description*	*Map Ref. No.*	*Class*	*Standards*
9	Pa 53-54-7 and all tribs.	Scott Branch	Enters Olean Creek from east approximately 2.2 miles north at Olean-Hinsdale town line.		A	A
10	Pa 53-54-8 and trib.	Gull Brook	Enters Olean Creek from west approximately 0.4 mile south of Hinsdale.		A	A
11	Pa 53-54-9 and trib.	Tributary of Olean Creek	Enters Olean Creek from east at Hinsdale.		A	A
12	Pa 53-54-10 portion as described	Ischua Creek	Joins with Oil Creek at Hinsdale to form Olean Creek. From mouth to trib. 4.		A	A
13	Pa 53-54-10, portion as described	Ischua Creek	From trib. 4 to trib. 7.		C	C(T)
14	Pa 53-54-10, portion as described	Ischua Creek	From trib. 7 to trib. 38.		C	C(T)
15	Pa 53-54-10, portion as described	Ischua Creek	From trib. 38 to source.		C	C

REFERENCE 5



Source: USGS Topographic Map
West Valley, NY

FIGURE 1-1

LOCATION MAP

Machias Gravel Pit
NYSDEC I.D. No. 905013
1988 NYSDEC PHASE II INVESTIGATION

LAWLER, MATUSKY & SKELLY ENGINEERS
Pearl River, New York

REFERENCE 6

reference 3

Groundwater and Wells

Second Edition

Fletcher G. Driscoll, Ph.D.
Principal Author and Editor

Published by Johnson Division, St. Paul, Minnesota 55112

Copyright © 1986 by Johnson Division, St. Paul, Minnesota 55112

Library of Congress Catalog Card Number 85-63577

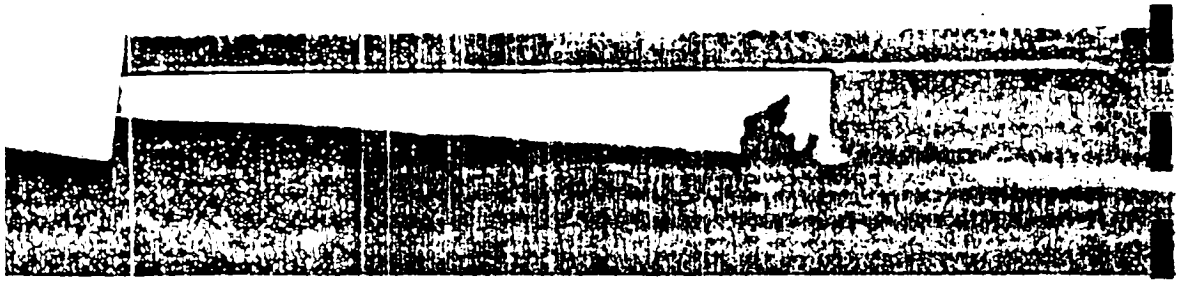
ISBN 0-9616456-0-1

Second Printing 1987

Printed in the United States of America. All rights reserved. This book, or parts thereof, may not be reproduced without written permission from the publisher.

H. M. Smyth Company, Inc. printed this volume on Mead Corporation's sixty pound Moistrite stock. Typography was done by CTS Inc.; the text was set in 9 point Times Roman type face.

The information and recommendations contained in this book have been compiled from sources believed to be reliable and to represent the best opinion on the subject as of 1986. However, no warranty, guarantee, or representation, express or implied, is made by Johnson Division as to the correctness or sufficiency of this information or to the results to be obtained from the use thereof. It cannot be assumed that all necessary warnings, safety suggestions, and precautionary measures are contained in this book, or that any additional information or measures may not be required or desirable because of particular conditions or circumstances, or because of any applicable U.S.A. federal, state, or local law, or any applicable foreign law or any insurance requirements or codes. The warnings, safety suggestions, and precautionary measures contained herein do not supplement or modify any U.S.A. federal, state, or local law, or any applicable foreign law, or any insurance requirements or codes.



REFERENCE 7

Hawley's Condensed Chemical Dictionary

ELEVENTH EDITION

Revised by

N. Irving Sax
and
Richard J. Lewis, Sr.

VNR VAN NOSTRAND REINHOLD COMPANY
New York

Copyright © 1987 by Van Nostrand Reinhold Company Inc.

Library of Congress Catalog Card Number: 86-23333
ISBN: 0-442-28097-1

All rights reserved. Certain portions of this work copyright © 1930, 1920, 1919 by The Chemical Catalog Co., Inc. and 1981, 1977, 1971, 1966, 1956, 1950 by Van Nostrand Reinhold Company Inc. No part of this work covered by the copyright hereon may be reproduced or used in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems—without permission of the publisher.

Printed in the United States of America

Van Nostrand Reinhold Company Inc.
115 Fifth Avenue
New York, New York 10003

Van Nostrand Reinhold Company Limited
Molly Millars Lane
Wokingham, Berkshire RG11 2PY, England

Van Nostrand Reinhold
480 Latrobe Street
Melbourne, Victoria 3000, Australia

Macmillan of Canada
Division of Canada Publishing Corporation
164 Commander Boulevard
Agincourt, Ontario M1S 3C7, Canada

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Condensed chemical dictionary.
Hawley's condensed chemical dictionary.

Rev. ed. of: The Condensed chemical dictionary.
10th ed./rev. by Gessner G. Hawley, 1981.
1. Chemistry—Dictionaries. I. Hawley, Gessner
Goodrich, 1905– II. Sax, N. Irving (Newton Irving)
III. Lewis, Richard J., Sr. IV. Title.
QD5.C5 1987 540'.3'21 86-23333
ISBN 0-442-28097-1

butylethylacetaldehyde. See 2-ethylhexaldehyde.

5-butyl-5-ethylbarbituric acid. See butethal.

n-butyl ethyl ether. See ethyl-n-butyl ether.

butyl ethyl ketone. (3-heptanone).
CAS: 106-35-4. $(C_4H_9)(C_2H_5)CCO$.
Properties: Clear liquid, d 0.8198 (20/20C), bp 148C, fp −36.7C, refr index 1.4224 (20C), flash p 115F, vap d 3.93.
Grade: Available as 20% solution in hexane.
Hazard: Fumes are irritating. Flammable, dangerous fire risk. Store solution under nitrogen.
Use: Reactive chemical intermediate.

2-butyl-2-ethylpropanediol-1,3. See 2-ethyl-2-butylpropanediol-1,3.

tert-butylformamide. $(CH_3)_3CNHCOH$.
Properties: Colorless, high-boiling liquid, soluble in water and common hydrocarbon solvents.
Use: A solvent, and in petroleum additives.

butyl formate. CAS: 592-84-7. $HCOOC_4H_9$.
Properties: Colorless liquid, d 0.885–0.9108, bp 107C, fp −90C, flash p 64F (17.7C) (CC), autoign temperature 612F (322.5C), miscible with alcohols, ethers, oils, hydrocarbons, slightly soluble in water.
Grade: Technical.
Hazard: Narcotic and irritating in high concentration. Flammable, dangerous fire risk.
Use: Solvent for nitrocellulose, some types of cellulose acetate, many cellulose ethers, many natural and synthetic resins, lacquers, perfumes, organic synthesis (intermediate), flavoring.

n-butyl furfuryl ether. $C_4H_9OCH_2C_4H_3O$.
Properties: Colorless liquid turning dark on exposure to air, extremely hygroscopic, unstable with moisture, d 0.955 (10/0C), bp 189–190C (765 mm), refr index 1.4522 (20C).

n-butyl furoate. $C_4H_3OCO_2C_4H_9$.
Properties: Colorless oil, decomposes on standing, d 1.055 (20/5C), bp 83–84C (1 mm), 118–120C at 25 mm, insoluble in water, soluble in alcohol and ether.

n-butyl glycidyl ether. (glycidylbutylether; BGE). CAS: 2426-08-6.
$C_4H_9OH_2CHOCH_2$.
Properties: Clear, colorless liquid with an irritating odor. Bp 164C, vapor p 3.2 mm at 25C, vapor d 3.78, d 0.908 at 25/4C. Soluble in water.
Hazard: TLV: 25 ppm. A mild skin and eye irritant.

n-butyl glycol phthalate. See dibutoxyethyl phthalate.

tert-butyl hydroperoxide. CAS: 75-91-2.
$(CH_3)_3COOH$. A highly reactive peroxy compound.
Properties: Water-white liquid, fp −8C, decomposes at 75C, d 0.896 (20/4C), refr index 1.396 (25C) (90% pure), flash p (90%)130F (54.4C). Moderately soluble in water, very soluble in organic solvents and alkali metal hydroxide solutions. Combustible.
Grade: 70%, 90% pure.
Hazard: Moderate fire risk. Oxidizer.
Use: Polymerization, oxidation, sulfonation catalyst, bleaching, deodorizing.

tert-butylhydroquinone. $C_6H_3(OH)_2C(CH_3)_3$
Properties: Intermediate, mp 125C, insoluble in water, soluble in alcohol, acetone, ethyl acetate.

tert-butyl hypochlorite. $(CH_3)_3COCl$.
Properties: Yellowish liquid.
Hazard: Toxic by ingestion and inhalation. May explode at room temperature.
Use: Organic chlorinations, oxidation of alcohols to ketones and sulfides to sulfoxides.

4,4'-butylidenebis(6-tert-butyl-m-cresol).
$[(CH_3)_3CC_6H_2(OH)(CH_3)]_2CHC_3H_7$.
Properties: White powder, mp 209C (min), d 1.03 (25C).
Use: Antioxidant for rubber, dry or latex.

n-butyl isocyanate. CAS: 111-36-4.
C_4H_9NCO.
Properties: Colorless liquid, bp 115C, d 0.88 (20/4C).
Use: Intermediate for pesticides, herbicides, pharmaceuticals.
Hazard: Strong irritant to eyes and skin.

butyl isodecyl phthalate.
Properties: Clear liquid, mild odor, color (Hazen) 50 max, d 0.9 (20/20C), saponification number 310, acidity (as phthalic acid) 0.01 max.
Use: Plasticizer for polyvinyls.

tert-butylisopropylbenzene hydroperoxide.
Properties: White crystals.
Hazard: Dangerous fire risk. Reacts strongly with reducing materials. Oxidizing agent.

"Butyl Kamate."[69] TM for an aqueous solution of potassium di-n-butyl dithiocarbamate, 50% minimum assay.
Use: Ultra-accelerator for natural and synthetic latexes.

1,2,3-trichloropropane. CAS: 96-18-4. $CH_2ClCHClCH_2Cl$.
Properties: Colorless liquid, d 1.3888 (20/4C), fp −15C, bp 156.17C, refr index 1.4822 (20C), flash p (COC) 180F (82.2C). Slightly soluble in water; dissolves oils, fats, waxes, chlorinated rubber, and numerous resins. Autoign temperature 580F (304C). Combustible.
Derivation: Chlorination of propylene.
Hazard: Toxic by inhalation and skin absorption; strong irritant. TLV: 10 ppm in air.
Use: Paint and varnish remover, solvent, degreasing agent.

trichlorosilane. (1) (silicochloroform). CAS: 10025-78-2. $SiHCl_3$
Properties: Colorless volatile liquid, d 1.336, fp −127C, bp 32C, refr index 1.3990. Soluble in benzene, ether, heptane, perchloroethylene; decomposed by water. Flash p 7F (−13.9C), purity of 99.9999% is commercially attainable.
Hazard: Flammable, dangerous fire risk.
Use: Intermediate, purification of silicon. (2) Generic name for compounds of the formula $RSiCl_3$ of which methyl trichlorosilane, CH_3SiCl_3 is most important.

N,N',N''-trichloro-2,4,6-triamine-1,3,5-triazine. See trichloromelamine.

2,4,6-trichloro-1,3,5-triazine. See cyanuric chloride.

1,3,5-trichloro-s-triazine-2,4,6-trione. See trichloroisocyanuric acid.

trichlorotrifluoroacetone. (1,1,3-trichloro-1,3,3-trifluoroacetone). $CCl_2FCOCClF_2$.
Properties: Colorless liquid, bp 84.5C, fp −78C, miscible with water and most organic solvents, stable to acid but not alkalies. Nonflammable.
Hazard: Strong irritant to eyes.
Use: Solvent in acid media, complexing agent.

1,1,2-trichloro-1,2,2-trifluoroethane. (trifluorotrichloroethane). CAS: 76-13-1. CCl_2FCClF_2.
Properties: Colorless nearly odorless, volatile liquid, bp 47.6C, fp −35C, critical pressure 33.7 atmosphere, d 1.42 (25C). Noncombustible.
Derivation: From perchloroethylene and hafnium.
Grade: Technical, spectrophotometric.
Hazard: TLV: 1000 ppm in air.
Use: Dry-cleaning solvent, fire extinguishers, to make chlorotrifluoroethylene, blowing agent, polymer intermediate, solvent drying, drying electronic parts and precision equipment.

tricholine citrate. (tris[2-hydroxyethyl]trimethylammonium citrate). $[(CH_3)_3NCH_2CH_2OH]_3 \cdot C_6H_5O_7$.
Use: Medicine, nutrition.

trichotecene. See mycotoxin.

tricobalt tetraoxide. See cobalto-cobaltic oxide.

tricosane. $CH_3(CH_2)_{21}CH_3$.
Properties: Glittering leaflets, soluble in alcohol, insoluble in water, d 0.779 (48C), bp 234C (15 mm), mp 48C. Combustible.
Grade: Technical.
Use: Organic synthesis.

***n*-tricosanoic acid.** $CH_3(CH_2)_{21}COOH$.
A saturated fatty acid not normally found in natural fats or oils.
Properties: Synthetic compound is a white crystalline solid, mp 79.1C.
Use: Purified product is used in medical research and as reference standard for gas chromatography.

tri-*m,p*-cresyl borate. $(CH_3C_6H_4)_3BO_3$.
Properties: Light amber liquid, d 1.065 (25C), bp 385–395C, refr index 1.5480 (24C), flash p (COC) 240F (115.5C). Miscible in acetone, benzene, chloroform; hydrolyzes on contact with water. Combustible.
Use: Plasticizer, organic synthesis.

tricresyl phosphate. (tritolyl phosphate; TCP). CAS: 78-30-8. $(CH_3C_6H_4O)_3PO$.
A mixture of isomers.
Properties: Practically colorless, odorless liquid; stable, nonvolatile. Bp 420C, refr index 1.556 (25C), d 1.162 (25/25C), bulk d 9.7 lb/gal, crystallizing point −35C, miscible with all the common solvents and thinners, also with vegetable oils, insoluble in water, flash p 437F (225C), autoign temperature 770F (410C). Combustible.
Derivation: From cresol and phosphorus oxychloride.
Hazard: Toxic by ingestion and skin absorption. The o- isomer is highly toxic.
Use: Plasticizer for polyvinyl chloride, polystyrene, nitrocellulose; fire retardant for plastics; air filter medium; solvent mixtures; waterproofing; additive to extreme pressure lubricants; hydraulic fluid; heat exchange medium.

tricresyl phosphite. $(CH_3C_6H_4O)_3P$.
Properties: Colorless liquid, slight phenolic odor, bp 191C (0.11 mm), d 1.115 (20/4C), flash p (OC) 440F (226.6C). Insoluble in water; miscible with acetone, alcohol, benzene, ether, and kerosene. Combustible.
Grade: Technical.
Use: Stabilizer and plasticizer for plastics and resins.

tricyanic acid. See cyanuric acid.

REFERENCE 8

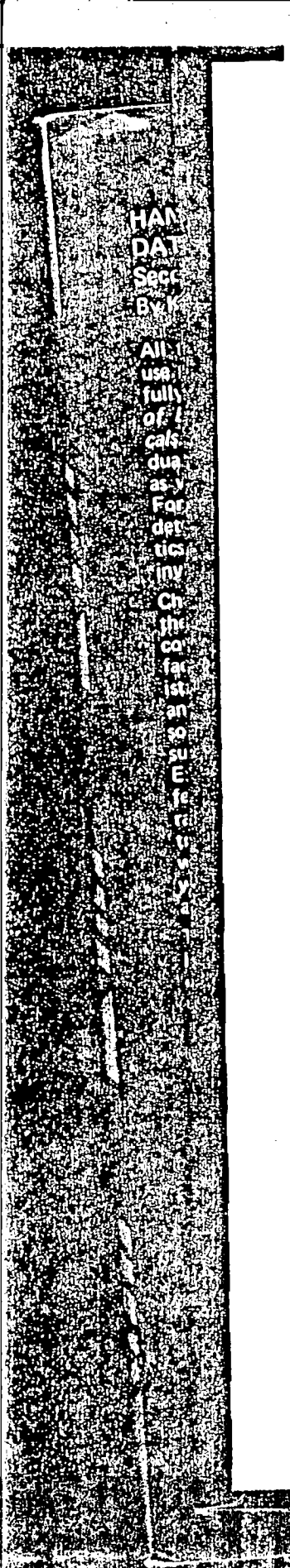
HANDBOOK OF ENVIRONMENTAL DATA ON ORGANIC CHEMICALS

SECOND EDITION

Karel Verschueren

Environmental Advisor
Heidemij/Adviesbureau
and
Department of Public Health and Tropical Hygiene
Agricultural University of Wageningen
Netherlands

VAN NOSTRAND REINHOLD COMPANY
NEW YORK CINCINNATI TORONTO LONDON MELBOURNE



Copyright © 1983 by Van Nostrand Reinhold Company Inc.

Library of Congress Catalog Card Number: 82-10994
ISBN: 0-442-28802-6

All rights reserved. Certain portions of this work copyright © 1977 by Van Nostrand Reinhold Company, Inc. No part of this work covered by the copyright hereon may be reproduced or used in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems—without permission of the publisher.

Manufactured in the United States of America

Published by Van Nostrand Reinhold Company Inc.
135 West 50th Street, New York, N.Y. 10020

Van Nostrand Reinhold
480 Latrobe Street
Melbourne, Victoria 3000, Australia

Van Nostrand Reinhold Company Limited
Molly Millars Lane
Wokingham, Berkshire, England

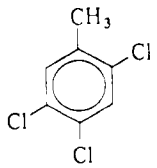
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Library of Congress Cataloging in Publication Data
Verschueren, Karel.
Handbook of environmental data on organic chemicals.

Bibliography: p.
1. Organic compounds—Environmental aspects—Handbooks, manuals, etc. I. Title.
TD196.073V47 1983 363.7'384 82-10994
ISBN 0-442-28802-6

D. BIOLOGICAL EFFECTS:
–Fish:
guppy (*Poecilia reticulata*) 14 d LC_{50}: 0.23 ppm (1833)

2,4,5-trichlorotoluene



D. BIOLOGICAL EFFECTS:
–Fish:
guppy (*Poecilia reticulata*) 7 d LC_{50}: 1.7 ppm (1833)

1,1,2-trichloro-1,2,2-trifluoroethane ("UCON-113; "Arklone" R-113")
$CFCl_2CF_2Cl$
A. PROPERTIES: colorless liquid; m.w. 187.38; m.p. -35°C; b.p. 48°C; v.p. 270 mm at 20°C, 400 mm at 30°C; v.d. 6.47; sp.gr. 1.56 at 25°C sat. conc. 2,754 g/cu m at 20°C, 3,945 g/cu m at 30°C
B. AIR POLLUTION FACTORS: 1 mg/cu m = 0.13 ppm, 1 ppm = 7.79 mg/cu m
–Odor: characteristic: quality: sweet
hedonic tone: pleasant to unpleasant
T.O.C.: abs. perc. lim.: 45.0 ppm
50% recogn.: 68.0 ppm
100% recogn.: 135 ppm
O.I. 100% recogn.: 54
D. BIOLOGICAL EFFECTS:
–Mammalia:
guinea pig: inhalation: LC_{50}: >120,000 ppm, 2 hr
rat: inhalation: 11,000 ppm, 2 hr/day, 5 days/w, 2 years
no effect: 2,500 ppm, 7 hr/day, 30 days (54)
–Man: no effect level: inhalation: 1,000 ppm, 6 hr/day, 5 days
1,500 ppm, $2\frac{3}{4}$ hr
10,000 ppm inhaled is expired entirely after 3 min (54)

trichlorphon *see* dimethyl-(2,2,2-trichloro-1-hydroxyethyl)phosphonate

triclosan *see* 5-chloro-2-(2,4-dichlorophenoxy)phenol

***n*-tricosane**
$CH_3(CH_2)_{21}CH_3$
Use: organic synthesis.
A. PROPERTIES: sp.gr. 0.779 at 48°C; v.p. 234°C at 15 mm; m.p. 48°C
C. AIR POLLUTION FACTORS:
–Ambient air quality:

REFERENCE 9

Jack McM...

Z

DEC 8-10

Jack McMahon, DEC - BRO

October 3, 1978

Chester Halgas

Motorola Industrial Waste Disposal

The following is a report on our activities concerning the subject waste from the Motorola plant in Arcade which found its way to various locations in northeastern Cattaraugus County.

On September 19, 1978, Mr. Dan Pascarella of our office observed 97 drums on the old Machias Town sanitary landfill site. He investigated the matter and wrote the attached report which was referred to Kevin Hint[illegible] of your Department. On or about September 25th, Mr. Reisner of this office brought to my attention that more drums were in the area. I then contacted Mr. George Wyllie, chief industrial engineer at Motorola, to more specifically determine the nature of the wastes.

Through subsequent field investigations by Messrs. Pascarella and Reisner, it was determined by September 29, 1978, that approximately 2500 drums of industrial waste from Motorola had been placed in Cattaraugus County by three unregistered waste haulers at the following locations.

Prior to May of 1976, apparently all of the wastes had been hauled by Community Disposal Services to their landfill in Erie County. At that time, they went out of business and waste was then hauled by William Ballard, Osmon Road, Freedom Town, Cattaraugus County (492-2113) from May 1976 to May of 1977. During that time, he took approximately 1,000 drums which were given to the Previty Auto Wrecking yard on Galen Hill Road, Freedom Town, which is located approximately ½ mile south from the intersection with Route #98. All of these drums had been emptied by Mr. Previty on his property. He has a private well for his house and business on the property. No other water supplies are in the immediate area, and it is doubtful if any appreciable amount of waste found its way into Clear Creek, a protected trout stream, approximately ½ mile to the north of the dumping site. Reportedly, the waste materials were used to oil roads, and the drums were used to support junk cars.

From May 1977 to March 1978, approximately 1,000 drums were taken by a Donald Tillinghast, 18 Yacht Club Drive, Machias (353-8826) to the following locations. From May to winter, approximately 600-800 drums were deposited at Tidds Junkyard on County Road #72, several hundred yards west of the Pig N Plaza at Yorkshire Corners. Mr. Tidds reported that he gave away approximately 100 of these drums which are unaccounted for except for 20 which went to Michael Wolfer in Delevan. Approximately 50% of the drums at Tidds Junkyard had been spilled or opened and a considerable amount of spillage exists on the property. Nearby residences and businesses are served by the Yorkshire Town public water supply, and there appears to be no threat from a water supply standpoint. The site of the drums is very flat and it is doubtful if appreciable amounts of the waste got into Cattaraugus Creek which is approximately ½ mile away. Apparently the winter weather precluded dumping of the drums at Tidds Junkyard and reportedly Mr. Tillinghast gave 20 drums to Camp Arrowhead on Route #16, Yorkshire Town, which were later buried. He also gave approximately 100 drums to Norman Rogers who used them for fill on his property, approximately ½ mile east of the Village of Delevan on California Road. 13 drums were given to Terwilliger Excavation in Franklinville which are still intact, and 13 drums were dumped on the Boehmer property on Route #16, Machias, directly across

and approximately 225' distant from the new Town of Machias and County Infirmary well. At the Boehmer site, more than half of the drums had been spilled. It is further reported that some unknown quantity of drums were dumped and covered in a ravine on the south side of Route #242 just west of its junction with Route #16. In addition, 97 drums had been dumped at the aforementioned Machias landfill site, which is no longer in operation there. A number of the drums had been spilled and significant amount of spilled wastes are on the site. Fortunately, except for the 2 [illegible] mentioned above, no other water supplies appear to be possibly affected, and the aforementioned spillages are not in locations where appreciable overland flow of the wastes to streams would occur.

From March 1978 to the end of September when Motorola discontinued allowing private haulers to take these wastes, approximately 600 drums were taken by a Dan Griswold, Reynolds Road, Franklinville (676-2403) to the Town of Machias gravel pit on Very Road, located approximately one mile south of the intersection of Very Road and County Road #16, which is slightly more than two miles directly west of the hamlet of Machias. At this location, approximately one-half of the drums had been emptied, and it is reported that the Town of Machias used these waste materials in oiling some of the Town roads. However, we have been unable to verify this report, and the Town Supervisor has stated that she knew nothing of the storage or the use of this material.

On Thursday, September 28th, the writer toured several of the sites with Messrs. Vought and Wyllie of Motorola and Mr. Reisner of this office. The Motorola representatives indicated that most, if not all, of the drums came from their plant. The drums are mainly identified by the product that they contained when they were shipped to Motorola and are largely characterized by the names of the [illegible], e.g. Magnolia Chemical, chlorothane, freon, etc. The newer drums have waste labels affixed to them by Motorola.

Motorola uses the following products which may in some part be discarded as industrial waste: Machining oils (Hamidraw D21-HV, GH Industries Limited 991, and HM 1301 DC), epoxies, epoxy solvent (Dibutylphthalate), flux, flux thinner (Alpha Metals 810), degreasers, polyurethane varnishes, Tolune, Xylene, Freon, dilute hydrochloric acid, metal grindings and metal. Motorola is to prepare a report stating the relative amounts of these products which may find their way into the industrial waste.

Investigation with suppliers and manufacturers revealed that many of the products are proprietary and that the exact content was not revealed to Motorola. The contents as reported by the suppliers and manufacturers are:

Hamidraw D21-HV - Harry Miller Corp., Philadelphia, PA (215-324-4000). Sulfanated petroleum oil 19.6% by weight; petroleum oil, 19.4%; chlorinated petroleum wax, 4.5%; lead tallate solution, 19.7% (75% kerosene and 25% lead tallate. % lead in lead tallate is 42%); Butyl Carbitol, 3% (the solution has a pH of 9.5 and the manufacturer advises handling with care. D21-HV is used in its undiluted form and also a 50% dilution with water at Motorola.

HM 1301 DC is also made by Harry Miller Corp. and contains: Mineral oil, 65%; sodium petroleum sulfonate, 14%; lead tallate, 19%; ethyloxylated alcohol, 2%.

The epoxy formulations used were obtained from a previous supplier, Hysol of Olean, New York, who reports that the epoxy resin is approximately a 400 molecular weight diglycidyl ether of bisphenol A plus 5% cresyl glycidyl ether. The hardener is a polyoxypropylene diamine.

The machine oil 991 supplied by GM Industries Limited in Tonawanda (693-6050) consists of the following: Tall oil, 10%; polysperm oil, 3%; sodium petroleum sulfonates, 7%; stearic acid, .3%; triethanolamine, 4.5%; hexylene glycol, 4%. Union Carbide U con LB 65, 2% (a proprietary compound which is a poly alkaline glycol); pine oil, .5%; emulsifier, .5%, chlorinated paraffin wax, 2%; petroleum oil, 15%; tetrasodium EDTA, .75%; biocide solution, 1.4% (solution of 18.5% 2' dihydroxy; 5' 5' dichloro-diphenyl methane, 6.7% of 50% sodium hydroxide and the rest water); Blue dye, .015%; water, 45.5%.

The flux is Alpha Metals, New Jersey (201-434-6778) and consists of a gum rosin, an organic activator and a terpine alcohol solvent blend. The flux thinner is Alpha Metals 810 and a blend of alcohol and terpine solvent. No one was available who could give an exact formulation.

The degreasers used are trichloroethene and trichloroethylene.

The waste also contains metal grindings and machining wastes together with paper cups and rags, presumably from the epoxy casting process.

A literature review of the toxicity of the above chemicals indicates that practically all of them are mildly to moderately toxic, except for the biocide and lead. Fortunately, most of the spillage has occurred in environmentally insensitive areas except for the possible involvement of two water supplies. This Department plans to sample these two supplies together with any others that may be reasonably close to the two spillages, and have the samples analyzed for lead. It is the writer's opinion that lead will travel to the ground waters more quickly than any of the other chemicals and that it would therefore be a good indicator chemical.

In the writer's opinion, the spillages present a moderate environmental hazard that at this time, aside from the possible aforementioned affect on water supplies, poses no public health problem because of the remoteness and nature of the sites. The question of what to do with the spillages is therefore more properly the responsibility of the Department of Environmental Conservation, as is the matter of the three unregistered industrial waste haulers.

There are approximately 800 intact drums of Motorola's industrial waste at the aforementioned sites. Because of their nature and the potential deleterious environmental effects, they should be moved to a satisfactory disposal area. In this regard, this office has requested Motorola to move the intact drums. It is anticipated that they will be making a decision in the very near future.

Although ignorance of the exact nature of these chemicals is not a good excuse, it must be pointed out that in the opinion of the writer, neither Motorola nor the three haulers had any good indication as to the wastes' actual content.

CRH:PH
Attachment
CC: Machias Office
William Bruyere, Plant Manager, Motorola

REFERENCE 10

6

Rec 2/4/86
@Town Hall
Meeting
J Clare

MACHIAS GRAVEL PIT

PROPOSED CLEAN UP PLAN

February 1986

Prepared by:

Walter B. Satterthwaite Associates, Inc.
720 North Five Points Road
West Chester, PA 19380
(215) 692-5770

2.5 Discussion

The initial visual inspection and descriptions (odor, color, etc.) of the sampled material (see Table 2) strongly suggest that the majority of the samples consist of water, oil-based paint-like materials, or mixtures of these components that exist in two or more phases. Only a few drums appeared to contain other kinds of materials, such as used motor oil (Drums 17, 24, and 30), possible hydraulic fluid (Drum 7), or chlorinated materials (Drum 79). This hypothesis is supported by the solubility and the organic vapor data (see Table 2-2). Out of 56 samples tested, 20 were miscible in water and another 9 have miscible phases comprising more than 50 percent of the total amount in the drum. Twenty-seven samples have major components that are immiscible in water; a majority of these are denser than water but exhibit no organic vapor when sampled by the OVA. Most of these samples have a distinct paint-like odor, are viscous, and contain a material that appears to be pigment.

Only Drum 79 contains materials that are immiscible, denser than water, and exhibits high OVA readings (>50 ppm); these characteristics lead to the conclusions that (1) the material in this drum is a chlorinated hydrocarbon, and (2) that chlorinated materials are not present in large quantity in any of the other drums. Those samples that also show elevated OVA readings (Drums 26, 36, and 57) do not exhibit a solvent smell, indicating that the vapor is due to a nonchlorinated hydrocarbon.

The IR analyses conducted on the three separate samples (#285-18, -44, -79) indicate that the material in drums 18 and 44 to be some sort of resin. The IR spectra are somewhat similar to an alkyd resin, with a significant water content. Sample 285-79 was also analyzed by gas chromatography, which revealed that it contains a very volatile component. Tests conducted by WBSAI indicate that this material will not burn; the accumulated data suggest that it is probably a resin with a Freon solvent component.

3.0 REMOVAL AND DISPOSAL PLAN

This section describes proposed activities to remove and dispose of the materials in the drums at the Machias gravel pit, the empty drums and the surficial soil which has been contacted by some of these materials in the past. This proposed plan is submitted to NYDEC for review and approval, after which it will be used as the guideline for conducting this work.

APPENDIX B

APPENDIX B

SITE INSPECTION/AIR MONITORING DATA

Machias Gravel Pit

DAILY HEALTH AND SAFETY REPORT

Date: 8/11/88

Background HNU Reading (Measured at Emergency Staging Area): .2

Background OVA Reading (Measured at Emergency Staging Area): —

Background EXP Reading (Measured at Emergency Staging Area): —

Background OXY Reading (Measured at Emergency Staging Area): —

Work Area and Task: Site / Recon.

Level of Protection Required: Level D

Work Area and Task: 2

Level of Protection Required:

Comments: 90°F / 70% R. Humidity / NE Wind

On-Site Health and Safety Officer: [signature]

576-011

Note: Readings at work site are recorded on separate table.

Facility: Machias (Field)
Date: 8/11/88
Calib. By: EMH
Calib. Gas: Isobutylene

LAWLER, MATUSKY & SKELLY ENGINEERS
H.NU METER FIELD CALIBRATION
DATA SHEET

Job No: 576-011
Site: Machias Gravel Pit
Crew: EMH, RC
Oper: RGCO

DATE/TIME	METER No.	BATT. CHECK	EXPECTED ZERO	EXPECTED CALIB. GAS (ppm)	OBSERVED ZERO	OBSERVED CALIB. GAS (ppm)	SPAN ADJ. (from -- -- to)	COMMENTS
8/11/88	HNU SDET #801439	O.K.	0	54 ppm	0	52 ppm.	9.8 No Adj	90°F / 80% Humidity NE wind -> 0-3 mph.

On-Site Health & Safety Officer and/or Crew Chief:

(Signature): Edward M Kelly

(Date): 8/11/88

Job No: 576-011
Site: Machias Gravel Pit
Oper: RECON
Crew: EMH, RC

LAWLER, MATUSKY & SKELLY ENGINEERS
DAILY HEALTH & SAFETY REPORT
DATA SHEET

H.Nu Meter: NYS DEC #801439
OVA Meter: —
Explosimeter: —
Date: 8/11/88

TIME	SAMPLE LOCATION	H.NU READING	EXPLOSIMETER READING	OVA READING	COMMENTS
1130	Background Parking	.2 H.NU units	~~Gw-1 Site~~	~~—~~	90°F / 80% Humidity
1150	GW-1 Site	.2	—	—	NE wind.
1150 - 1200	North East Perimeter	.2	—	—	
1200	GW-2 Site	.2	—	—	
1205	SS-1 Site	.2	—	—	
1217	GW-3 Site	.2	—	—	
1225	SS-2 Site	.2	—	—	
1225	South West	.2	—	—	
↓ 1230	Perimeter	↓	—	—	
1230	GW-4 Site	.2	—	—	

On-Site Health & Safety Officer and/or Crew Chief:

(Signature) Edward M Kelly

(Date) 8/11/88

BY EMH DATE 8/11/88

CHKD. BY ____ DATE ____

LAWLER, MATUSKY & SKELLY ENGINEERS

ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS

ONE BLUE HILL PLAZA
POST OFFICE BOX 1509
PEARL RIVER, NEW YORK 10965

SHEET NO. ____ OF ____

JOB NO. ____

SUBJECT ____

I. AIR MONITORING:

1. READINGS IN BREATHING ZONE:

0.2

2. PERIMETER + W/IN SITE

0.2

3. PREVAILING WIND DIRECTIONS.

1145 0-3 mph → SE

II. SAMPLING/WELL LOCATIONS.

1. Accessability: (consider culverts: overhead power/telephone lines, underground gas, sewer, electric lines, U.S.T., etc.)

Excellent. No utilities interfer.

2. Geophysical: N/A

LAWLER, MATUSKY & SKELLY ENGINEERS
ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS
ONE BLUE HILL PLAZA
POST OFFICE BOX 1509
PEARL RIVER, NEW YORK 10965

BY _____ DATE _____ SHEET NO. _____ OF _____

CHKD. BY _____ DATE _____ JOB NO. _____

SUBJECT _____

III. EXISTING WELLS: ON ADJACENT PROPERTY (COLE)

1. Appear on Site maps? / locked or unlocked? 4 wells on property - RESIDENCE

2. SWL? / contaminants? Will grant access if need it.

~30' low level ~~contam~~. Chloroform.

3. Condition of Well?

IV. Drum Storage:

1. What needs to be drummed? (Decon H_2O cuttings, development H_2O?) [Chemical Criteria VISIBILITY]

>5 ppm

2. location of drum storage area:

can pick. may need pallets to put on.

V. Waste

1. Containment? / Disposal?

decon H_2O : drum

decon Acetone: drum.

disposable clothing: drum

drill cuttings: >5 drum.

VI ZONE Boundaries:

Exclusion:

Contamination Reduction.

Support: possibly on Western Access rd.

VII Decontamination:

Equipment PAD:

Accessability - Good

Availability of H_2O - Permits/connections Town of Mechanic

Availability of electric = generator.

VIII STORAGE OF EQUIPMENT/MATERIALS. (OVERNIGHT)

Parking: sufficient

Security: NONE

IX BATHROOM/WashRoom:

Location Need Porto-San.

X POTABLE H_2O LOCATION. Hydrant on Rosick Hill Rd

Charles Jansen
Martin Rd 353-8283 (Home)

LAWLER, MATUSKY & SKELLY ENGINEERS
ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS
ONE BLUE HILL PLAZA
POST OFFICE BOX 1509
PEARL RIVER, NEW YORK 10965

BY _____ DATE _____ SHEET NO. _____ OF _____

CHKD. BY _____ DATE _____ JOB NO. _____

SUBJECT _____

XI Security of Site:

Fences NONE

Sign in/Sign out: NO.

Guard House: NO

Working Hours: (weekends? / weekdays?)

Anytime.

XII Contacts:

CLIENT/OWNER: Town. Mechuai

DEC Jack Tygart Region #9.

TOWN/COUNTY:

UTILITIES:

RAILROAD: NONE.

OTHER:

LAWLER, MATUSKY & SKELLY ENGINEERS

ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS

ONE BLUE HILL PLAZA
POST OFFICE BOX 1509
PEARL RIVER, NEW YORK 10965

BY _____ DATE _____

CHKD. BY _____ DATE _____

SHEET NO. _____ OF _____

JOB NO. 576-011

SUBJECT MACHIAS GRAVEL PIT

XIII HASP EMERGENCY: (#5, directions)

FIRE: FARMERSVILLE 676-3439/5717
FRANKLINVILLE 676-3000
Machias 353-8500

POLICE (FRANKLINVILLE) STATE POLICE 676-5877
Cattaraugus County Emergency 1-800-443-3403
Cattaraugus County [redacted] 716-938-9111

HOSPITAL/AMBULANCE CHAFEE BERTRAND Hospital 924 E. MAIN ST. SPRINGVILLE, N.Y. 14141 592-2871

XIV COMMENTS:

Lee Shank & Hal Shank (Gravel Pit Opr.)
(716)-353-8553

Jud & Betty Cole (Neighbors)
(716) 353-4328



Photo B-1. View east, looking at access road. GW-3 and the area of the additional geophysical survey grid are to the north (left) of the car.



Photo B-2. Soil removed from area of drum storage and placed on plastic.



Photo B-3. Another view of contaminated soil stored on plastic. Stake designates location of sample collection during May 1989 resample.



Photo B-4. Drum storage area from which soil was excavated. Stake designates location of sample collection during May 1989 resample.

APPENDIX C

HEALTH AND SAFETY PLAN

LAWLER, MATUSKY & SKELLY ENGINEERS

SITE-SPECIFIC

HEALTH AND SAFETY PLAN FORM

Site Name: Machias Gravel Pit Location: Town of Machias, NY

HASP Preparer: Karen A Wright

APPROVALS
Project Manager: Edward A. Mäkel

Safety Officer: Karen A Wright

PROJECT PERSONNEL:

On-Site Coordinator: _____

On-Site Health and Safety Officer: _____

Phone: (914) 735-8300

DATE OF PLAN PREPARATION: 9/30/88

HAZARDOUS/SUBSTANCES (known or suspected, contaminated media or in storage container, etc.):

Approximately 600 drums containing waste generated by Motorola Plant was thought to be disposed of on site. These wastes are: epoxy resins, toluene, xylene, trichloroethane, cutting oil, ~~and~~ various acids. (hydrochloric and phosphoric), trichloroethylene and freon. All remaining drums have been sampled and removed.

HAZARD ASSESSMENT (toxic effects, including TLVs, IDLHs, reactivity, stability, flammability, and operational hazards with sampling, decontaminating, etc):

See attached Table 1

SITE WORK ZONES: (designate exclusion zone, contamination reduction zone and support zone)

See attached Figure 1

SITE ACCESS: (describe procedures to control site access)

Log book to be kept of all people working on site

MONITORING PROCEDURES (If required by the Safety Officer)

Monitoring the site for identity and concentration of contamination in all media:

Continuous monitoring with HNU.

Medical monitoring procedures for evidence of personnel exposure i.e. analyses specific to site not covered in general LMS physical:

N/A

Personnel monitoring procedures:

N/A

DECONTAMINATION AND DISPOSAL

Decontamination Procedures (contaminated personnel, surfaces, materials, instruments, equipment, etc.):

Drilling augers, splitspoons to be steam cleaned before use between borings. Split spoons to be detergent washed, potable water (over)

Disposal Procedures (contaminated equipment, supplies, disposables, washwater):

Drum water and cuttings if > 5 ppm on HNU. Otherwise spread cuttings on ground and spread water on ground. Bag all disposable clothing

EMERGENCY PROCEDURES

In event of personnel exposure (skin contact, inhalation, ingestion, specific procedures for specific chemicals):

Immediately wash exposed area with clean water. Remove person to clean air if inhalation problem and seek medical attention.

In event of personnel injury:

Use standard first aid procedures. Monitor ABCs - airway, breathing, circulation. Get medical help if needed.

between uses. Split spoons to be steam cleaned between boreholes. If chemical analyses to be done, use decon procedure described in work scope. Stainless steel spoons, trowels etc, used to collect soil samples. And buckets used to collect water samples are to be cleaned in laboratory as described in LMS SOP. Use water from hydrant. If acetone is used in field, segregate from other waste and contain.

In event of potential or actual fire or explosion:

Evacuate to support zone and leave site, NLO to check that all personnel are accounted for before leaving site

In event of potential or actual ionizing radiation exposure:

N/A

In event of environmental accident (spread of contamination outside sites):

Stop spread as best as possible. Call DMS.

EMERGENCY SERVICES (complete here or have separate list available on-site)

	Location	Telephone
Emergency Medical Facility	Bertrand Chaffee Hospital ~~Rp.~~ 224 E. Main St Springville NY 14141	(716) 592-2271
Ambulance Service	Same as above Cattaraugus Co. Emergency	(716) 592-2271 1-800-443-3403

Location	Telephone
Fire Department	(716) 676-5917
Farmersville	(716) 676-3639
Franklinville	(716) 676-3000
Machias	(716) 353-8500
Police Department	
Franklinville State Police	(716) 676-5872
Cattaraugus County	(716) 938-9111
Poison Control Center	

PERSONNEL POTENTIALLY EXPOSED TO HAZARDOUS SUBSTANCES (As Applicable)

Personnel Authorized to Enter Site (specific conditions of site would preclude most LMS trained persons from entering site and would allow only certain personnel, list here)

1. N/A
2. _____
3. _____
4. _____
5. _____

ALTERNATIVE WORK PRACTICES

(Describe alternative work practices or instruments not specified in this form. Indicate work practices specified in the chapter for which proposed alternative work practices will serve as substitute.)

N/A

TASK-SPECIFIC LEVEL OF PROTECTION (attach table including specific description of protective gear)

See attached Table 2

SITE MAP

(Attach a site map. Map should be properly scaled and keyed to local landmarks.) See attached Figure 1

TRAINING

(Provide description of minimum training, reference OSHA Sections).

3 people - 29 CFR 1910.120 e (2)

AFFIDAVIT

All personnel who enter site must sign attached affidavit. LMS personnel must also read and comply with LMS' generic HASP.

AFFIDAVIT

I, _____, (name) of _____ (company name) have read the Health and Safety Plan (HASP) for the _____ (site description and project description). I have also read the LMS generic HASP. I agree to conduct all on-site work in conformity with the requirements of both HASPs. In addition, I acknowledge that failure to comply with the designated procedures in the Health and Safety Plans may lead to my removal from the site.

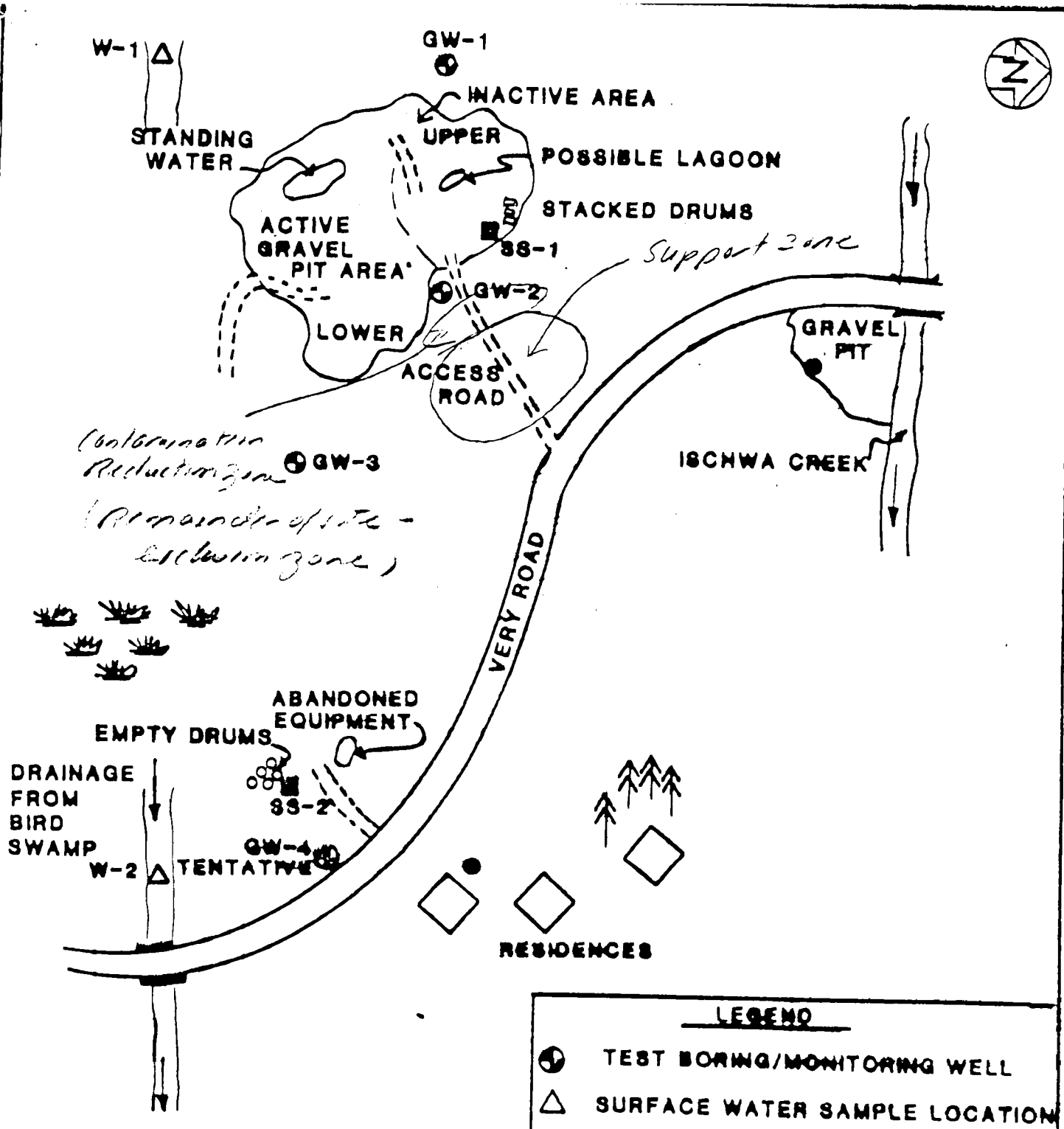
Signed _____

Date _____

Table 1
Hazard Assessment

Compound	Result* ppm	TLV, ppm	STEL ppm	IDLH, ppm	LEL, %	UEL, %	Flash pt, °F	Vapor Pressure, mm	Ionization Potential eV
Toluene	—	100	150	2000	1.3	7.1	40	22	8.82
Xylene	—	100	150	1000	1	7	81-90	7-9	8.44-8.56
1,1,1-Trichloroethane	880	350	450	1000	7	16	—	100	—
Trichloroethylene	3.6	50	200	Ca	11	41	—	58	9.45
Bromodichloromethane	4.5	—	—	—	—	—	—	—	—
1,1-Dichloroethylene	5.6	5	20	4000	6	16	17	184	—
Methylene chloride	36	100	500	Ca	12	19	—	350	11.35
4,4'-DDD	2.0	—	—	—	—	—	—	—	—
4,4'-DDE	6.1	—	—	—	—	—	—	—	—
4,4'DDT	2.6	—	—	Ca	—	—	—	0	—
Heptachlor epoxide	6.2	—	—	—	—	—	—	—	—
β-Endosulfan	2.0	0.1 mg/m³	—	—	—	—	—	—	—
Endrin	2.4	0.1 mg/m³	—	200 mg/m³	—	—	—	0	—
Gamma-BHC	0.8	—	—	—	—	—	—	—	—
HCl	—	5 mg/m³	—	100	—	—	—	7 atm	12.74
H_3PO_4	—	1 mg/m³	3 mg/m³	—	—	—	—	0.03	—

* - from drum sampling - 12/85



Scale: NTS			MACHIAS GRAVEL PIT NYS SUPERFUND PHASE II SITE NO. 905013
	By	Date	
Dwn.	SSN	10/86	
Ckd.			
Ap'vd.			
Rev.			
Project No. 5C280503			A FIGURE 1

PROPOSED SAMPLING LOCATION MAP

BRUNING 1160-1

Table 2

Task Specific Level of Protection

Task	Level	Description
1. Monitoring well drilling and installation	D	Hard hat, safety glasses, safety shoes, coated tyvek in case of splash optional, latex glove
2. Groundwater Sampling	D	Same as above
3. Surface water sampling	D	Same as above
4. Soil sampling	D	Same as above
5. Drum sampling	D	Same as above

Action Levels: Because drums were found on site ~~and~~ had high levels of chemicals in them and a respirator is not suitable for use with some of these chemicals there would be a Level C. Therefore if reading on HNU is ~~over~~ 5 ppm above background or breathing zone stop work and call office.

APPENDIX D

APPENDIX D

GEOPHYSICS RESULTS

9/7/88

MACHIAS GRAVEL PIT

MACHIAS, NEW YORK

1.0 INTRODUCTION

A total of four resistivity soundings were completed across the Machias Gravel Pit site in the Town of Machias, New York on August 26, 1988 (Figure 1). The method of investigation utilized a Bison Model 2350 Earth Resistivity meter to perform resistivity soundings. A brief overview of the resistivity techniques utilized and the findings are herein presented.

1.1 Purpose

The purpose of the resistivity soundings was to characterize the site, and assess the variation in subsurface conditions with depth.

1.2 Site Conditions

The Machias Gravel Pit is a partially abandoned surficial gravel excavation operation comprising an area of three (+) acres. The site consists of non-vegetated areas stripped of topsoil in areas where excavation has recently or currently occurred and areas of field grasses which may have been mined several years (+) prior to this investigation. Stacked drums and empty drums were not observed on the site as shown on Figure 1. Abandoned equipment and steel

cable were observed within the vicinity of where it is noted on Figure 1. Topography of the site did limit the depth of investigation.

2.0 METHODS

Four vertical electrical soundings (VES) were conducted with a Bison Model 2350 resistivity meter using a Wenner array. A VES consists of a series of resistivity readings with progressively increasing electrode spacings, centered about a common stationary point. The sounding is initiated with small "A" spacings (distance between electrodes) and is increased until adequate depth is penetrated. "A" spacings for the Wenner array used at the Machias site ranged from 2-70 feet.

Center points for each resistivity sounding were staked and flagged, and the trend of the electrode array was recorded. Center points of restivity soundings two and three were located at proposed well locations GW-3 and GW-4 respectively. Due to the absence of permanent structures at this site, staked resistivity sounding center points RS-1 and RS-4 were not tied to anything. It is recommended that these staked locations be surveyed for mapping purposes.

4.0 RESULTS

The results of the vertical restivity soundings were presented in Appendix I and II.

Data was initially plotted as "A" spacing verses apparent resistivity to give a qualitative interpretation of the number of geologic or hydrogeologic layers present and their resistive characteristics.

Initial observations revealed that resistivity soundings RS-1 and RS-3 represent three layer cases where 1st and 3rd layers are less resistive than the 2nd layer. Resistivity soundings RS-2 and RS-4 probably represent two layer cases with a more resistive layer above a less resistive layer.

For a more quantitative interpretation, the data ("A" spacings verses apparent resistivity) was graphed on log paper. The curve was then matched or fitted to theoretical curves representing two and three layer cases.

A complete interpreted model based on the four resistivity soundings consist of the following geoelectric section:

Layer	Depth (feet)	Average Resistivity (Ohm-Feet)
1	0-2	645
2	0-7	1050
3	Greater than 7	185

Since the model is not calibrated to observe subsurface conditions, it should be deemed preliminary; the geoelectric layers may or may not correspond with geologic or hydrogeologic layers.

For this reason, the individual sounding curves should be re-interpreted after additional field data from boreholes, monitoring wells and chemical data (specific conductance) becomes available in order to confirm and develop a realistic interpretation.

Resistivity soundings RS-2 and RS-4 appear to have layer 1 absent. These soundings appear to represent a two layer case where layer 2 has a much greater resistivity than layer 3.

Resistivity soundings RS-1 and RS-3 appear to be three layer cases. At these locations, layers 1 and 3 have lower resistivities and layer two has a higher resistivity.

5.0 CONCLUSIONS

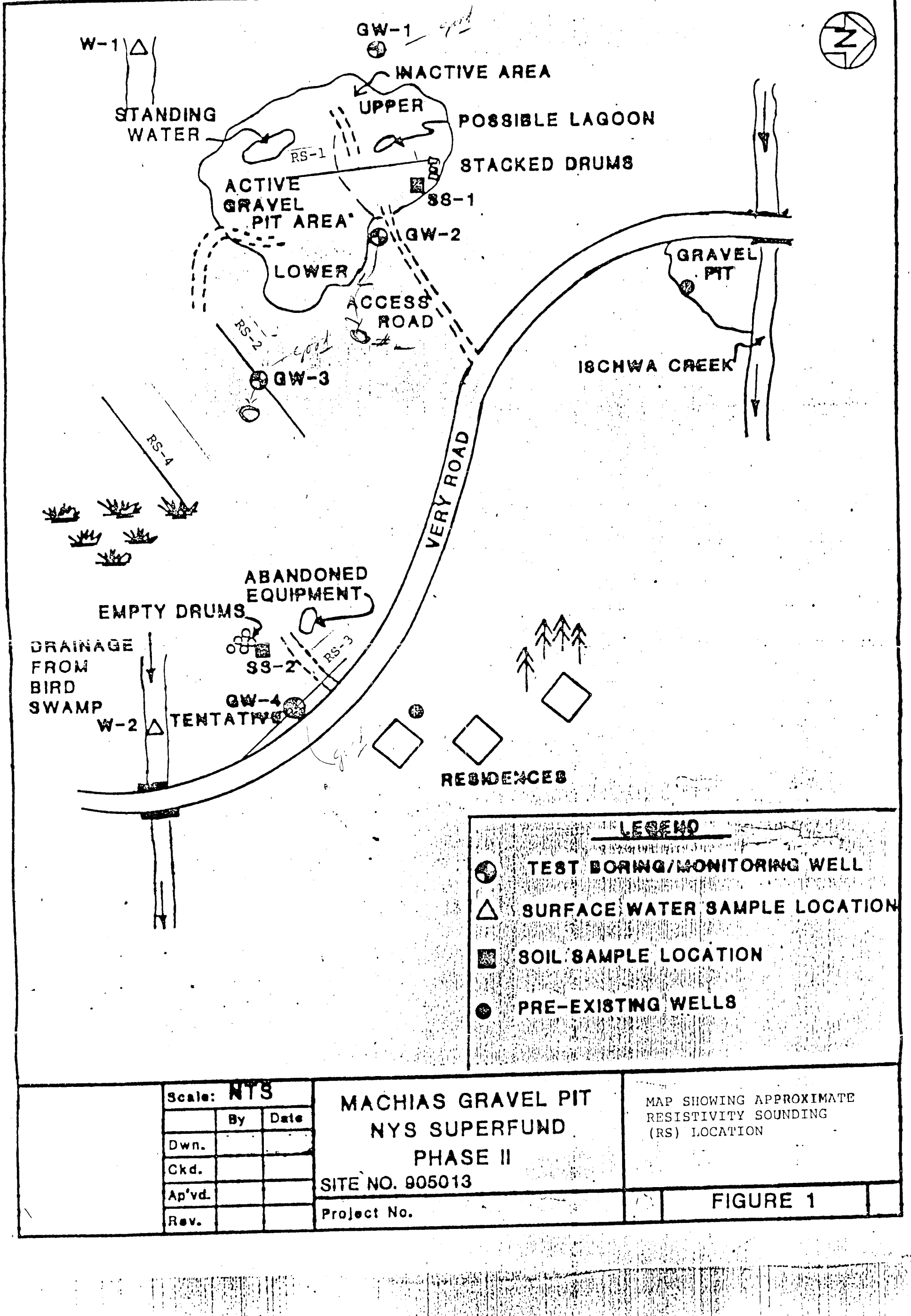
A preliminary interpretation of the characteristic geoelectric section consists of the following:

- Layer 1 has a relatively low to moderate resistivity that could be indicative of an unsaturated glacial till (ie. ablation till).
- Layer 2 has a relatively high resistivity that could be indicative of a unsaturated sand and gravel that contains minor amounts of silt and clay.
- Layer 3 has a relatively low resistivity that may be indicative of a saturated granular soil that contains electrolytes. This layer could also be representative of unsaturated or saturated clayey soils.

6.0 LIMITATIONS

Geophysical exploration is an established method for nondestructively investigating the subsurface. However, because it is an indirect method of subsurface investigation it is subject to inherent limitations and ambiguities. Search targets such as stratigraphy, the water table, disturbed areas, soil or ground water contamination, buried tanks, drums, transformers, and conduits are detectable only if they produce recognizable anomalies or patterns against the background geophysical data. Natural and cultural features such as major soil changes, topography, site boundaries, pavement, fences, buildings, surface and buried extraneous debris, vehicles, and the heterogeneous fill, may exhibit significant anomalies depending upon the geophysical technique being used.

APPENDIX I



Scale: NTS		
	By	Date
Dwn.		
Ckd.		
Ap'vd.		
Rev.		

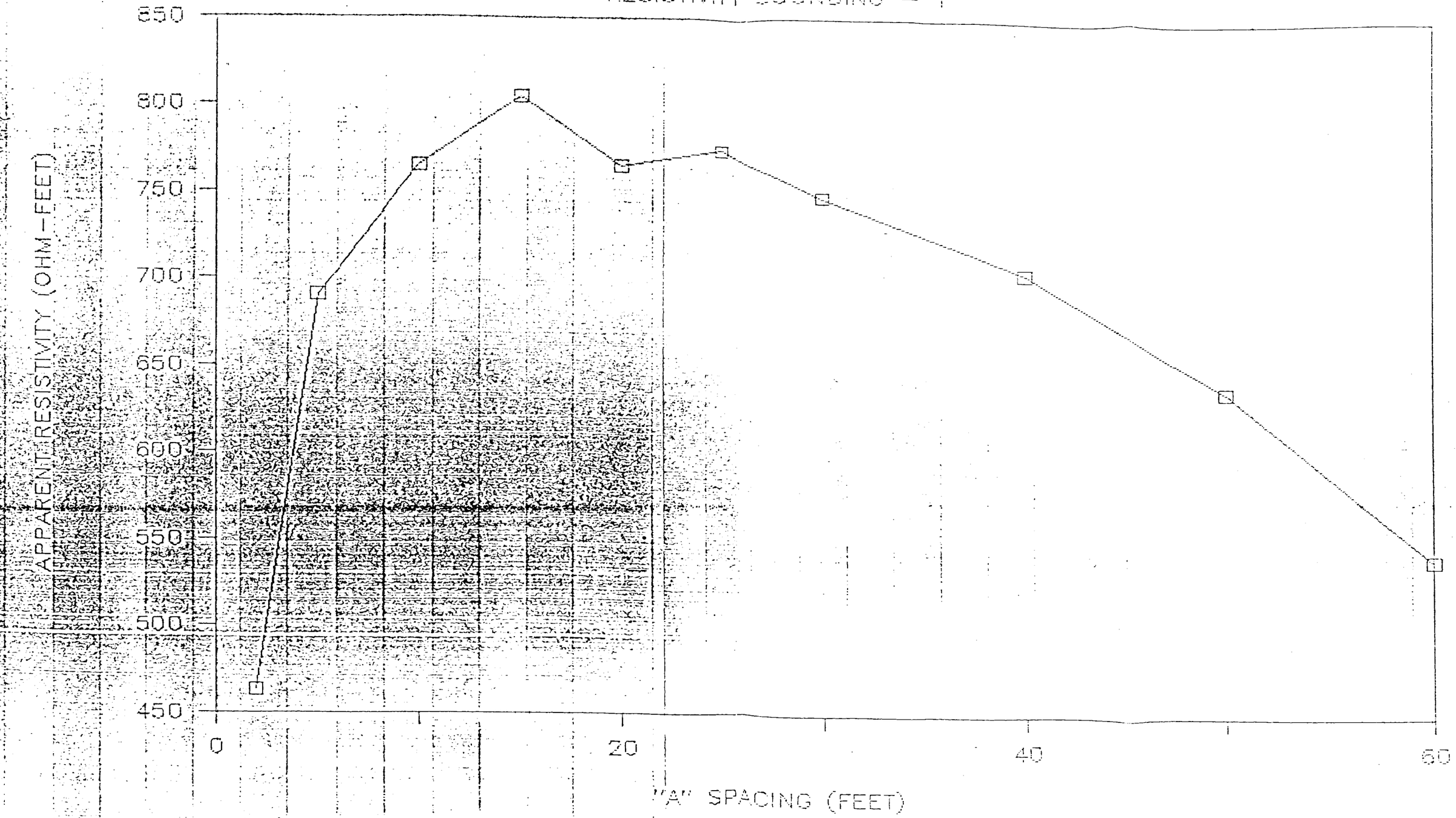
MACHIAS GRAVEL PIT
NYS SUPERFUND
PHASE II
SITE NO. 905013
Project No.

MAP SHOWING APPROXIMATE RESISTIVITY SOUNDING (RS) LOCATION

FIGURE 1

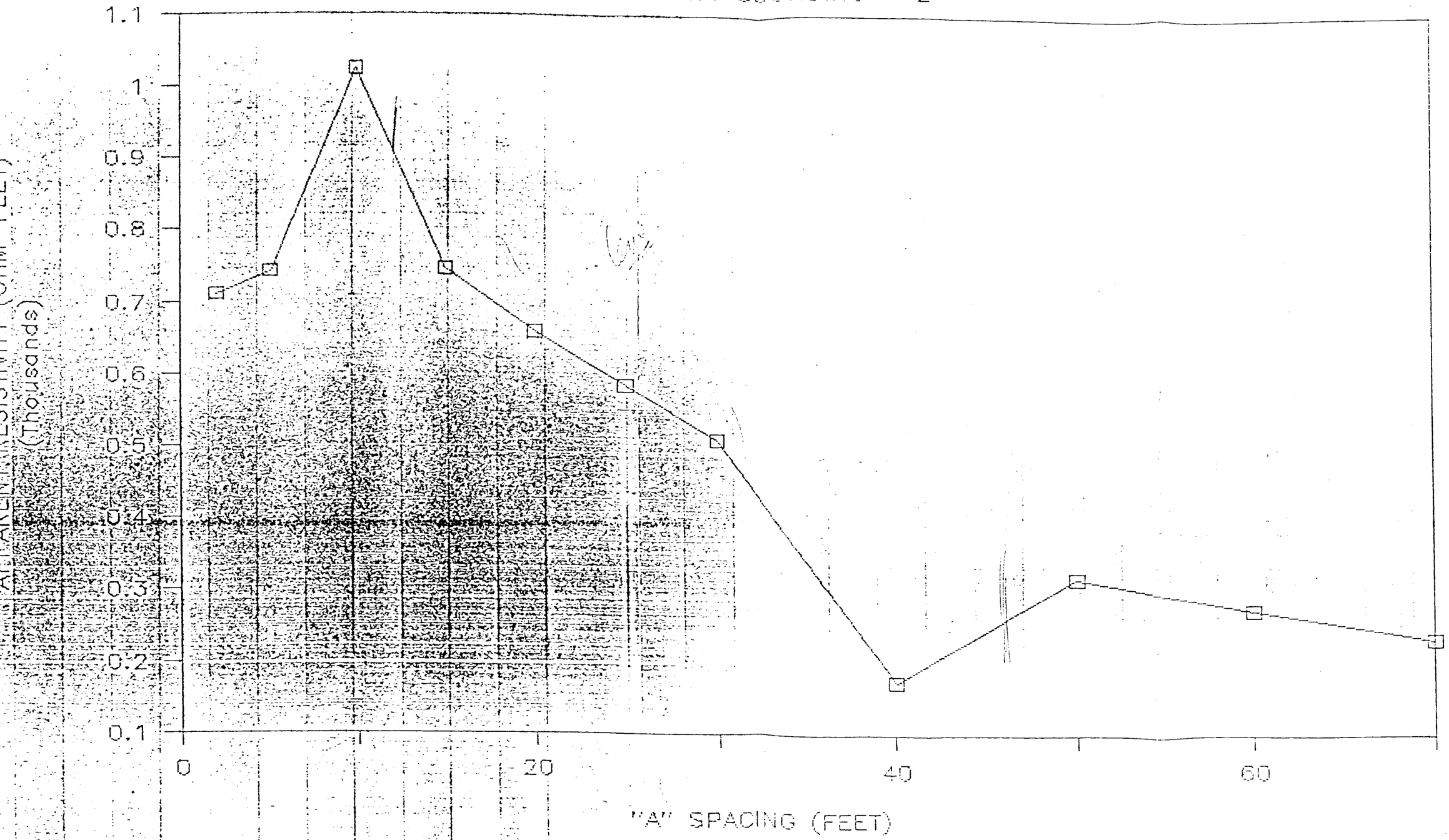
MACHIAS GRAVEL PIT

RESISTIVITY SOUNDING — 1



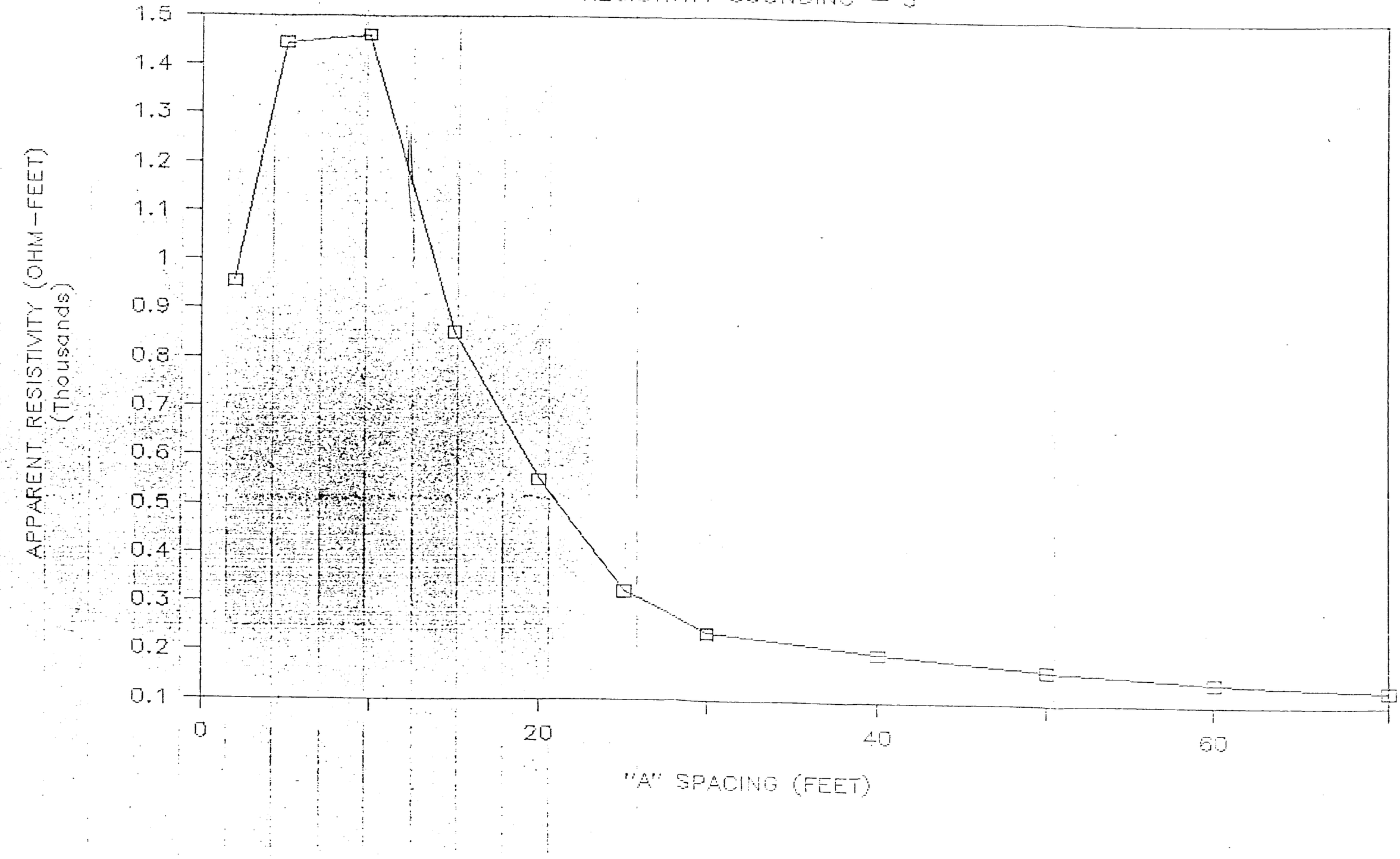
MACHIAS GRAVEL PIT

RESISTIVITY SOUNDING – 2



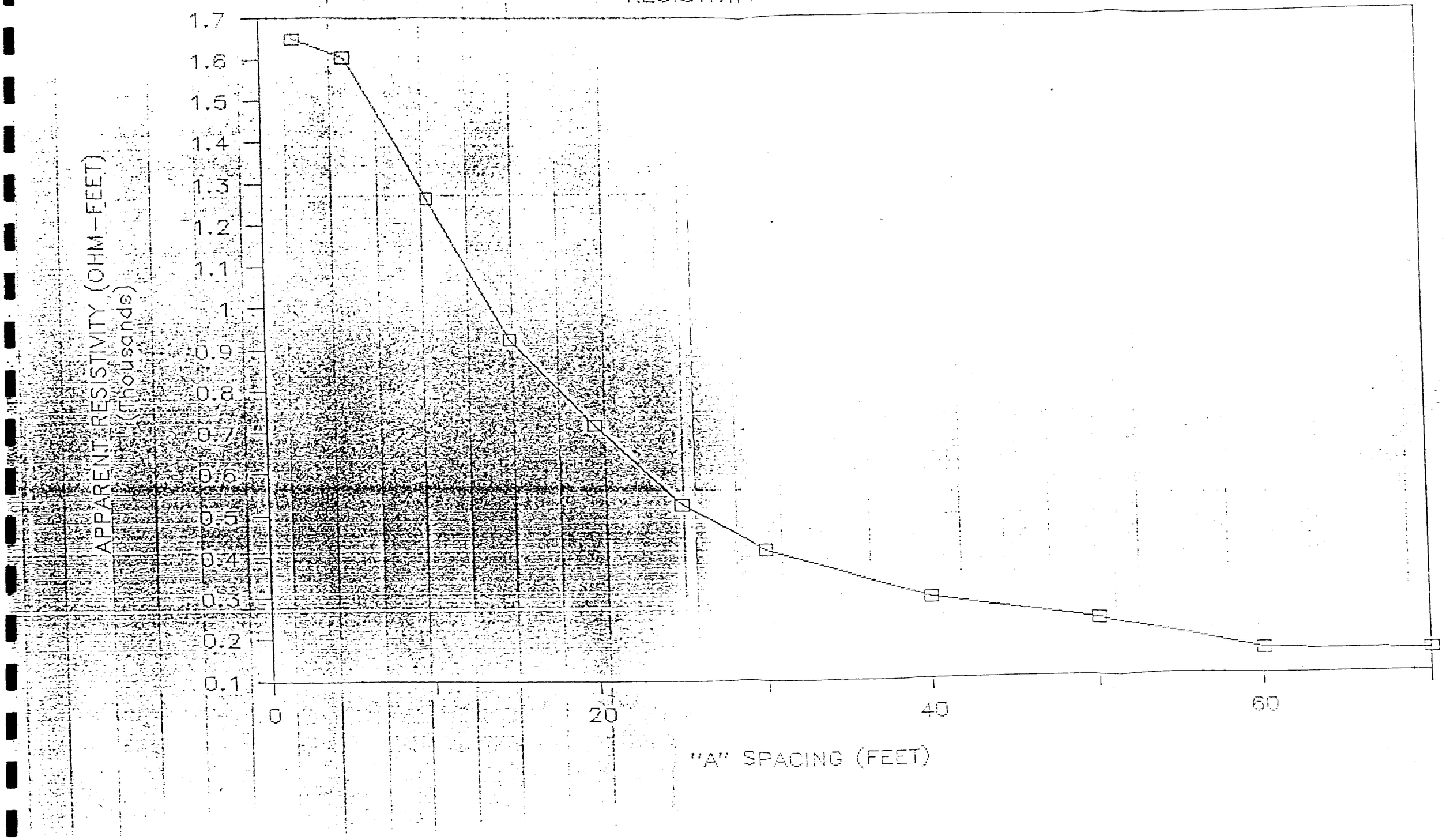
MACHIAS GRAVEL PIT

RESISTIVITY SOUNDING — 3



MACHIAS GRAVEL PIT

RESISTIVITY SOUNDING — 4



APPENDIX II

DUNN GEOSCIENCE CORPORATION
WENNER ARRAY RESISTIVITY ANALYSIS

Client : REGRA ENVIRONMENTAL, INC.
Job Number : ********
Location : MACHIAS, NEW YORK
Date : AUGUST 26, 1988
Notes : LINE RS-1, TRENDING NSW

#	"A" Spacing (feet)	Wenner Reading (2piR)	Apparent Resistivity (2piAR)	Barnes Layer (ohm-m)	Moore Cumulative (ohm-m)	Apparent Conductivity (mmho/meter)	Layer Conductivity (mmho/meter)
1	2.0	739.60	463.1	463.1	463.1	2.16	2.16
2	5.0	453.00	690.4	1026.2	1153.4	1.45	0.97
3	10.0	251.00	765.0	857.8	1918.5	1.31	1.17
4	15.0	176.00	804.7	897.7	2723.1	1.24	1.11
5	20.0	125.50	765.0	666.6	3488.2	1.31	1.50
6	25.0	101.60	774.2	813.1	4262.4	1.29	1.23
7	30.0	81.74	747.4	637.3	5009.8	1.34	1.57
8	40.0	57.82	704.9	602.2	5714.8	1.42	1.66
9	50.0	41.32	637.3	460.6	6252.1	1.57	2.17
10	60.0	29.54	540.2	306.6	6892.3	1.85	3.26

DUNN GEOSCIENCE CORPORATION
WENNER ARRAY RESISTIVITY ANALYSIS

Client : RECRA ENVIRONMENTAL, INC.
Job Number : ********
Location : MATHIAS, NEW YORK
Date : AUGUST 26, 1988
Notes : RS-2, CENTERED ON GW-3, TRENDING NE-SE

#	"A" Spacing (feet)	Wenner Reading (2piR)	Apparent Resistivity (2piAR)	Barnes Layer (ohm-m)	Moore Cumulative (ohm-m)	Apparent Conductivity (mmho/meter)	Layer Conductivity (mmho/meter)
1	2.0	1167.00	711.4	711.4	711.4	1.41	1.41
2	5.0	487.10	742.3	764.5	1453.7	1.35	1.31
3	10.0	336.20	1024.7	1653.9	2478.5	0.98	0.60
4	15.0	163.00	745.2	682.2	3223.7	1.34	2.07
5	20.0	108.10	659.0	439.1	3882.7	1.52	2.04
6	25.0	76.59	583.6	400.4	4466.3	1.71	2.50
7	30.0	55.75	509.8	312.3	4976.1	1.96	3.20
8	40.0	14.15	172.5	57.8	5148.6	5.80	17.30
9	50.0	20.94	319.1	-133.0	5467.7	3.13	-7.52
10	60.0	15.00	274.3	161.2	5742.1	3.65	6.20
11	70.0	10.90	232.6	121.5	5974.6	4.30	8.23

DUNN GEOSCIENCE CORPORATION
WENNER ARRAY RESISTIVITY ANALYSIS

Client : RECRA ENVIRONMENTAL, INC
Job Number : ********
Location : MACHIAS, NEW YORK
Date : AUGUST 26, 1988
Notes : RS-3, CENTERED ON GW-4, TRENDING N42W

#	"A" Spacing (feet)	Wenner Reading (2piR)	Apparent Resistivity (2piAR)	Barnes Layer (ohm-m)	Moore Cumulative (ohm-m)	Apparent Conductivity (mmho/meter)	Layer Conductivity (mmho/meter)
1	2.0	1569.00	956.5	956.5	956.5	1.05	1.05
2	5.0	948.10	1444.9	2190.7	2401.4	0.69	0.46
3	10.0	479.10	1460.3	1476.0	3861.7	0.68	0.68
4	15.0	186.30	851.8	464.6	4713.4	1.17	2.15
5	20.0	90.39	551.0	267.6	5264.4	1.81	3.74
6	25.0	42.40	323.1	121.7	5587.5	3.10	8.22
7	30.0	26.03	238.0	102.7	5825.6	4.20	9.73
8	40.0	16.21	197.6	131.0	6023.2	5.06	7.64
9	50.0	10.98	166.9	102.9	6190.1	5.99	9.72
10	60.0	7.98	145.4	88.4	6335.5	6.88	11.31
11	70.0	6.09	129.9	79.3	6465.4	7.70	12.60

****

DUNN GEOSCIENCE CORPORATION
WENNER ARRAY RESISTIVITY ANALYSIS

****

Client : RECRA ENVIRONMENTAL, INC.
Job Number : ********
Location : MACHIAS, NEW YORK
Date : AUGUST 26, 1988
Notes : RS-4, TRENDING NSSE

#	"A" Spacing (feet)	Wenner Reading (2piR)	Apparent Resistivity (2piAR)	Barnes Layer (ohm-m)	Moore Cumulative (ohm-m)	Apparent Conductivity (mmho/meter)	Layer Conductivity (mmho/meter)
1	2.0	2705.00	1649.0	1649.0	1649.0	0.61	0.61
2	5.0	1053.00	1604.8	1576.6	3253.7	0.62	0.63
3	10.0	414.70	1264.0	1042.6	4517.7	0.79	0.96
4	15.0	202.30	924.9	601.9	5442.7	1.08	1.66
5	20.0	117.60	716.9	428.1	6159.6	1.39	2.34
6	25.0	68.70	523.5	251.8	6683.0	1.91	3.97
7	30.0	45.39	415.0	203.9	7098.1	2.41	4.91
8	40.0	24.12	294.1	156.9	7392.2	3.40	6.37
9	50.0	15.64	238.4	135.6	7630.5	4.20	7.38
10	60.0	9.72	199.8	60.1	7730.0	6.27	16.65
11	70.0	7.00	183.6	125.9	7943.6	6.51	7.94

INTERNATIONAL EXPLORATION, INC.

577 SACKETTSFORD ROAD
WARMINSTER, PA 18974-1398
215 - 598-7137
W.U. MAIL BOX 62909666
TELEX 510-601-0152
FAX 215-598-0847

November 4, 1988

Lawler, Matusky and Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965
ATTN: Mr. Edward Maikish

RE: MAGNETOMETER SURVEY
VERY ROAD SITE, MACHIAS, NY

Dear Ed,

On October 21, 1988, Mr. Mike Komoroske of NY DEC requested we conduct a preliminary magnetometer survey of a portion of the above referenced site. The purpose of this survey was to determine if there is the possibility of buried metal in this area. This survey was conducted using a 20'x 20' survey grid. Typically a grid system of 10' x 10' is used when investigating the subsurface for metal, however, due to the preliminary nature of this investigation, a 20' x 20' survey grid was used.

Interpretation of the data suggests the possibility of buried metal objects in the north-west corner of the survey area. This area is delineated on Figure 1, by shading. In addition, the magnetic field values of the anomalous area are plotted as profiles for lines 320, 420, 520, and 620 and presented as Figure 2.

Based on our interpretation, we recommend further investigation of the anomalous area to more accurately delineate the source of the magnetic highs. This can be accomplished through additional magnetometer surveying on a higher grid or by excavation of the shaded area.

Should you have any questions, or if we can be of additional service, please do not hesitate to contact us.

Sincerely,
INTERNATIONAL EXPLORATION, INC.

Joseph T. Jacobsen

JTJ:jj
encl. (contour map/profiles)

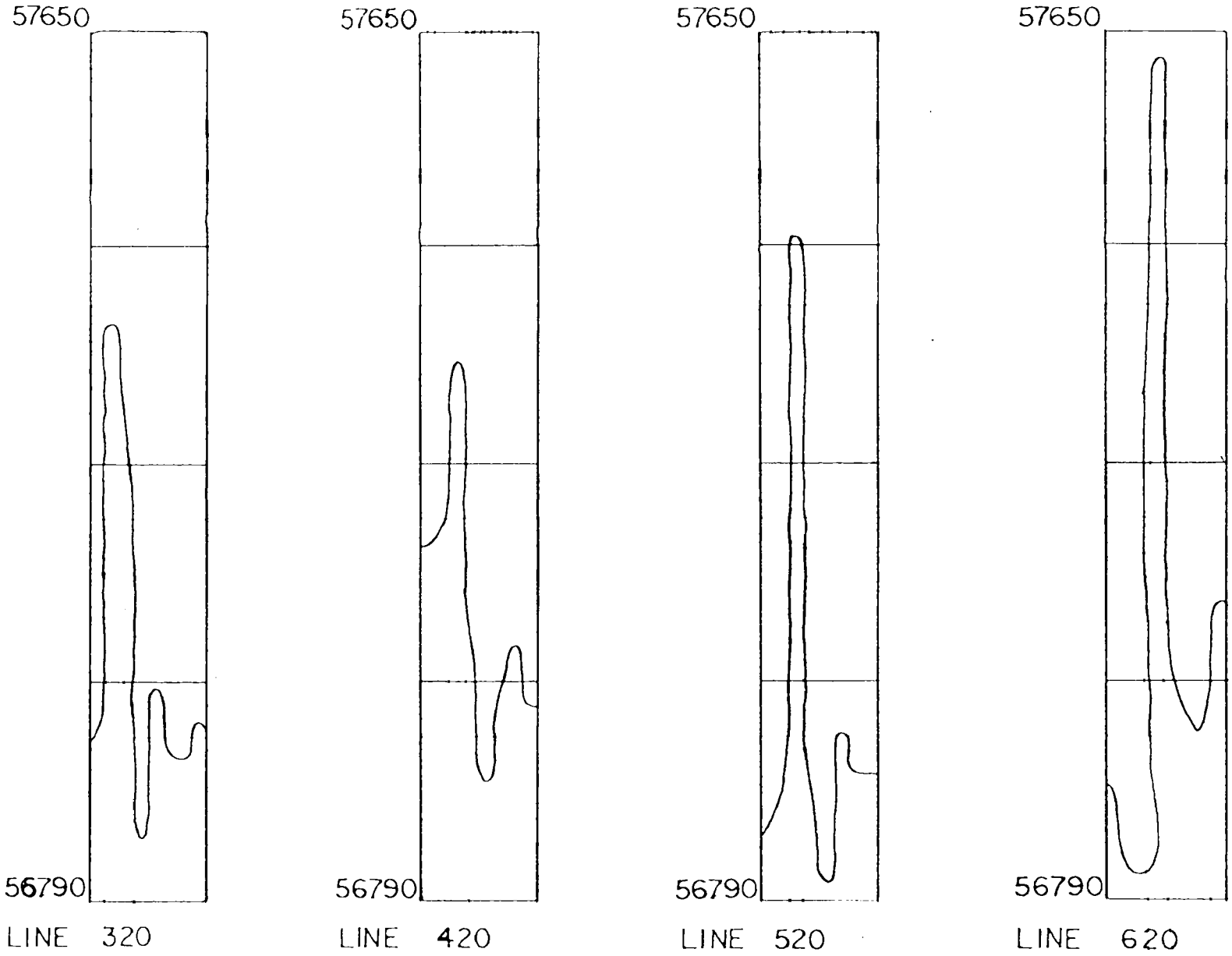


FIGURE 2: MAGNETIC PROFILES OF SELECTED LINES
FROM THE VERY ROAD MAGNETIC SURVEY

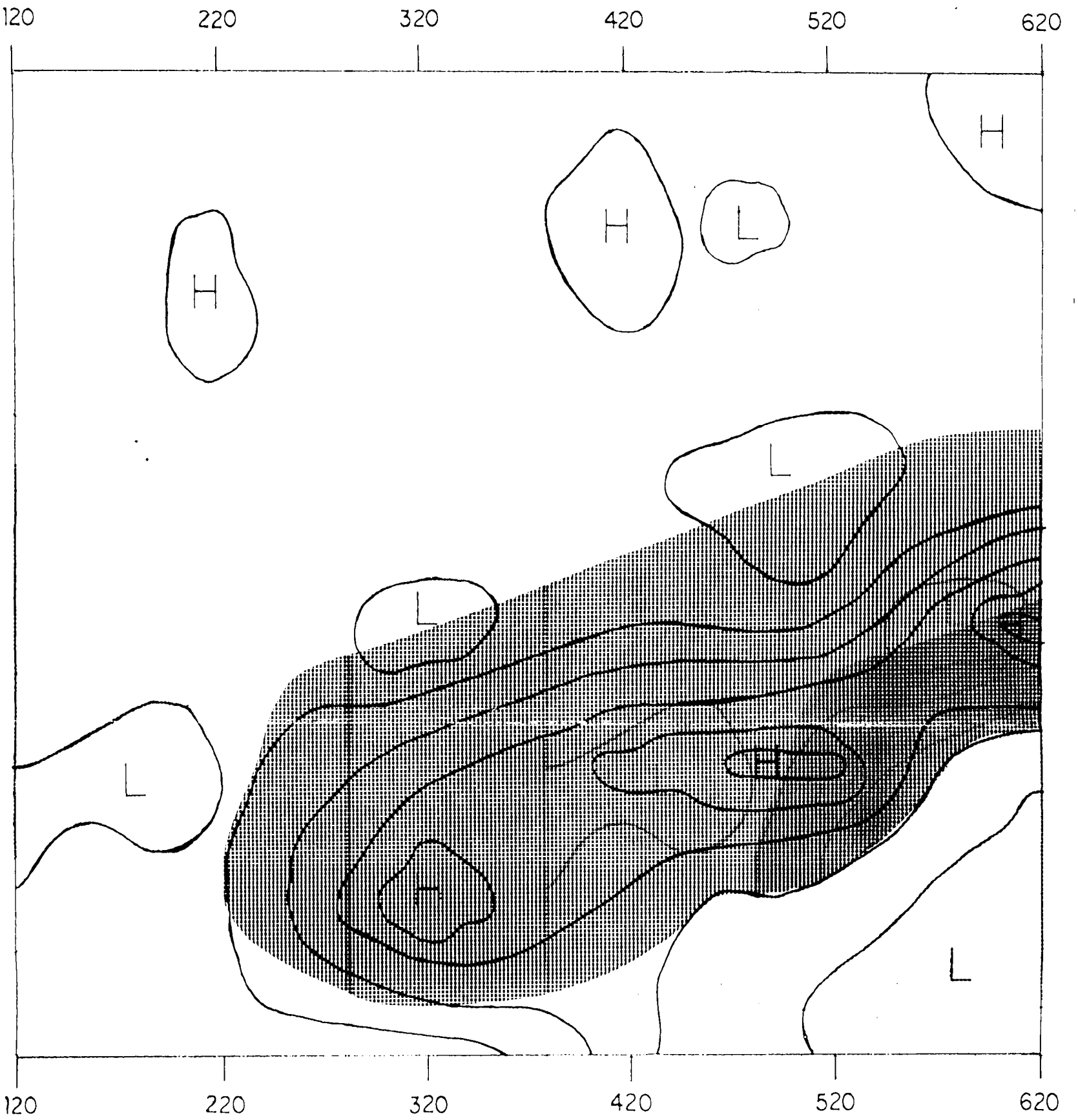


FIGURE 1

MAGNETOMETER SURVEY
VERY ROAD SITE, MACHIAS, N.Y.

20' x 20' Grid System

H.... Magnetic high

L.... Magnetic low

120.... Survey line

... Anomalous Area
(Suspected source:
ferromagnetic material)

Magnetic contour line

N

INTERNATIONAL EXPLORATION, INC.
877 SACKETTSFORD ROAD
WARMINSTER, PA 18974-1306
(215) 956-7137

MAGNETIC SURVEY DATA
JOB# 8880
Line
Page 1 of 1
Date 10/21/88

VERY ROAD SITE

STATION	MAG (GAMMAS)	STATION	MAG (GAMMAS)
1 (120)	56989	27	57336
2	56893	28	57054
3	56889	29	56900
4	56932	30	57003
5	56933	31	57048
6	56969	32	56982
7	56980	33 (520)	56854
8	56930	34	56913
9 (320)	56975	35	57470
10	56992	36	56914
11	56994	37	56805
12	56980	38	56957
13	56922	39	56916
14	57019	40	56919
15	57005	41 (620)	56910
16	56970	42	56797
17 (320)	56948	43	56825
18	57384	44	57639
19	57181	45	56946
20	56847	46	56947
21	57002	47	56998
22	56940	48	57082
23	56928		
24	56969		
25 (420)	57145		
26	57163		

INTERNATIONAL EXPLORATION, INC.
877 SACKETTSFORD ROAD
WARMINSTER, PA 18974-1806
(215) 968-7137

MAGNETIC SURVEY DATA
JOB# 8880
Line
Page 1 of 1
Date 10/21/88

VERY ROAD SITE

STATION	MAG (GAMMAS)	STATION	MAG (GAMMAS)
1 (120)	56989	27	57326
2	56893	28	57054
3	56889	29	56900
4	56932	30	57003
5	56933	31	57048
6	56969	32	56982
7	56980	33 (520)	56854
8	56930	34	56913
9 (330)	56975	35	57470
10	56992	36	56914
11	56994	37	56805
12	56980	38	56957
13	56922	39	56916
14	57019	40	56919
15	57005	41 (630)	56910
16	56970	42	56797
17 (330)	56948	43	56825
18	57384	44	57639
19	57181	45	56946
20	56847	46	56947
21	57002	47	56998
22	56940	48	57083
23	56938		
24	56969		
25 (430)	57145		
26	57163		

INTERNATIONAL EXPLORATION, INC.

577 SACKETTSFORD ROAD
WARMINSTER, PA 18974-1398
215 - 598-7137
W.U. MAIL BOX 62909666
TELEX 510-601-0152
FAX 215-598-0847

November 21, 1988

Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965

ATTN: Mr. Edward Maikish

Dear Mr. Maikish:

Regarding your meeting with Joseph Jacobsen on Wednesday, November 16, 1988, please find enclosed a copy of the Machias gravel pit site plan showing the approximate location of the Magnetic surveying completed last month. Should you need additional information, please do not hesitate to contact us.

Sincerely,

INTERNATIONAL EXPLORATION, INC.

James R. Criswell

James R. Criswell

JRC:cnh

Encl.

cc: Mr. Joseph T. Jacobsen

APPENDIX E

BORING LOGS

Data by Kevin McGuinness

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. GW-1
Project No. 576-011

Project Name Machias Gravel Pit
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU and CGI
SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 0950 10-13-88 start; 1615 10-13-88 finish
Boring Location Upgradient - Shanks Field
Total Depth 73'
Depth to Water 64'
Hole Diameter 8"
Ground Surface Elevation 161.48

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL	Remarks
0	2										0-.35 - Blk silty organic debris .35-1.65 - Tan-brown med cs sand w/some silt.	
		3										
			5									
2				10	✓	1.65	1	1	dry			
4	2										0-.4 - Tan-br med cs sand .4-.8 - Fine br sand, some silt, tr. clay .8-1.6 - Fine sandy silt. 1.6-2.0 - Med-very cs tan-white sand	
		3										
			2									
6				3	✓	2.0	2	1	dry			
11	2										0-1.2 - Fine tan silty sand 1.2-1.4 - Brown clayey silt 1.4-1.8 - Tan silt	
		2										
			2									
13				3	✓	1.8	3	1	dry			
14	2										0-.5 - Tan fine silt, some fine sand .5-1.7 - Fine sand, some silt. 1.7-2.0 - Tan silt, trace clay.	
		2										
			2									
16				2	✓	2.0	4	1	dry			
19	7										0-1.6 - Tan silt, tr. very fine sand	
		8										
			9									
21				11	✓	1.6	5	1	dry			
24	7										0-1.0 - Cs tan and white sand, some gravel, tr. silt	rounded gravel
		8										
			9									
26				11	✓	1.0	6	1	dry			
29	10										0-1.35 - Tan-gray cs sand and gravel	
		10										
			13									
31				11	✓	1.35	7	1	dry			

CLASSIFICATION OF MATERIAL
f - fine
m - medium
c - coarse
and - 35-50%
some - 20-35%
little - 10-20%
trace - 0-10%

Boringt No. GW-1
Project No. 576-011

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
34	3								wet		0-.55 - Tan clayey SILT	perched?
		3									.55-1.3 - Tan-gray cs SAND + GRAVEL	hygro-scopic clay?
			9								- iron oxidation stains	
36				11	✓	1.3	8	1	dry			
39	5										0-.6 - cs tan SAND	
		7							wet		.6-.8 - Tan silty CLAY	
			8								.8-1.5 - cs SAND, little gravel, tr. silt	hard packed dry
41				11	✓	1.5	9	1	dry			
44	6										0-.4 - Tan f-med SAND	
		11							damp		.4-.75 - Tan silt, tr clay	
									dry		.75-1.0 - Tan f-med SAND	
			15						damp		1.0-1.2 - Tan silt, tr. clay	
46				16	✓	1.65	10	1	dry		1.2-1.65 - Tan sand + gravel - cs	
49	14										0-1.05 - cs SAND and GRAVEL, some small stones	- tight compact
		21										
			26						slightly damp			
51				31	✓	1.05	11	1				
54	16										0-1.0 - Very cs tan + br SAND + GRAVEL some stones.	
		17										
			22									
56				15	✓	1.0	12	1	dry			
59	12										0-1.0 - Very cs sandy GRAVEL, some stones	loose
		22										
			18									
61				18	✓	1.0	13	1	dry			
64	14										0-1.05 - Cs SAND + GRAVEL, some small stones	
		10										saturated water running out of spoon
			8						wet			
66				10	✓	1.05	14	1				
66	5										0-.3 - cs GRAVEL, some sand	
		10									.3-.85 - fine tan SILT	
			15								.85-1.5 - fine SAND, some silt	
				17	✓	1.5	15	1	wet			
68	10										0-1.4 - Tan SAND + GRAVEL	tight compact
		16									1.4-2.0 - Tan - brwn f-med SAND	
			26									
				36	✓	2.0	16	1	wet			
70	8										0-.7 - Tan f-med SAND	loose soupy
		11									.7-1.1 - Tan-brwn med-cs SAND	
			11									
				20	✓	1.1	17	1				

Boringt No. GW-1
Project No. 576-011

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL	Remarks
											f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
72	5										NO recovery	
		18										
			20									
				23	-	0	-	-				

Data by Tony Magliocchino

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. GW-2
Project No. 576-011

Project Name Machias Gravel Pit

Client NYS OEC

Driller American Auger

Monitoring Instrument(s) HNU and CGI

SAMPLE HAMMER

Weight 140 lb

Fall 30 in.

Date 1000 10-17-88 (start) 1230 10-18-88 (finish)

Boring Location down gradient from pit

Total Depth 44'

Depth to Water 34'

Hole Diameter 8"

Ground Surface Elevation 128.09'

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL	Remarks
0	2										0-.9 - Br SILT some clay .9-2.0 - Br SILT and f SAND, some small stones.	
		5										
			9									
2				11	✓	2.0	1	1				
4	1										0-.2 - Br loose cs SAND, some small stones .2-.7 - Br. damp med-cs SAND, little clay some small rounded stones. .7-.9 - Br damp med-cs SAND, some clay and small stones	
		2										
			1									
6				2	✓	.9	2	1	damp			
9	1								damp		0-.65 - Br f-m SAND, some round stones .65-1.2 - SILT, tr. f sand, tr. clay increasing towards bottom, some sm rounded stones.	
		2										
			1									
11				3	✓	1.2	3	1				
14	10								damp		0-.2 - Br SILT, tr fine sand, tr clay. .2-.75 - br dry cs SAND and GRAVEL, some sm. round stones	stone in nose
		11							dry			
			12									
16				32	✓	.75	4	1				
19	3										0-1.13 - Br cs SAND, little f-m SAND some gravel, some sm. round stones	
		5										
			5									
21				7	✓	1.13	5	1				
24	9										0-.15 - Br cs SAND, some f gravel .15-.3 - lt. br cs SAND, little gravel .3-.55 - Br cs SAND and GRAVEL .55-1.11 - Br f-cs SAND and GRAVEL, some sm. rounded stones	
		8										
			9									
26				10	✓	1.11	6	1				
29	7										No recovery	rock in nose
		10							spoon was dry			
			10									
31				10								

CLASSIFICATION OF MATERIAL

f - fine
m - medium
c - coarse

and - 35-50%
some - 20-35%
little - 10-20%
trace - 0-10%

Boringt No. GW-2
Project No. 576-011

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL	Remarks
											f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
34	16										0-.45 - Br cs SAND, some f-m sand, some gravel, some sm. round stones	
		7									.45-.86 - Br f-c SAND	
			3									
				5	✓	.86	7	1	wet			
36	14										0-.35 - Br f-cs SAND and rounded stones, tr gravel	
		9									.35-1.29 - Br f-cs SAND	
			6									
				6	✓	1.29	8	1	wet			
38	12										0-.5 - Br cs. SAND, little f-m SAND .5-1.1 - Br gravel, some cs SAND 1.1-1.4 - Broken stones 1.4-1.58 - wet f-c SAND	
		20										
			17									
				11	✓	1.58	9	1	wet			
40	7										0-.65 - Br cs SAND, some f gravel .65-1.1 - Br f-cs gravel, some cs sand 1.1-1.65 - Br cs SAND, little f gravel	
		4										
			4									
				6	✓	1.65	10	1	wet			
42	10										0-.9 - Br cs SAND + GRAVEL .9-1.5 - Br cs SAND	
		4										
			8									
				10	✓	1.5	11	1	wet			
44												

Data by KM&G + AM

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. GW-3
Project No. 576-011

Project Name Machias Gravel Pit
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU
SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1230 10-19-88 (start) 1430 10-19-88 (finish)
Boring Location Next to Access road.
Total Depth 59'
Depth to Water ≃ 50'
Hole Diameter 8"
Ground Surface Elevation 143.70

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL	Remarks
											f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%	
0	1										0-.55 - DK br. organic debris + silt	
		3							damp		.55-1.25 - Br SILT, damp, compact	
			2									
2				2	✓	1.25	1	*	dry			
4	2										0-.5 - Br f SAND and SILT, sm round stones	
		4									.5-1.55 - Br med SAND, tr. f gravel, sm. round stones	
			4									
6				5	✓	1.55	2		dry			
9	9										0-.25 - Br f SAND and SILT, little clay	Rock in nose poor recovery
		11									.25-.4 - DK br SILT and CLAY	
			11									
11				12	✓	.4	3		dry			
14	10										0-.95 - cs SAND and f gravel (br.)	
		11										
			8									
16				8	✓	.95	4		dry			
19	16										0-1.25 - Lt br cs SAND and f-c gravel, some broken stones.	
		9										
			8									
21				10	✓	1.25	5		dry			
24	16										0-1 - Br cs SAND	
		6									1-1.25 - Br M-cs SAND, some gravel	
			6									
26				10	✓	1.25	6		dry			
29	5										0-.7 - Br m SAND	compact
		9									.7-.85 - Br SILT and f SAND	
			9								.85-1.45 - Br m SAND, little gravel.	
31				12	✓	1.45	7		dry			

* HNU malfunction
No readings for day

LAWLER, MATUSKY & SKELLY ENGINEERS

Boringt No. GW-3
Project No. 576-011

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL	Remarks
											f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	
34	16										0-.3 - Br m-cs SAND, some fine gravel	
		8									.3 - 1.3 - br m SAND, tr. f SAND.	
			8									
36				11	✓	1.3	8	*	dry			
39	26										0-.3 - Lt. br f SAND and SILT	
		15									.3 - 1.15 - Lt. br f-m SAND	compact
			13									
41				20	✓	1.15	9		dry			
44	6								Slightly damp		0-.3 - Lt br m-cs SAND, tr. f SAND	
		9									.3 - 1.41 - Lt br f-m SAND.	
			10								1.4 - 1.8 - Lt br f SAND, some silt	
46				15	✓	1.8	10					
49	4								wet		0-.7 - Lt br f. SAND, some silt	
		7									.7 - 1.2 - Lt br. f-m SAND	
			9								1.2 - 1.35 - Br f SAND and SILT	
				12	✓	1.35	11		wet			
51	4										0-.6 - Br wet f SAND and SILT	
		7										
			9									
				10	✓	0.6	12		wet			
53	10										0-.65 - Br f SAND and SILT	
		8									.65 - 1.72 - Br SILT, tr. f SAND	
			8									
				10	✓	1.72	13		wet			
55	5										0-2.0 - Br. SILT, tr f SAND	
		8										
			10									
				16	✓	2.0	14		wet			
57	13										0-1.6 - Br. SILT	
		23									1.6 - 1.9 - Br. SILT, some f-c SAND tr. broken stones.	
			26									
				25	✓	1.9	15		wet			
59												

* HNU malfunction

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by AM + KM+G

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. GW-4
Project No. 576-011

Project Name MACHIAS Gravel
Client NYSOEC
Driller American Auger
Monitoring Instrument(s) HNU
SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1420 / 10-18-88 start; 1630 / 10-18-88 finish
Boring Location Across Very Rd. from Coles'
Total Depth 29'
Depth to Water 18'
Hole Diameter 8"
Ground Surface Elevation 102.03'

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL	Remarks
											f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%	
0	2										0-.7 - Dk br SILT, tr. clay, tr. organics .7-2.0 - Br. SILT and f SAND, tr. clay	
		2										
			3									
2				3	✓	2.0	1	1	dry			
4	3										0-.4 - Br SILT and CLAY .4-1.0 - Cs SAND, little gravel, some rounded stones 1.0-1.3 - f SAND, some gravel.	
		3										
			6									
6				6	✓	1.3	2	X	dry			
9	3										0-.2 - Dk br SILT, some clay .2-.3 - Br SILT and CLAY .3-.65 - Br m SAND, some rounded stones .65-.7 - Dk br. f SAND and f gravel .7-1.5 - Br m-c SAND, some rounded stones	
		3										
			4									
11				6	✓	1.5	3	1	dry			
14	5										0-.25 - Br f-m SAND .25-.75 - Br cs SAND and GRAVEL, some rounded stones .75-1.53 Lt. brown SILT and CLAY	tight
		3										
			3									
16				4	✓	1.53	4	1	damp wet			
19	9										0-.8 - Br f-c SAND .8-2.0 - Br cs SAND and rounded GRAVEL, trace silt and clay	
		10						1				
			12									
				12	✓	2.0	5	X	wet			
21	7										0-1.12 - Br. f-cs SAND and GRAVEL some broken stones	tight
		11										
			14									
				10	✓	1.12	6	X	wet			
23	5										0-.65 - Br f-m SAND and sm rounded stones .65-1.0 - Gray m-c SAND and rounded stones	tight
		4										
			12									
				8	✓	1.0	7	1	wet			

X - No HNU scan because of rain.

LAWLER, MATUSKY & SKELLY ENGINEERS

Boringt No. GW-4
Project No. 576-011

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL	Remarks
											f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
25	2										0-1.25 - Gray CLAY	Tight
		4										
			9									
				8	✓	1.25	8	X				
27	4										0-1.2 - Gray CLAY	Compact
		5										
			7									
				8	✓	1.2	9	X				
29												

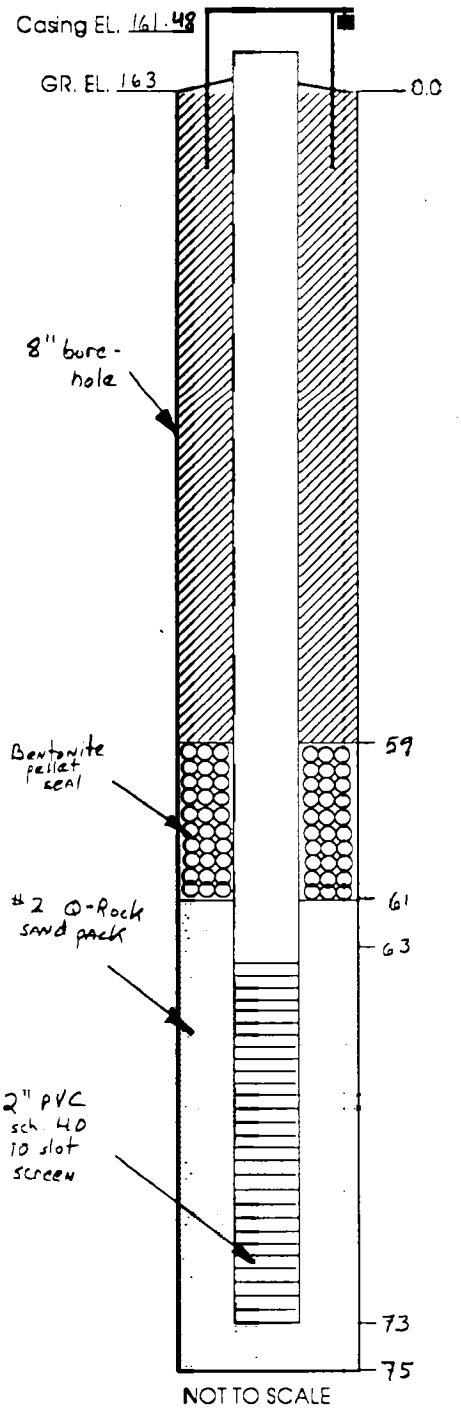
APPENDIX F

MONITORING WELL COMPLETION LOGS

Well No. GW-1
Project No. 576-011
Project Name Machias Gravel Pit
Client NYSOEC
Location Machias, NY
Date Drilled 10-13-88
Date Developed 10-20-88
Developing Method Airlift
Well Construction Completed 10-13-88

MONITORING WELL COMPLETION LOG

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector K. McGuinness and A. Magliocchino
Drilling Contractor American Auger and Ditching

Type of Well Overburden
Static Water Level 64.41 ft. Date 10-27-88
Measuring Point (M.P.) Top of PVC
Total Depth of Well 74.11 ft.
Total Depth of boring 73 ft

Drilling Method
Type Hollow Stem Auger Diameter 8 in.
Casing —

Sampling Method
Type Split barrel Diameter 2"
Weight 140 lbs. Fall 30"
Interval Every 5 ft. - continuous in water table.

Riser Pipe Left in Place
Material PVC Diameter 2"
Length 65 Joint Type flush thread.

Screen
Material PVC sch 40 Diameter 2"
Slot Size 10 Length 12'
Stratigraphic Unit Screened sand

Filter Pack
Sand X Gravel ____ Natural ____
Grade #2 Q-Rock
Amount ____ Interval 74' - 61'

Seal(s)
Type Bentonite Interval 61' - 59'
Type Cement - bentonite slurry Interval 59 - 02
Type concrete Interval 2 - grade

Locking Casing ☒ Yes ☐ No
Notes:

Well No. GW-2
Project No. 576-011

Project Name Machias Gravel Pit

Client NYSDEC

Location Machias, NY

Date Drilled 10-17-89 - 10-18-89

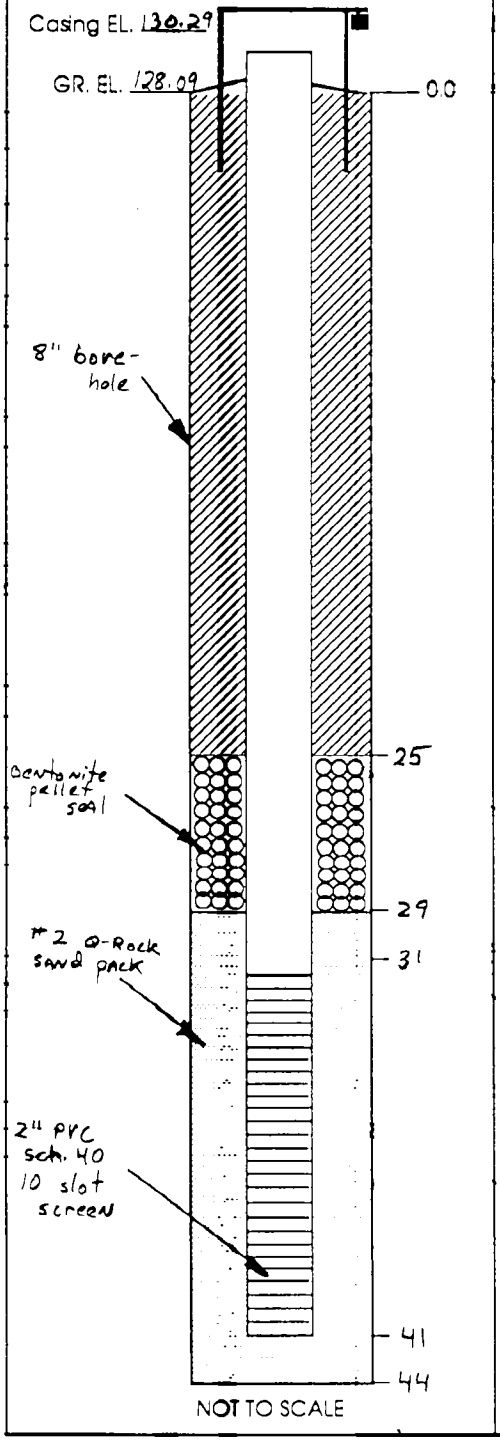
Date Developed 10-20-89

Developing Method Air lift

Well Construction Completed 10-18-89

MONITORING WELL COMPLETION LOG

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector K. McGuinness and A. Magliocchino
Drilling Contractor American Auger and Ditching

Type of Well overburden
Static Water Level 33.61 Date 10-26-88
Measuring Point (M.P.) Top of PVC
Total Depth of Well 43.14'
Total Depth of boring 44'

Drilling Method
Type Hollow Stem Auger Diameter 8"
Casing —

Sampling Method
Type Split Barrel Diameter 2"
Weight 140 lbs Fall 30"
Interval Every 5' - continuous through water table.

Riser Pipe Left in Place
Material PVC sch. 40 Diameter 2"
Length 33' Joint Type flush thread

Screen
Material PVC Diameter 2"
Slot Size 10 Length 10'
Stratigraphic Unit Screened sand

Filter Pack
Sand X Gravel ____ Natural ____
Grade #2 Q-Rock
Amount ____ Interval 44 - 29

Seal(s)
Type bentonite pellet Interval 29 - 25'
Type cement-bentonit slurry Interval 25 - 03
Type concrete Interval 3-grade

Locking Casing ☒ Yes ☐ No
Notes:

LAWLER, MATUSKY SKELLY ENGINEERS

Well No. GW-3
Project No. 576-011

Project Name Machias Gravel Pit

Client NYSDEC

Location Machias, NY

Date Drilled 10-19-89

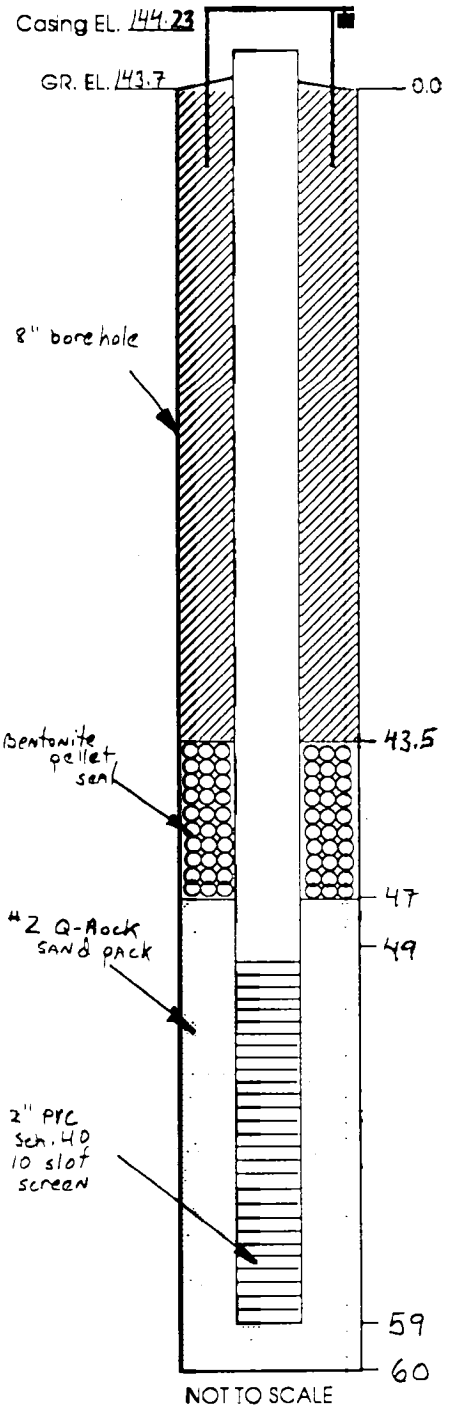
Date Developed 10-20-89

Developing Method GW-3

Well Construction Completed 10-19-89

MONITORING WELL COMPLETION LOG

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector K. McGuinness and A. Magliocchino
Drilling Contractor American Auger and Ditching

Type of Well overburden
Static Water Level 49.51' Date 10-28-88
Measuring Point (M.P.) Top of PVC
Total Depth of Well 59.62'
Total Depth of boring 60'

Drilling Method
Type Hollow stem Auger Diameter 8"
Casing

Sampling Method
Type split barrel Diameter 2"
Weight 140 16.5 Fall 30"
Interval Every 5' - continuous in water table

Riser Pipe Left in Place
Material PVC sch 40 Diameter 2"
Length 51' Joint Type flush thread

Screen
Material PVC Diameter 2"
Slot Size 10 Length 10'
Stratigraphic Unit Screened Sand and silt

Filter Pack
Sand X Gravel Natural
Grade #2 Q-Rock
Amount Interval 60 - 47'

Seal(s)
Type Bentonite pellet Interval 47 - 43.5
Type cement-bentonite slurry Interval 43.5 - 0.3
Type concrete Interval 0.3 to grade

Locking Casing ☒ Yes ☐ No
Notes:

LAWLER, MATUSKY SKELLY ENGINEERS

Well No. GW-4
Project No. 576-011

Project Name Machias Gravel Pit

Client NYSDEC

Location Very Rd., Machias, NY

Date Drilled 10-18-88

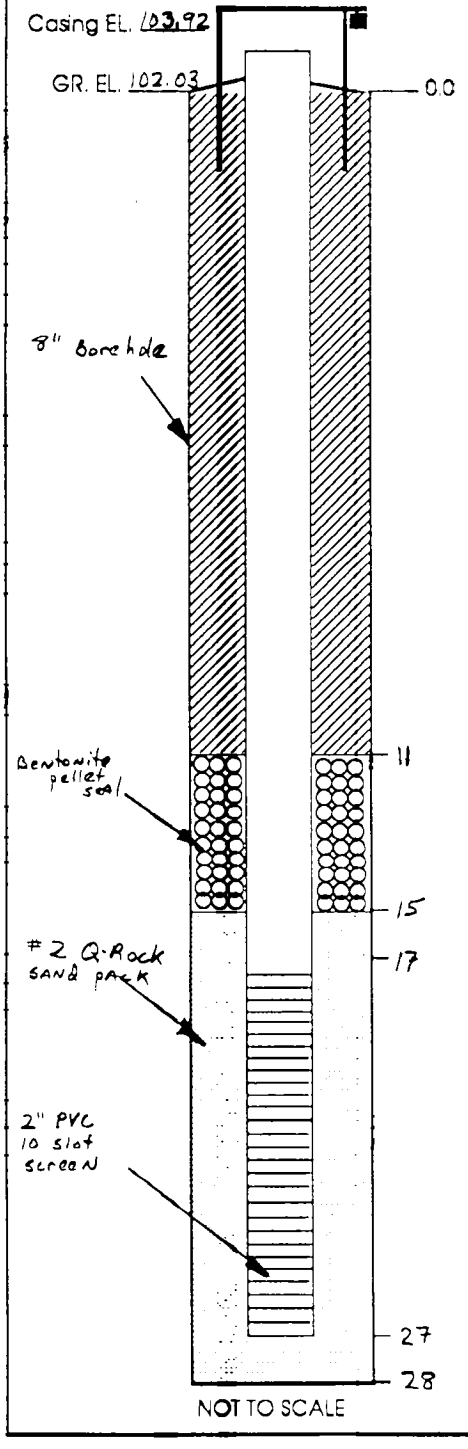
Date Developed 10-20-89

Developing Method centrifugal pump

Well Construction Completed 10-19-88

MONITORING WELL COMPLETION LOG

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector K. McGuinness and A. Magliocchino
Drilling Contractor American Auger and Ditching

Type of Well overburden
Static Water Level 17.7' Date 10-27-88
Measuring Point (M.P.) Top of PVC
Total Depth of Well 29.15
Total Depth of boring 28

Drilling Method
Type Hollow stem Auger Diameter 8"
Casing –

Sampling Method
Type split barrel Diameter 2"
Weight 140 lbs Fall 30"
Interval

Riser Pipe Left in Place
Material PVC sch. 40 Diameter 2"
Length 19' Joint Type flush thread

Screen
Material PVC Diameter 2"
Slot Size 10 Length 10'
Stratigraphic Unit Screened Sand, silt, and clay

Filter Pack
Sand X Gravel Natural
Grade #2 Q-Rock
Amount Interval 28 - 15'

Seal(s)
Type Bentonite pellets Interval 15 - 11'
Type cement-bentonite grout Interval 11 - 3'
Type concrete Interval 3 to grade

Locking Casing ☒ Yes ☐ No
Notes:

APPENDIX G

QUALITY ASSURANCE/QUALITY CONTROL REPORT

APPENDIX G

QA/QC REPORT

Appendix G contains the case narratives submitted with the data packages by Recra Environmental, Inc., and CompuChem Laboratories, Inc. The case narratives discuss any problems encountered during sample analysis and qualifiers used in the data package. The validation reports from Nytest Environmental Inc. that cover the samples from the Machias site are also presented in this appendix. Because Nytest found a majority of the data from Recra noncompliant, the site was resampled. The samples collected during resampling were sent to CompuChem for analysis due to problems at Recra. Of the resampled data, Nytest found three pesticide analyses noncompliant due to internal standards problems. LMS conducted usability determinations for all the data found noncompliant and found the data to be usable.

1/10932

RECRA ENVIRONMENTAL, INC.

Chemical Waste Analysis, Prevention and Control

RECEIVED
FEB 22 1989
LAWLER, MATUSKY & SKELLY ENGINEERS

February 20, 1989

Mr. Ed Maikish
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965-8509

Re: Analytical Results

Dear Mr. Maikish:

Please find enclosed results concerning the analyses of the samples submitted by your firm.

Pertinent Information: Contract:	001918
Site:	Machias
Matrix:	Aqueous and Soil
Samples Received:	10/27-28/88
Sample Dates:	10/25-28/88

If you have any questions concerning these data, do not hesitate to contact our Customer Service Representative at (716) 691-2600.

Sincerely,

RECRA ENVIRONMENTAL, INC.

AKBhattacharya/djt

Arun K. Bhattacharya, Ph.D.
Senior Vice President/
Laboratory Director

DJT/AKB/jsm
Enclosure
cc: Mr. John Gaspari
NYtest Environmental, Inc.
60 Seaview Blvd., Box 1518
Port Washington, NY 11050

I.D. #88-1677
#88-1677A
#8C1301K

CASE NARRATIVE

Laboratory Name: Recra Environmental, Inc.

Laboratory Code: RECNY

Case Number: 1677

Contract Number: 001918

Site: Machias

Sample Identifications:

Aqueous Matrix	Soil Matrix
Cole	SS-1
Cole MS	SS-2
Cole MD	SS-2 MS
GW-1	SS-2 MD
GW-2	
GW-3	
GW-4	
PW-1	
Field Blank	

INORGANIC DATA

Inorganic analyses were performed in accordance with the New York State DEC 1986 Protocol.

Inorganic results are reported utilizing standard qualifiers as defined on the attached Inorganic Data Comment Page.

"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."

AK Bhattacharya /dft

Dr. Arun K. Bhattacharya

2/21/89

Date

RECRA ENVIRONMENTAL, INC.

March 28, 1989

LAWLER, MATUSKY & SKELLY ENGINEERS

MAR 29 1989

Ms. Karen Wright
Lawler, Matusky and Skelly Engineers
One Blue Hill Plaza
Pearl River, NY 10965-8509

RE: Analytical Results

Dear Ms. Wright:

Please find enclosed results concerning the primary analysis of the samples recently submitted. Confirmation of affected samples will follow.

Pertinent information:

Matrix:	Soil and Water
Samples Received:	10/27/88-10/28/88
Sample Dates:	10/26/88-10/27/88

If you have any questions concerning these data, do not hesitate to contact Cynthia Kennedy, Acting Reporting Supervisor at (301) 381-2288.

Sincerely,

RECRA ENVIRONMENTAL, INC.

Eric G. Schoettker
Laboratory Operations Manager

EGS:pal
Enclosures

I.D. #M89003

8320 Guilford Road, Building F • Columbia, Maryland 21046 • (301) 381-2288

RECRA ENVIRONMENTAL, INC.

Chemical Waste Analysis, Prevention and Control

October 12, 1989

RECEIVED
OCT 16 1989
LAWLER MATUSKY & SKELLY ENGINEERS

Mr. Ed Maikish
Lawler, Matusky and Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, New York 10965

RE: LMS Usability Determination - Machias
Case #'s 1677 and 003

Dear Mr. Maikish:

The following summarizes the LMS usability report dated September 13, 1989 concerning the Machias project.

Volatile Data	-	Noncompliant
Semivolatile Data	-	Noncompliant
Pesticide/PCB Data	-	Noncompliant
Inorganic Data	-	Noncompliant (Exception - Cyanide)

Although a response to the Nytest data validation report was submitted by Recra, a re-review was not performed due to the magnitude of the defects noted in the first report. Resampling of the Machias project was performed by LMS.

This concludes the data validation and usability process for the Machias site. We regret any delays you have encountered in obtaining usable data. If I may be of further assistance, please contact me at (716) 691-2600.

Sincerely,

RECRA ENVIRONMENTAL, INC.

Verl D. Harbison

Verl D. Harbison
CLP Programs Manager

VDH/sh

cc: RKW
KCM

Case Narrative

Recra Environmental, Inc., Columbia Maryland operations received from the LMS a case of samples on October 28, 1988. The sample delivery group contained 4 soils and 10 waters for VOA, BNA, and Pesticides/PCBs analysis. These analyses were performed according to instructions in the 10/87 CLP SOW document for this contract. The enclosed are the results of the analyses of these samples along with some of the comments, problems, and corrective actions taken during the source of the analysis.

Surrogate Recovery Results: The surrogate recovery summary results are presented on Form II for VOA and BNA. All surrogate recovery results are within contract limits.

Internal Standard Area Summary: For two BNA samples, SS-1 and SS-2, extracted ion current profile areas of several internal standards changed by more than a factor of two (-50% to 100%) from those of the 50ppb daily calibration standard. The internal standards areas were also outside contract limits for SS-2 MS and SS-2 MSD. Both SS-1 and SS-2 were reinjected at a dilution and all internal standard areas were within contract limits. Injections before and affected SS-1 and SS-2 had all internal standard areas within contract limits. This indiactes a probable matrix effect as opposed to instrument performance problem.

Matrix Spike and Matrix Spike Duplicate Analysis: The matrix spike and matrix spike duplicate results are on Form III. Both low and medium level volatile matrix spike and matrix spike duplicates have percent recoveries and RPD's outside limits for trichloroethene due to high concentrations of trichloroethene in the sample. Low level volatile matrix spike and matrix spike duplicate samples did not meet RPD criteria for 1,1-dichloroethene due to the presence of 1,1-dichloroethene in the sample. BNA matrix spike and matrix spike duplicate did not meet recovery limits for 1,4-dichlorobenzene, n-nitroso-di-n-propylamine, 1,2,4-trichloroehtene and acenaphthene.

Laboratory Method Blank: The laboratory method blank data is presented on Form IV in appropriate sections for VOA and BNA appear good.

Initial Five Point Calibration: The initial five point calibrations are presented on Form VI, for VOA and BNA. The exceptions in the concentrations for VOA calibration compounds (cis- and trans-1,3,dichloropropane) have been accounted for in the calibration. The data meets all the CCC and SPCC criteria. In VOA sample data the 20ppb standard used in the initial five point calibration curve run on 11/4/88 contained surrogates at 50ppb. Criteria for SPCC or CCC was met and samples were run under an updated 50ppb continuing calibration curve.

Continuing Calibration Checks: The continuing calibration check

data, presented on Form VII, meets all the criteria for CCC and SPCC compounds.

Laboratory Instrument Tuning Criteria: The summary of the GC/MS tuning for BFB and DFTPP are reported on Form V for VOA and BNA. Instrument tuning criteria and all the analyses are within the requirements.

Laboratory Instrument Detection Limits: The required quantitation limits are used for the reporting purposes in this data package.

Pesticide GC Data: Pesticide analysis sample data was not compliant and will not be submitted. Pesticides should be resampled and analyzed and submitted seperate form this package.

Please call if you have any questions or other concerns which require clarification.

Release of the data contained in this hard copy data package and the computer readable data submitted on floppy diskette has been authorized by the Laboratory Manager as verified by the following signature.

Eric G. Schoettker
Laboratory Operations Manager

3/28/89

COMPUCHEM LABORATORIES

11/MAY/89

LAWLER, MATUSKY & SKELLY

Lawler Matusky & Skelly (LMS)
12th floor
One Blue Hill Plaza
PO BOX 1509
Pearl River, NY 10965

Subject: Report of Data - Account Number 273801

Enclosed herewith are the results of analytical work performed in accordance with the referenced account number.

This report covers 5 sample(s) appearing on the attached listing and their associated Quality Control Data.

Thank you for selecting CompuChem® Laboratories for your sample analysis. If you should have questions or require additional analytical services please contact your representative at 1-919-549-8263.

Sincerely,

Mary Mitchell
Supervisor, Report Deliverables

Attachment

cc: Mr. Doug Sheeley
Nytest Environmental Inc.
60 Seaview Blvd. Box 1518
Port Washington, NY 11050

COMPUCHEM LABORATORIES

Case Narrative - Lawler Matusky & Skelly (LMS)
Case # 12738 SDG # 16656A
Contract # 787

This case consisted of five water samples for complete HSL metals and cyanide analysis. The samples were received intact on April 27 and 28, 1989 with the Chain-of-Custody (COC) Records. The enclosed cover page reflects Lawler Matusky & Skelly (LMS) and CompuChem identifiers.

The associated quality control sample spike, GWR-4S, was outside the control limits for mercury, selenium, and thallium, therefore the concentrations were flagged with an 'N'. The associated quality control duplicate, GWR-3D, was within the control limits for all of the elements tested.

A serial dilution was done on sample GWR-1. The adjusted sample concentrations were within 10% of the original concentrations for all of the elements tested.

In one or more of the samples, the concentrations of aluminum, calcium, iron, manganese and zinc fell between the Instrument Detection Limits (IDLs) and the Contract Required Detection Limits (CRDLs). The concentrations of the remaining elements fell below the IDLs.

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.

Anna Feather
Technical Reviewer
May 11, 1989

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

COMPUCHEM
LABORATORIES

11/MAY/89

Lawler Matusky & Skelly (LMS)
12th floor
One Blue Hill Plaza
PO BOX 1509
Pearl River, NY 10965

ACCOUNT #: 273801

CC#	SAMPLE-ID	RECEIPT DATE
258887	GWR-1	4/27/89
258894	GWR-2	4/27/89
258895	FIELDBLNK	4/27/89
259185	GWR-3	4/28/89
259186	GWR-4	4/28/89

TOTAL NUMBER OF SAMPLES = 5

Machias

COMPUCHEM LABORATORIES

11/MAY/89

Lawler Matusky & Skelly (LMS)
12th floor
One Blue Hill Plaza
PO BOX 1509
Pearl River, NY 10965

Subject: Report of Data - Account Number 273801

Enclosed herewith are the results of analytical work performed in accordance with the referenced account number.

This report covers 3 sample(s) appearing on the attached listing and their associated Quality Control Data.

Thank you for selecting CompuChem® Laboratories for your sample analysis. If you should have questions or require additional analytical services please contact your representative at 1-919-549-8263.

Sincerely,

Mary Mitchell

Mary Mitchell
Supervisor, Report Deliverables

Attachment

cc: Mr. Doug Sheely
Nytest Environmental Inc.
60 Seaview Blvd. Box 1518
Port Washington NY 11050

COMPUCHEM LABORATORIES

Case Narrative - Lawler Matusky & Skelly (LMS)
Case # 27380 SDG # 16656C
Contract # 787

This case consisted of three water samples for complete HSL metals and cyanide analysis. The samples were received intact on May 1, 1989 with the Chain-of-Custody (COC) Records. The enclosed cover page reflects Lawler Matusky & Skelly (LMS) and CompuChem identifiers.

The associated quality control sample spike, GWR-4S, was outside the control limits for mercury, selenium, and thallium, therefore the concentrations were flagged with an 'N'. The associated quality control duplicate, GWR-3D, was within the control limits for all of the elements tested.

A serial dilution was done on sample PWR-1. The adjusted sample concentration of magnesium was not within 10% of the original concentration, therefore all of the data were flagged with an 'E'.

In one or more of the samples, the concentrations of barium, iron, lead, and zinc fell between the Instrument Detection Limits (IDLs) and the Contract Required Detection Limits (CRDLs). The concentrations of calcium, magnesium, and sodium were above the CRDLs, while the concentrations of the remaining elements fell below the IDLs.

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.

Anna Feather
Technical Reviewer
May 11, 1989

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

COMPUCHEM
LABORATORIES

11/MAY/89

Lawler Matusky & Skelly (LMS)
12th floor
One Blue Hill Plaza
PO BOX 1509
Pearl River, NY 10965

ACCOUNT #: 273801

CC#	SAMPLE-ID	RECEIPT DATE
259534	CWR-1	5/01/89
259535	HW-1	5/01/89
259536	PWR-1	5/01/89

TOTAL NUMBER OF SAMPLES = 3

COMPUCHEM LABORATORIES

RECEIVED
MAY 11 1989
LAWLER, MATUSKY & SKELLY ENGINEERS

15/MAY/89

Lawler Matusky & Skelly (LMS)
12th floor
One Blue Hill Plaza
PO BOX 1509
Pearl River, NY 10965

Subject: Report of Data - Account Number 273801

Enclosed herewith are the results of analytical work and associated Quality Control data for the samples received by CompuChem@ under the referenced account number.

As you know, CLP service is performed in accordance with EPA methodologies as defined for the National Contract Laboratory Program; 'SOW For Organic Analysis; Multi-Media, Multi-Concentration' effective 2/88, revision 9/88. Your original data has been stored and is available for future reference.

Thank you for selecting CompuChem@ Laboratories for your sample analysis. We would like to continue providing you analytical support and services in the future. If you should have questions or require additional analytical services, please contact your representative at 1-919-549-8263.

Sincerely,

Mary Mitchell
Supervisor, Report Deliverables

Attachment

cc: Mr. Doug Sheeley
Nytest Environmental Inc.
60 Seaview Blvd. Box 1518
Port Washington, NY 11050

COMPUCHEM LABORATORIES

Platinum Case Summary Narrative
Contract# (2-88)-REV Case# 16656 SDG: 01
CompuChem Laboratories Inc.

Sample: CWR-1, FIELD BLNK, GWR-1, GWR-2, GWR-3, GWR-4, HW-1, LAB-PURE, LAB-PURE, LAB-WATER, PWR-1

This portion of case 16656 was received in good condition with the appropriate chain-of-custody documents on April 27,28, and May 1, 1989. The SDG consists of eleven water samples: eight for the analysis of volatile, semi-volatile, and pesticide organic compounds on the EPA Target Compound Lists (TCLs), and three for volatile only analysis.

VOLATILES
The volatile fractions of this case were all analyzed within contract required holding times. Four of the samples contained no TCLs. The remaining seven samples contained one or more of the following compounds: methylene chloride, acetone, and 1,1,1-trichloroethane. There was only one Tentatively Identified Compound found, this was in sample GWR-3. All of the samples had good surrogate and spike recoveries.

SEMI-VOLATILES
The semi-volatile fractions of this case were all extracted within contract required holding times. Five of the samples contained no TCLs. The remaining three samples contained one or more of the following compounds: phenol, bis (2-ethylhexyl)phthalate, and di-n-octylphthalate. All of the samples had good surrogate recoveries. The matrix spike and matrix duplicate samples (GWR-1MS/GWR-1MSD), each had good surrogate recoveries. The percent recoveries of spike compounds 2-chlorophenol, 1,2,4-trichlorobenzene, and 4-chloro-3-methylphenol were outside the control limits. The relative percent diference of spike compounds phenol, 2-chlorophenol, 1,4-dichlorobenzene, N-nitroso-di-n-propylamine, and 4-chloro-3-methylphenol were outside the control limits.

PESTICIDES
The pesticide fractions of this case were all extracted within contract required holding times. There were no reportable levels of TCL compounds. All of the samples had good surrogate recoveries. The matrix spike and matrix spike duplicate samples (GWR-2MS/GWR-2MSD) each had good surrogate recoveries.

Spike compound gamma-BHC failed recovery limits in the MS and MSD. Spike compound 4,4'DDT failed RPD limits in the MS/MSD comparison.

This report is paginated for reference and accountability in decreasing numerical sequence.

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:

Jeanne C. Alston
Technical Reviewer
May 12,1989

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

COMPUCHEM LABORATORIES

RECEIVED
MAY 15 1989
LAWLER, MATUSKY & SKELLY ENGINEERS

10/MAY/89

Lawler Matusky & Skelly (LMS)
12th floor
One Blue Hill Plaza
PO BOX 1509
Pearl River, NY 10965

Subject: Report of Data - Account Number 273801

Enclosed herewith are the results of analytical work and associated Quality Control data for the samples received by CompuChem@ under the referenced account number.

As you know, CLP service is performed in accordance with EPA methodologies as defined for the National Contract Laboratory Program; 'SOW For Organic Analysis; Multi-Media, Multi-Concentration' effective 2/88, revision 9/88. Your original data has been stored and is available for future reference.

Thank you for selecting CompuChem@ Laboratories for your sample analysis. We would like to continue providing you analytical support and services in the future. If you should have questions or require additional analytical services, please contact your representative at 1-919-549-8263.

Sincerely,

Mary Mitchell

Mary Mitchell
Supervisor, Report Deliverables

Attachment

cc: Mr. Doug Sheeley
Nytest Envieonmental Inc.
60 Seaview Blvd Box 1518
Port Washington, NY 11050

COMPUCHEM LABORATORIES

Case Narrative #16656
SDG #11
Contract #2-88-REVS
CompuChem Laboratories, Inc.

SAMPLE IDENTIFICATIONS: SSR-1, SSR-2

These samples were received in good condition, with the proper chains-of-custody (COC), sealed in a cooler on April 27th, 1989. Analyses were scheduled in accordance with the COC. Volatile and semivolatile analyses were performed as requested on these samples. Holding time requirements were met for all of these samples.

All pertinent Quality Assurance and Laboratory notices for CASE# 16656, SDG# 11 are included in the sample data package.

VOLATILES

There were target compound list (TCL) analytes identified above the contract required quantitation limits (CRQLs) in both of these samples. The number of TCL analytes per sample ranged from two (2) to four (4). Tentatively identified compounds (TICs) were found in only one of the samples.

The method blanks met all quality control requirements. Low levels of contaminants found in the blanks are footnoted with a "B" on the Form I's of the associated samples that actually contain the analytes.

The matrix spike (MS) and matrix spike duplicate (MSD) met all quality control requirements.

SEMIVOLATILES

There were TCL analytes identified in both of these samples above the CRQLs. Two TCL analytes were found in each sample. TICs were found in both of the samples, the majority of which were assessed as Unknowns.

The method blanks met all quality control requirements. Low levels of contaminants found in the blanks are footnoted with a "B" on the Form I's of the associated samples that actually contain the analytes.

The MS and MSD are advisory and met all quality control criteria. The MS had one surrogate flagged as an outlier. The MSD had the advisory surrogate standard flagged as an outlier. One acid and one base surrogate standard are allowed to fail in

each sample analysis without requiring re-extraction and re-analysis inaccordance with the current contract.

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 conditions detailed above. Release of the data contained in the hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Daniel E. Boone, Jr. 05/10/89

Daniel E. Boone, Jr. DATE 05/10/89
TECHNICAL REVIEWER

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

COMPUCHEM LABORATORIES

26/MAY/89

RECEIVED
MAY 31 1989
LAWLER, MATUSKY & SKELLY ENGINEERS

Lawler Matusky & Skelly (LMS)
12th floor
One Blue Hill Plaza
PO BOX 1509
Pearl River, NY 10965

Subject: Report of Data - Account Number 273801

Enclosed herewith are the results of analytical work performed in accordance with the referenced account number.

This report covers 2 sample(s) appearing on the attached listing and their associated Quality Control Data.

Thank you for selecting CompuChem® Laboratories for your sample analysis. If you should have questions or require additional analytical services please contact your representative at 1-919-549-8263.

Sincerely,

Mary Mitchell
Supervisor, Report Deliverables

Attachment

cc: Mr. Doug Sheeley
Nytest Environmental Inc.
60 Seaview Blvd. Box 1518
Port Washington, NY 11050

COMPUCHEM LABORATORIES

CASE NARRATIVE -- LAWLER MATUSKY & SKELLY
CASE # 27380 SDG# 16656B
CONTRACT # 787

Sample Numbers: SSR-1 and SSR-2

This Case consisted of two soil samples analyzed for Complete HSL metals and cyanide. The samples were received intact on April 27, 1989 with Chain of Custody (COC) Records. The enclosed cover page reflects the Lawler Matusky & Skelly and CompuChem sample numbers.

The associated quality control sample spike, SSR-1S, was outside the control limits for arsenic and selenium. These elements were flagged with the "N" footnote. The sample duplicate, SSR-1D, was outside of the control limits for lead (by ICAP), magnesium, and zinc and was flagged with an "*". The remaining sample spike and duplicate elements were within the control limits.

A serial dilution was done on sample SSR-2. With the exception of barium and zinc, the adjusted sample concentrations were within 10% of the original concentrations. The "E" footnote was applied to barium and zinc to indicate serial dilution results which were not within control limits.

The samples contained 10-11 elements that were above the Contract Required Detection Limit (CRDL). All the samples contained concentrations of aluminum, calcium, chromium, copper, iron, lead, magnesium, manganese, nickel, and zinc that were above the CRDL. The samples contained five elements whose concentrations fell between the Instrument Detection Limit (IDL) and the CRDL.

Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Becky E. Linvill 5/26/89
Becky E. Linvill 5/26/89
Technical Reviewer

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

COMPUCHEM
LABORATORIES

26/MAY/89

Lawler Matusky & Skelly (LMS)
12th floor
One Blue Hill Plaza
PO BOX 1509
Pearl River, NY 10965

ACCOUNT #: 273801

CC#	SAMPLE-ID	RECEIPT DATE
258943	SSR-1	4/27/89
258951	SSR-2	4/27/89

TOTAL NUMBER OF SAMPLES = 2

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT
nytest environmental inc.

89-15667

April 12, 1989

Mr. Ed Maikish
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965-8509

RECEIVED
APR 17 1989
LAWLER, MATUSKY & SKELLY ENGINEERS

Re: Data Validation Report - Machias Project

Dear Mr. Maikish:

Enclosed please find our Data Validation Report for the inorganic and organic results for the Machias site. A list of the samples and their contract compliance is included.

For the inorganics the conclusion of this data validation report is that the data on these samples are non-compliant with CLP protocol and partially incomplete.

For the organics data, some fractions for some samples may be compliant with resubmittal, but the extent of defects may prevent the entire organics package from bieng compliant. The pesticide/PCB fraction was not included.

If you have any questions concerning this report, please call me at 516-625-5500.

Very truly yours,

Douglas Sheeley
Laboratory Director

cc: Mike Komoroske
NYSDEC
50 Wolf Rd.
Albany, NY 12233

Robert Wyeth/ Debbie Travis
RECRA Env
10 Hazelwood Dr.
Suite No. 106
Amherst, NY 14150

nytest environmental inc.

Additional comments on Machias Project

1. Volatiles
   a. Tune summary missing for ICAL 11/4/88.
   b. BFB not run every 12 hrs. for SS2-ms, SS2-msd, SS-2, the tune summary sheets are also not correct.
   c. Acetone and butanone reference spectra are poor.
   d. Samples analyzed outside 7 days: SS-1, SS-2, SS-2MS, SS-2MSD, SS-1DL.
   e. BFB scan averaging.
   f. SS-2 had butanone reported, spectra appears to be Freon.
   g. Methylene chloride should be flagged "B" for GW-2, COLE, PW-1, GW-1.
   h. Carbon tetrachloride crossed off quant. report, but reported for GW-3, GW-3DL, SS-1, SS-1DL, SS-2, SS-2MS, SS-2MSD.
   i. Additional defects can be found in the "CLP Checklist" that is enclosed in this report.

2. Semivolatiles
   a. High reagent blank contamination.
   b. DFTPP scan averaging.
   c. Samples extracted outside 5 days: SS-1, SS-2, SS-2MS, SS-2MSD, SS-2DL, SS-1DL, GW-2, COLE, COLE MS, COLE MSD, FIELD BLANK.
   d. Dilution factor does not match for SS-1DL, SS-2DL.
   e. SS-2 was rerun at higher dilution with no explanation.
   f. Bis(2 ethyl hexyl) phthalate was reported as TIC for GW-2, COLE, GW-4, GW-3.
   g. Water blank (11/1/88) had high aromatic TIC. Compound also found in samples extracted at same time. All samples should be flagged.
   h. Additional defects can be found in the "CLP Checklist" enclosed in this report.

nytest environmental inc.

INORGANICS DATA

DATA COMPLETENESS:

* the preparation blank value for aluminum is greater than the CRQL. [see report page 022]

* the preparation blank value for iron is at the CRQL level. [see report page 022]

* final determined concentrations for MSA's were not those reported. [see form I's]

* thallium value for sample 5259 should be 0.53U. [see report page 175]

* no post digestion spike values or form was provided.

* no mercury or cyanide calibration data was provided.

* CCV's and CCB's were not run at the proscribed frequency.

nytest environmental inc.

SITE: MACHAIS

SAMPLE #	METALS	CN	VOA	BNA	PEST	RECRA-1
SS-1	NC	R	NC	NC	-	
SS-2	NC	R	NC	NC	-	
SS-2MS	NC	R	NC	NC	-	
SS-2MSD	NC	R	NC	NC	-	
GW-1	NC	R	NC	NC	-	
GW-2	NC	R	NC	NC	-	
GW-3	NC	R	NC	NC	-	
GW-4	NC	R	NC	NC	-	
COLE	NC	R	NC	NC	-	
COLE MS	NC	R	NC	NC	-	
COLE MSD	NC	R	NC	NC	-	
PW-1	NC	R	NC	NC	-	
FIELD BLANK	NC	R	NC	NC	-	
TRIP BLANK	-	-	NC	-	-	

NC = NOT COMPLIANT R= RESUBMIT

NOTE: RECRA-1 = EPTox complete; PCB; Corrosivity; Reactivity; Flashpoint

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

July 12, 1989

RECEIVED
JUL 18 1989
LAWLER, MATUSKY & SKELLY ENGINEERS

Mr. Ed Maikish
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965-8509

Re: Data Validation Report - Machias Site - Compuchem Cases
8915667 LI#1895

Dear Mr. Maikish:

Enclosed please find our Data Validation Report for the Organic and Inorganic results for the Machias Site. A list of the samples and their contract compliance is included.

Please note that NYSDEC sample tracking forms were not included in this data package. Perhaps, this NYSDEC requirement was not part of the contract with Compuchem.

The items listed as being missing from the organics sections should be submitted, by the laboratory, to complete the case file.

If you have any questions concerning this report, please call me at 516-625-5500.

Very truly yours,

Douglas Sheeley
Laboratory Director

cc: Mike Komoroske
NYSDEC
50 Wolf Rd.
Albany, NY 12233

box 1518 □ 60 seaview blvd., port washington, ny 11050 □ (516) 625-5500

nytest environmental inc.

DATA VALIDATION

SITE: MACHIAS
LAB: COMPUCHEM CASE #27380 SDG 16656A

SAMPLE #	METALS	CN
GWR-1	OK	OK
GWR-2	OK	OK
FIELD BLANK	OK	OK
GWR-3	OK	OK
GWR-4	OK	OK

NC = NOT COMPLIANT R= RESUBMIT

Comments on Case 27380 SDG 16656A:

A. General : No defects found.

B. The samples in this case were also analyzed of Specific Conductance. The samples are GWR-1, GWR-2, FIELD BLANK, GWR-3, GWR-4, HW-1, PWR-1. It is assumed that "Good Laboratory Practices" were used, but there were no logbook copies, or methodology summary submitted.

nytest environmental inc.

DATA VALIDATION

SITE: MACHIAS
LAB: COMPUCHEM CASE #27380 SDG 16656B

SAMPLE #	METALS	CN
SSR-1	OK	OK
SSR-2	OK	OK

NC = NOT COMPLIANT R= RESUBMIT

Comments on Case 27380 SDG 16656B:

A. General : No defects found.

nytest environmental inc.

DATA VALIDATION

SITE: MACHIAS
LAB: COMPUCHEM CASE #27380 SDG 16656C

SAMPLE #	METALS	CN
CWR-1	OK	OK
HW-1	OK	OK
PWR-1	OK	OK

NC = NOT COMPLIANT R= RESUBMIT

Comments on Case 27380 :

A. General : No defects found.

DATA VALIDATION

SITE: MACHIAS
LAB: COMPUCHCHEM CASE #16656 SDG 01

SAMPLE #	VOA	BNA	PEST
LAB WATER(4/27)	OK	-	-
GWR-1	OK	OK	OK
GWR-2	OK	OK	NC
FIELDBLNK	OK	OK	OK
LAB PURE(4/28)	OK	-	-
GWR-3	OK	OK	OK
GWR-4	OK	OK	OK
CWR-1	OK	OK	NC
HW-1	OK	OK	NC
PWR-1	OK	OK	OK
LAB PURE(5/01)	OK	-	-

NC = NOT COMPLIANT R= RESUBMIT

Comments on Case 11656 SDG 01:

A. Pesticide/PCB
1. 2250/2401, INDB, 5/3/90, 23:36, Endrin >15% D, effects CWR-1 AND HW-1 which were not rerun.
2. 2250/2401, INDA, 5/9/89, 13:34, Methoxychlor >20% D, DDT >15% D. No samples from this case after last passing INDA.
3. ON OV101: DDT RT less than 12 minutes, but separation acceptable. Also, many IND's had %D's outside 15% and 20%, thus could not be used for quantitation.

B. General VOA BNA: TIC listings are missing, can not verify TIC concentrations.

C. General BNA, Pest: No sample pH provided.

MACHIAS

DATA USABILITY REPORT

Case 16656, 16656A, 16656B, 16656C & 27380

All the metals, cyanide, volatiles, and semi-volitales data was found compliant and usable as submitted.

The pesticide data are generally acceptable, except for CWR-1, HW-1 and GWR-2; the % differences were out, and not rerun. The % difference measures drift in the instrument over the 72 hr period of the run. Any drift in the instrument causes a change in the calibration and therefore an error in the concentration calculation. The % difference is important only if there are positive results for the compounds in question. Since the compounds with % D> 15% were not detected in any of these samples the results are usable. All of the pesticide data is usable as submitted.

nytest environmental inc.

DATA VALIDATION

SITE: MACHIAS
LAB: COMPUCHEM CASE #27380 SDG 16656A

SAMPLE #	METALS	CN
GWR-1	OK	OK
GWR-2	OK	OK
FIELD BLANK	OK	OK
GWR-3	OK	OK
GWR-4	OK	OK

NC = NOT COMPLIANT R= RESUBMIT

Comments on Case 27380 SDG 16656A:

A. General : No defects found.

B. The samples in this case were also analyzed of Specific Conductance. The samples are GWR-1, GWR-2, FIELD BLANK, GWR-3, GWR-4, HW-1, PWR-1. It is assumed that "Good Laboratory Practices" were used, but there were no logbook copies, or methodology summary submitted.

nytest environmental inc

DATA VALIDATION

SITE: MACHIAS
LAB: COMPUCHEM CASE #27380 SDG 16656B

SAMPLE #	METALS	CN
SSR-1	OK	OK
SSR-2	OK	OK

NC = NOT COMPLIANT R= RESUBMIT

Comments on Case 27380 SDG 16656B:

A. General : No defects found.

nytest environmental inc.

DATA VALIDATION

SITE: MACHIAS
LAB: COMPUCHEM CASE #27380 SDG 16656C

SAMPLE #	METALS	CN
CWR-1	OK	OK
HW-1	OK	OK
PWR-1	OK	OK

NC = NOT COMPLIANT R= RESUBMIT

Comments on Case 27380 :

A. General : No defects found.

DATA VALIDATION

SITE: MACHIAS
LAB: COMPUCHCHEM CASE #16656 SDG 01

SAMPLE #	VOA	BNA	PEST
LAB WATER(4/27)	OK	-	-
GWR-1	OK	OK	OK
GWR-2	OK	OK	NC ∪
FIELDBLNK	OK	OK	OK
LAB PURE(4/28)	OK	-	-
GWR-3	OK	OK	OK
GWR-4	OK	OK	OK
CWR-1	OK	OK	NC ∪
HW-1	OK	OK	NC ∪
PWR-1	OK	OK	OK
LAB PURE(5/01)	OK	-	-

NC = NOT COMPLIANT R= RESUBMIT

∪ = ∪SAGLE

Comments on Case 11656 SDG 01:

A. Pesticide/PCB

1. 2250/2401, INDB, 5/3/90, 23:36, Endrin >15% D, effects CWR-1 AND HW-1 which were not rerun.
2. 2250/2401, INDA, 5/9/89, 13:34, Methoxychlor >20% D, DDT >15% D. No samples from this case after last passing INDA.
3. ON OV101: DDT RT less than 12 minutes, but separation acceptable. Also, many IND's had %D's outside 15% and 20%, thus could not be used for quantitation.

B. General VOA BNA: TIC listings are missing, can not verify TIC concentrations.

C. General BNA, Pest: No sample pH provided.

APPENDIX H

APPENDIX H

APPENDIX H

WELL SAMPLING LOGS

Date: 4/29/89
Crew: K McG rpk
Job No: 576-010

Turb. Meter: NYS DEC L3324
pH Meter: DEC 4776 / CP 71
Therm. No: 651 / 542
Cond. No: DEC 560

WELL SAMPLING LOG

WELL No: Cole Well HW-1
LOCATION: In barn but attached to House well
WELL TYPE: DRIVER ?
WELL DIAMETER:
WELL DEPTH:
SCREENED INTERVAL:
CASING HT.:
DEPTH TO WATER: (Static Water Level)
REFERENCE POINT:
DATE/TIME PURGED: 4/29/89 0940 -
PURGING METHOD:
PURGING DEPTH(s):
PURGE RATES (gpm): 5gpm
PURGED VOLUME: 125
DTW AFTER PURGING: -
EST. YIELD RATE: -
SEAL No:
CHAIN OF CUSTODY No: ~
4 Bore Volumes: -

TYPE OF SCREENING CASING:
WATER BEARING FORMATION(s):
SAMPLE DATE/TIME: 4/29/89 1010
SAMPLING METHOD: from TAP
DTW BEFORE SAMPLING:
SAMPLING DEPTH(s):
WELL CONDITION:
SAMPLE OBSERVATIONS: Clear NO ODOR

WET CHEMISTRIES

SAMPLE TEMPERATURE: 10.0
SAMPLE pH: 7.22 / 7.3
SAMPLE SP. COND: .643
Turbidity - .65 NTUs

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
0940 / 1GAL	9.6 / 9.6	7.35 / 7.3	0.657	INIT.
0950 / 50gal	9.9	7.2 / 7.3	0.657	0.7
1005 / 125gal	9.8	7.41 / 7.5	0.656	0.4

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #

6 TCL organics by CLP
5 TCL organics by CLP Including Pesticides
1 CYANIDE NAOH
2 TCL Metals HNO3
1 Specific Conductivity

COMMENTS:

HW-1 - 35' Deep - 15' SWL - 20' WATER col 6" well = 1.47 gal/FT = 29.4 gal per Volume
29.4 x 4 = 117.6 gal TO purge at 5gpm = 23.5 minute purge

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4-25-89
Crew: KM&G + PR
Job No: 576-011

Turb. Meter: NYS DEC L-3324
pH Meter: DEC 4776 / cm 71
Therm. No: 651 + 542
Cond. No: DEC 560

WELL SAMPLING LOG

WELL No: HW-1
LOCATION: In barn, but attached to house well
WELL TYPE: Driven ? overburden supply, cased
WELL DIAMETER: 6"
WELL DEPTH: 35'
SCREENED INTERVAL: None
CASING HT.: —
DEPTH TO WATER: (Static Water Level) 15'
REFERENCE POINT: —
DATE/TIME PURGED: 4-25-89 / 0855
PURGING METHOD: TAP
PURGING DEPTH(s): —
PURGE RATES (gpm): 5 gpm
PURGED VOLUME: ≃ 400 gals
DTW AFTER PURGING: —
EST. YIELD RATE: —
SEAL No: —
CHAIN OF CUSTODY No: —
4 Bore Volumes:

TYPE OF SCREENING CASING: —
WATER BEARING FORMATION(s): —
SAMPLE DATE/TIME: 4/25/89 1025
SAMPLING METHOD: ~~1025~~ from TAP
DTW BEFORE SAMPLING: ≃ 15'
SAMPLING DEPTH(s): —
WELL CONDITION: —
SAMPLE OBSERVATIONS: very clear

WET CHEMISTRIES

SAMPLE TEMPERATURE: 8.6/8.6 C°
SAMPLE pH: 7.60/7.2
SAMPLE SP. COND: 0.639
Turb 0.28

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
857 2gal	5.6	237/7.2	0.609	.25
0925	9.3/9.3	254/7.3	0.594	.4
0955	9.5	257/7.3	0.630	.4

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #
See PWR-1

COMMENTS:
SINK AREA where samples are taken. There are containers of windex, Subaru Vinyl cleaner Armorall, 409, woolite Rug cleaner, Liquid Seven, Spray Enamel, Epoxy Resin, OFF, Cutter Insect Repellent, Barking Soda, Propane cleaner x 2, Carpet Fresh, Round up Herbicide Subaru spot Remover, Permatex High Tack Gloss Stop Paint Remover, PPG Primer 7 2 22472 RED Oxide Enamel + Acrylic Paint cans Triple Etch metal cleaner Paint Thinner

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4/29/89

Crew: K McG

Job No: 576-011

Turb. Meter: NYS DEC L3324

pH Meter: DEC 4776 /CP71

Therm. No: 651 /542

Cond. No: DEC 566

WELL SAMPLING LOG

WELL No: CWR-1

LOCATION: CABIN well

WELL TYPE: WATER Supply - over burden - drive casing

WELL DIAMETER: 6" ID

WELL DEPTH: 47'

SCREENED INTERVAL: No Screen [illegible]

CASING HT.: 1.77'

DEPTH TO WATER: (Static Water Level) 7.04

REFERENCE POINT: TOC

DATE/TIME PURGED: 4/29/89 1118

PURGING METHOD:

PURGING DEPTH(s):

PURGE RATES (gpm): 3.33 gpm

PURGED VOLUME: 241

DTW AFTER PURGING:

EST. YIELD RATE:

SEAL No:

CHAIN OF CUSTODY No:

4 Bore Volumes:

TYPE OF SCREENING CASING:

WATER BEARING FORMATION(s):

SAMPLE DATE/TIME: 4/29/89 1112

SAMPLING METHOD:

DTW BEFORE SAMPLING:

SAMPLING DEPTH(s):

WELL CONDITION:

SAMPLE OBSERVATIONS: Clear, Sandy Silt

WET CHEMISTRIES

SAMPLE TEMPERATURE: 9.1 /9.1

SAMPLE pH: 8.08 /8.0

SAMPLE SP. COND: 0.360

Turb 0.81

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
0950/ 10GAL	8.2/8.2	7.80/7.71	0.362	12
10 15/84 Gals	9.0/9.0	7.98/7.9	.355	20
1052/209GAL	9.0/9.2	8.00/7.9	0.352	12
1102/241Gal	9.2/9.2	8.03/7.9	0.357	.75

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT.

6 TCL Organic by CLP
5 TCL Organics by [illegible]
2 CYANIDE (NaOH) preserved
2 TCL Metal (HNO_3) ↓
1 Specific Conductivity

COMMENTS:

46' deep well 5'

41' column of water

60.27 gal per [illegible] = 241 gals. To purge

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4-25-91
Crew: KM + Fn
Job No: 576-011

Turb. Meter: HACH DEL 2-3324
pH Meter: ORION 4736 CP71
Therm. No: 1-1 + 5-2
Cond. No: ORION 500

WELL SAMPLING LOG

WELL No: CWR-1
LOCATION: CABIN well
WELL TYPE: Water Supply - overburden - drive casing
WELL DIAMETER: 6" I.D.
WELL DEPTH: 47'
SCREENED INTERVAL: No screen below
CASING HT.: 1.77'
DEPTH TO WATER: (Static Water Level) 6.04'
REFERENCE POINT: T.O.C
DATE/TIME PURGED: 0915 - 4/25/91
PURGING METHOD: Tap
PURGING DEPTH(s): -
PURGE RATES (gpm): 3 gpm
PURGED VOLUME: ≈250 gals
DTW AFTER PURGING: -
EST. YIELD RATE: -
SEAL No: -
CHAIN OF CUSTODY No: -
4 Bore Volumes: 241 gals

TYPE OF SCREENING CASING: -
WATER BEARING FORMATION(s): sand + gravel
SAMPLE DATE/TIME: 4/25/91 1135
SAMPLING METHOD: bailer
DTW BEFORE SAMPLING: -
SAMPLING DEPTH(s): -
WELL CONDITION: -
SAMPLE OBSERVATIONS: clear brown, some sediment

WET CHEMISTRIES

SAMPLE TEMPERATURE: 8.6/8.6
SAMPLE pH: 8.2/8.2
SAMPLE SP. COND: 0.339 0.339
Turb. 2.5

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
0915 2gal	7.1	8.02/7.9	0.333	2.3
0940	8.6	8.2/8.0	0.345	4.0
1010	8.9/8.9	7.9/7.6	0.355	1.3

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #
same as CWR-1

COMMENTS:
water Rusty Slight Sulfur odor

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4/29/89

Crew: PL KMG

Job No: 596-011

Turb. Meter: NYSDEC L-3324

pH Meter: DEC 4776 / CP71

Therm. No: 65 / 5H2

Cond. No: DEC 560

WELL SAMPLING LOG

WELL No: PWR-1

LOCATION: In Field Across from Well [illegible]

WELL TYPE: CASED [illegible]

WELL DIAMETER: 6"

WELL DEPTH: 9.2

SCREENED INTERVAL: [illegible]

CASING HT.: 3.42

DEPTH TO WATER: (Static Water Level) 9.30

REFERENCE POINT: TOC A10709 4/29/89

DATE/TIME PURGED: 4/29/89 0717 - 0852

PURGING METHOD: Centrifugal Pump

PURGING DEPTH(s): 2'

PURGE RATES (gpm): 5 gpm

PURGED VOLUME: 485

DTW AFTER PURGING: 0854 4/29/89 11.25'

EST. YIELD RATE:

SEAL No:

CHAIN OF CUSTODY No:

4 Bore Volumes:

TYPE OF SCREENING CASING:

WATER BEARING FORMATION(s):

SAMPLE DATE/TIME: 4/29/89 0859

SAMPLING METHOD: Teflon Bailer

DTW BEFORE SAMPLING: 0854 4/29/89 11.25

SAMPLING DEPTH(s): 1' Below Surface

WELL CONDITION: Good

SAMPLE OBSERVATIONS: Clear - Turbid Clear w/o Sediment

WET CHEMISTRIES

SAMPLE TEMPERATURE: 7.6/7.6

SAMPLE pH: 8.01/8.0

SAMPLE SP. COND: 0.218

Turb 16 NTU

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
0718 2 GAL	8.9/8.9	7.80/7.9	0.196	37
0735 90 GAL	9.8	7.9/8.0	0.241	21
0745 140 GAL	10.6/10.6	7.9/8.0	0.247	170.0
0755 190 GAL	10.0	7.9/8.0	0.247	
0815 300 GAL	10.1	7.90/8.0	0.248	140.0
0825 375 GAL	10.2/10.2	8.0/8.1	0.249	95.0
0850 475 GAL	10.3	8.1/8.1	0.249	95.0
				70.0

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT.

6 TCL - TCL Organics

5 1J TCL Organics in Water Soils

2 CN

1 TCL Metal

1 Spec Conductance

COMMENTS:

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4-25-89
Crew: KM & PR
Job No: 576-011

Turb. Meter: OEC L-3324
pH Meter: OEC 4776 LP71
Therm. No: 651 - 542
Cond. No: OEC 560

WELL SAMPLING LOG

WELL No: PWR-1
LOCATION: In field Across Vay Rd - E. of P,T
WELL TYPE: Cased suppl
WELL DIAMETER: 6"
WELL DEPTH: 91.2'
SCREENED INTERVAL: ?
CASING HT.: 3.42'
DEPTH TO WATER: (Static Water Level) 9.08
REFERENCE POINT: TOC
DATE/TIME PURGED: 4-25 89 start 1255
PURGING METHOD: Centrifugal pump
PURGING DEPTH(s): 23'
PURGE RATES (gpm): 5+ 6PM
PURGED VOLUME:
DTW AFTER PURGING:
EST. YIELD RATE:
SEAL No:
CHAIN OF CUSTODY No:
4 Bore Volumes:

TYPE OF SCREENING CASING: N/A
WATER BEARING FORMATION(S): NA
SAMPLE DATE/TIME: 4/25/89 1405
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: 10.37 AT 1203
SAMPLING DEPTH(s): surface
WELL CONDITION: Good
SAMPLE OBSERVATIONS:
sample water remained clear.

WET CHEMISTRIES

SAMPLE TEMPERATURE: 8.9
SAMPLE pH: 8.38/8.2
SAMPLE SP. COND: 0.157
Turb 30.0

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
INITIAL @ 23'	11.2	8.4/8.1	0.124	38
1327	10.0	7.90/7.9	0.246	120.0
1342	10.2	8.10/7.8	0.240	110.0
1358	9.9	8.13/8.0	0.249	110.0
~~end purge~~	~~8.9~~	~~8.3/8.2~~	~~0.157~~	~~200~~
			C	

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT.

8 VOAs - TCL organics by CLP
7 1-ls - TCL organics by CLP incl. metals
1 - TCL metals
1 - Cyanide
1 - 1ℓ - Sp. Conductance

COMMENTS: 6" borehole
82' column of water
.: 1.47 gals per foot
121 gals in one volume
4 volumes = 482 gals
STOP Pump 1358

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4-28-89
Crew: KM:G + PA
Job No: 576-011

Turb. Meter: OEC 13324
pH Meter: OEC 4776 / CP71
Therm. No: 651 / 542
Cond. No: OEC 560

WELL SAMPLING LOG

WELL No: GWR-1
LOCATION: Prouty Auto
WELL TYPE: PVC
WELL DIAMETER: 2" (8" Bore Hole)
WELL DEPTH: — 80.80
SCREENED INTERVAL: —
CASING HT.: —
DEPTH TO WATER: (Static Water Level) 38.38
REFERENCE POINT: Top of PVC CASING 6 @ 1804 4/28/89
DATE/TIME PURGED: 0900 4-28-89
PURGING METHOD:
PURGING DEPTH(s):
PURGE RATES (gpm):
PURGED VOLUME:
DTW AFTER PURGING:
EST. YIELD RATE:
SEAL No:
CHAIN OF CUSTODY No:
4 Bore Volumes:

TYPE OF SCREENING CASING: PVC
WATER BEARING FORMATION(s): overburden, Bedrock & Interface
SAMPLE DATE/TIME:
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING:
SAMPLING DEPTH(s): Surface
WELL CONDITION:
SAMPLE OBSERVATIONS:

WET CHEMISTRIES

SAMPLE TEMPERATURE:
SAMPLE pH:
SAMPLE SP. COND:

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.	SAMPLE ANALYSIS (List Sample Jar Parameters)	INVENT. #
905 8gal	9.4/9.1	7.83/—	0.352	136		
1000 35gal	10.2	7.85/7.7	0.366	18		

COMMENTS:

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4-25-89
Crew: PR & KM & G
Job No: 576-011

Turb. Meter: DEC L-3324
pH Meter: DEC 4776 CP71
Therm. No: 651 & 542
Cond. No: DEC 560

WELL SAMPLING LOG

WELL No: GWR-1
LOCATION: Shank Field
WELL TYPE: 2" PVC Monitoring
WELL DIAMETER: 2"
WELL DEPTH: 74.11'
SCREENED INTERVAL: 64.11' to 74.11'
CASING HT.: 1.60' (Ave)
DEPTH TO WATER: (Static Water Level) 62.87
REFERENCE POINT: Top of casing
DATE/TIME PURGED: 4-25 & 26-89
PURGING METHOD: Bladder Pump + hand bail
PURGING DEPTH(s): Dry
PURGE RATES (gpm): -
PURGED VOLUME: ≃ 20 gals
DTW AFTER PURGING: dry
EST. YIELD RATE: -
SEAL No: -
CHAIN OF CUSTODY No: -
4 Bore Volumes: 118 gals

15:15 4/25/89
63.11 at 0627 4/26/89

TYPE OF SCREENING CASING: over burden
WATER BEARING FORMATION(s):
SAMPLE DATE/TIME: 4-26-89/1245
SAMPLING METHOD: Bail
DTW BEFORE SAMPLING: 63.13'
SAMPLING DEPTH(s): Top
WELL CONDITION: Good
SAMPLE OBSERVATIONS: Clear 1st bailer
Brown - silty by 3rd
DTW before sampling - 63.13'

WET CHEMISTRIES

SAMPLE TEMPERATURE: 11.1°
SAMPLE pH: 7.65/7.3
SAMPLE SP. COND: .589
Turb - 150

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
1525	9.9	7.23/8.1	.581	96
9 gal →	8.3	7.8	0.557	57

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #

7 VOAs Organics TCL
1 cyanide
1 metals TCL
8 1-Ls Organics TCL
1 trip blank

COMMENTS: 11.24' column of water
8" borehole - 2.625 gals per foot
29.5 gals per volume
118 gals per 4 volumes.

- purged well dry with well owned on 4-26-89 then returned & bailed dry on 4-26 & sampled after recovery.

Crew Chief Signature: Kevin M Ramsey Date: 4-26-89

Lawler, Matusky & Skelly Engineers

Date: 4/26/89

Crew: DR & MeC

Job No: 576-061

Turb. Meter: Dec L-3324

pH Meter: Dec 4776 / CP 71

Therm. No: 651 / 542

Cond. No: DEC-560

WELL SAMPLING LOG

WELL No: GWR-2

LOCATION: Upgrad. of GW-4

WELL TYPE: 2" PVC overburden

WELL DIAMETER:

WELL DEPTH: 43.14'

SCREENED INTERVAL: 43 to 33'

CASING HT.: 2.19' - PVC

DEPTH TO WATER: (Static Water Level) 31.7'

REFERENCE POINT: TOC

DATE/TIME PURGED: 4-26-89

PURGING METHOD: Well wizard

PURGING DEPTH(S): mid + top

PURGE RATES (gpm): ≃.6 gpm

PURGED VOLUME: 120 gals.

DTW AFTER PURGING: 31.67'

EST. YIELD RATE: —

SEAL No: —

CHAIN OF CUSTODY No: —

4 Bore Volumes: 120.4

TYPE OF SCREENING CASING: Sched 40 PVC

WATER BEARING FORMATION(S):

SAMPLE DATE/TIME: 4/26/89 1690

SAMPLING METHOD: Teflon bailer

DTW BEFORE SAMPLING: 31.67 AT 1632

SAMPLING DEPTH(S): Top of column

WELL CONDITION: cracked well collar

SAMPLE OBSERVATIONS: water became more turbid as sampling progressed.

WET CHEMISTRIES

SAMPLE TEMPERATURE: 10.1 / 10.1

SAMPLE pH: 7.94 / 7.9

SAMPLE SP. COND: 0.422

Turb 150

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
11 15 36 GAL	11.0/11.0	8.07/8.1	0.449	120.0
13 25 13 GAL	10.5	8.11/7.9	0.443	95.0
13 45 46 "	10.4/10.4	7.79/7.9	0.429	123.
15 15 100 gal	10.2/10.2	8.07/7.9	0.41	6.6
15 55 115 gal	10.0	7.66/7.7	0.405	5.7

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT.

SAME AS PWR-1

COMMENTS:

Bailing from bottom of well wizard stopped pumping for 1 hour - NO contamination near well.

11.47' column of water = for 8" borehole

30.11 gals in one column

120.4 gals in 4 vols

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4/26-27/89
Crew: KMcG PL
Job No:

Turb. Meter: DEC L-3224
pH Meter: [illegible]
Therm. No: 651 542
Cond. No: DEC 560

WELL SAMPLING LOG

WELL No: GWR-3
LOCATION: Next to access rd.
WELL TYPE: PVC overburden
WELL DIAMETER: 2"
WELL DEPTH: 60.24
SCREENED INTERVAL: 60.24 to 50.24'
CASING HT.: 1.04' - PVC
DEPTH TO WATER: (Static Water Level) 43.23 [illegible] AT 0719 4/27/89 AT [illegible] 47.78
REFERENCE POINT:
DATE/TIME PURGED: 4/27/89 0915 — 1356
PURGING METHOD: Bladder/Gas Pump
PURGING DEPTH(s): Surf → Bott
PURGE RATES (gpm): 0.41 gal/min
PURGED VOLUME: 105 gals
DTW AFTER PURGING: 50.41
EST. YIELD RATE: -
SEAL No: -
CHAIN OF CUSTODY No: -
4 Bore Volumes: 130.8 gals

TYPE OF SCREENING CASING: PVC sch-40
WATER BEARING FORMATION(s): sand & gravel
SAMPLE DATE/TIME: 4/27/89 1400
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: 50.41
SAMPLING DEPTH(s): 1' Below Surf
WELL CONDITION: Good
SAMPLE OBSERVATIONS: Became increasingly turbid as sampling progressed

WET CHEMISTRIES

SAMPLE TEMPERATURE: 10.1 / 10.1
SAMPLE pH: 7.30 / 7.3
SAMPLE SP. COND: 0.650
Turb 40.0

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
0915 — 16GAL	12.9 -	7.30/7.4 —	0.642 —	88
0940 — 80AL	11.2 -	7.38/7.3 —	0.656 —	39
1020 — 18 GAL	12.7/12.7 —	7.34/7.3 —	0.656 —	80
1100 — 38GAL	12.9/12.9 —	7.41/7.3 —	0.658 —	15
1156 — 60GAL	12.9 -	7.37/7.2 —	0.657 —	4.0
1245 — 83GAL	11.3/11.3 —	7.37/7.2 —	0.643 —	2.5
1305 → 103GAL	10.7	7.40/7.2	0.663 —	9.6

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #

SAME AS PW/G-1

COMMENTS:

Pump Problems 4/26/89

TD - 60.24
WL - 47.78
12.96' water column
2.625 gals per ft in an 8" borehole
32.7 gals in one well vol.
x4
130.8 gals

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 4/27 '89
Crew: [illegible] PR
Job No: 576-011

Turb. Meter: DEC L9324
pH Meter: DEC [illegible]
Therm. No: 351 1542
Cond. No: DEC 560

WELL SAMPLING LOG

WELL No: GWR-4
LOCATION: Across Rd from Coles
WELL TYPE: PVC overburden
WELL DIAMETER: 2"
WELL DEPTH: 29.15'
SCREENED INTERVAL: 29 to 19'
CASING HT.: 1.9'
DEPTH TO WATER: (Static Water Level) 16.95'
REFERENCE POINT: TOC
DATE/TIME PURGED: 4/27/89 0730-0756 #1415-1335
PURGING METHOD: Bladderless Pump + HAND BAILL
PURGING DEPTH(s): Surf → Bottom
PURGE RATES (gpm): 1/2 gal/min
PURGED VOLUME: 10 gal + 7 gal
DTW AFTER PURGING: DRYNESS 1355 4-27-89
EST. YIELD RATE: Dryness 1230-4-27-89
SEAL No: —
CHAIN OF CUSTODY No: —
4 Bore Volumes:

TYPE OF SCREENING CASING: PVC sched. 40
WATER BEARING FORMATION(S): sand + grave
SAMPLE DATE/TIME: 4/27/89 1515
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: 16.79
SAMPLING DEPTH(s): Top of column
WELL CONDITION: Cement Protective collar cracked
SAMPLE OBSERVATIONS: Became increasingly turbid as sampling progressed

WET CHEMISTRIES

SAMPLE TEMPERATURE: 8.4 / 8.4
SAMPLE pH: 7.61 / 7.6
SAMPLE SP. COND: 0.478
Turb 93

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
0730 1GAL	6.9 / 6.9	7.5 / 7.8	0.473	140
0756 9GAL	7.9	7.8 / 8.0	0.472	92
Second Purge 0215 11GAL	8.1	7.5	0.487	2600

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #

see PW/R-1

COMMENTS:

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Crew: PR JM
Date: 4/25/89
Job No: 576-011

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site:
Oper: Abell Sampling
Calib. By: pr

METER No./ PROBE No.	TIME	THERM NO./ TEMP. (°C)	EXPECTED VALUE	OBSERVED VALUE	ADJ TO[a]	% DIFF.[b]	COMMENTS
NYSDEC 801446 HNU	1000		0 58	0 55			No adjust Zero knob very loose variable unreliable
DEC L3324	0940		40 60	40 62			Tough to calib w/in 5 NTUs
DEC #4776	0815	6.8	7.0	7.22	7.00		
		↓	10.0	10.22	10.00		
		↓	4.0	4.20			
		14.4	7.0	7.20	7.00		
			10.0	9.93	10.00		
		↓	4.0	4.08	4.00		
CP 71	0815	651 8.2	7.0	7.2	7.0		
	↓	↓ ↓	4.0 1.0	4.3 9.7			
		15.0	7.0	7.0	—		
		↓ ↓	4.0	4.2 9.7			

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Crew: KMcG + PK
Date: 4-25-84
Job No: 576-[illegible]

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: Machias Grand
Oper:
Calib. By: Pete K.

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)	EXPECTED VALUE	OBSERVED VALUE	ADJ TO[a]	% DIFF.[b]	COMMENTS
	1320		7.0	7.03	–		
			10.0	10.10	–		
			4.0				

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Crew: PR K McG
Date: 4/26/89
Job No: 576-011

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: MACHIMS
Oper: Boat Sample
Calib. By: [illegible]

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)		EXPECTED VALUE		OBSERVED VALUE		ADJ TO[a]	% DIFF.[b]	COMMENTS
L3324	0630	1		40		30		40		
monitech				60		55		60		
	1530			40		35		40		
				60		50		—		
	1726			40		35		40		
				60		58		—		
OP 71	0620	651	6.6	7.0		7.0				
				4.0	KD	4.2	9.6			
			19.6	7.0		6.9		7.0		
		↓		4.0	10.0	4.2	9.8			
Dec 4776 orion	0620	Dec 4776	6.8	7.0		7.01		7.06		
				10.0		10.03		10.00		
				4.0		4.00				
	15:19		19.2	7.0		7.19		7.02		
				10.0		10.00		—		
		↓		4.0		4.00		—		
	1725			7.0		7.05				
				10.0		10.01				
		↓		4.0		4.00				
OP71	1715	651	18.1	7.0		7.0		—		
	↓	↓	↓	4.0	KD	4.1	9.7			

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Crew: KMcG PR
Date: 4/27/89
Job No: 576-011

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: MACHIAS
Oper: well Sampling
Calib. By: PM

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)	EXPECTED VALUE		OBSERVED VALUE		ADJ TO[a]	% DIFF.[b]	COMMENTS
YSI Model 33 S-C-T Meter Dec L-5324	0650		40		45		40		
	↓		60		53		—		
	1300		40		35		40		
	↓		60		53		—		
	1545		40		43		40		
	↓		60		50		—		
	1[illegible]								
Orion pH Meter 4776	0700	5.5	7.0		7.08		7.00		
	↓	↓	4.0		10.21		10.00		
	↓		10.0		3.94		—		
	1305	24.0	7.0		7.33		7.00		
		24 ↓	10.0		9.83		10.00		
		↓	4.0		3.97		—		
	1555	14.1	7.0		7.03				
	↓		4.0						
	↓		10.0		10.13				
CP 71	0655	65[illegible] 5.8	7.0		7.0				
	↓	↓ ↓	4.0	10.0	4.3	9.7			
	1310	25.6	7.0		6.9		7.0		
	↓	↓	4.0	10.0	9.8	4.2			
	1550	16.9	7.0		7.2				
	↓	↓ ↓	4.0	[illegible]	4.1	9.6			

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Crew: 4-28-89
Date:
Job No:

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site:
Oper:
Calib. By:

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)	EXPECTED VALUE	OBSERVED VALUE	ADJ TO[a]	% DIFF.[b]	COMMENTS
CP71	0755	651 0.2	7.0	6.9	7.0		
			10.0 4.0	9.6 4.4			
Orion DEC 47%	0800	0.2	7.00	7.11	7.00		
			10.00	10.30	10.00		
				3.89	—		
Mobile K L-3324 DEC	0805	+0	40	40	—		
			60	54	—		

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{\text{Ex} - \text{Ob}}{\text{Ex}} \times 100$

Crew: pr K McC
Date: 4/29/09
Job No: 576-011

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: MACKAS Ground
Oper: Well sampling
Calib. By: pc

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)	EXPECTED VALUE	OBSERVED VALUE	ADJ TO[a]	% DIFF.[b]	COMMENTS
	0715		4.0	3.5	4.0		
	↓		6.0	5.0	—		
	1025		4.0	2.1	4.0		
	↓		6.0	5.8			
DO 476	0710	—	7.0	7.01	7.00		
			4.00	3.92	—		
	↓	↓	10.0	10.19	10.00		
	1120	11.8	7.00	7.03	7.00		
	↓		4.00	3.99	—		
	↓	↓	10.0	10.13	10.00		
CP 71	0720	9.6	7.0	7.0			
	↓	↓	4.0 10.0	4.3 9.8			
	1125	13.5	7.0	7.1	7.0		
	↓	↓	4.0 10.0	4.2 9.6			

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Date: 10-26-88
Crew: CS/CPM
Job No: 526-011

pH Meter: 4776
Therm. No: 4EU
Cond. No: 560

WELL SAMPLING LOG

WELL No: COLE - PRIVATE WELL IN OPERATION
LOCATION: EAST of SITE HICKLESS ROAD
WELL TYPE: DRIVEN CASING
WELL DIAMETER: 6" I.D.
WELL DEPTH: 47'
SCREENED INTERVAL: NO SCREEN BELIEVED
CASING HT.: 1.77'
DEPTH TO WATER: (Static Water Level) 6.64
REFERENCE POINT: Top of Steel Casing
DATE/TIME PURGED: 10-26-88 13:20 - 15:15
PURGING METHOD: SUBMERSIBLE
PURGING DEPTH(s): ? DEPTH of PUMP
PURGE RATES (gpm): ~1 GPM
PURGED VOLUME: 125 GALLONS
DTW AFTER PURGING: 7.68'
EST. YIELD RATE: + 3 GPM
SEAL No:
CHAIN OF CUSTODY No:
2 4" Bore Volumes: 123 GALS.

TYPE OF SCREENING CASING: NONE
WATER BEARING FORMATION(s): ?
SAMPLE DATE/TIME: 10-26-88 15:26
SAMPLING METHOD: FROM TAP
DTW BEFORE SAMPLING:
SAMPLING DEPTH(s): - DEPTH of PUMP
WELL CONDITION: GOOD (In use)
SAMPLE OBSERVATIONS: CLEAR. ~~SHEEN~~ SHEEN
CLEAR, HIGH & MILD SULPHUR ODOR

WET CHEMISTRIES

SAMPLE TEMPERATURE: NO TEMP TAKEN
SAMPLE pH: 7.2
SAMPLE SP. COND: 267
TURB. 4.2

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTU.

SAMPLE ANALYSIS (List Sample Jar Parameters)

	INVENT. #
ABN's (8270)	(2) 1 Lt. AMBER
PEST + PCB's HSL	(1) 1 Lt AMBER
VOC's	(2) 40 ML VIALS
TOTAL METALS	(1) .5 L PLASTIC
TOTAL CYANIDE	(1) .5 L PLASTIC

COMMENTS: 61.1 GALLONS in CASING
LET WATER Run from TAP for 2 HOURS. Took MATRIX Spike & MATRIX SPIKE Duplicate from Column

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 10.27.88
Crew: CS / ICPM
Job No: 516-011

pH Meter: 4716
Therm. No: 480
Cond. No: 560

WELL SAMPLING LOG

WELL No: PW-1
LOCATION: NEAR E of GRAVEL PIT W. of STREAM
WELL TYPE: UNKNOWN BOTTOM WATER PRODUCING
WELL DIAMETER: 6"
WELL DEPTH: 91.2'
SCREENED INTERVAL: ?
CASING HT.: 3.34
DEPTH TO WATER: (Static Water Level) 10.10'
REFERENCE POINT: TOP of STEEL CASING
DATE/TIME PURGED: 10.27.88 13:46
PURGING METHOD: CENTRIFUGAL PUMP
PURGING DEPTH(s): ~~50~~ 23'.
PURGE RATES (gpm): INITIAL 2.5GPM
PURGED VOLUME:
DTW AFTER PURGING:
EST. YIELD RATE: +3GPM
SEAL No:
CHAIN OF CUSTODY No:
4 Bore Volumes: 477.45 GALS

TYPE OF SCREENING CASING: ?
WATER BEARING FORMATION(s):
SAMPLE DATE/TIME: 10.27.88 1752
SAMPLING METHOD: TEFLON BAILER
DTW BEFORE SAMPLING: 10.36
SAMPLING DEPTH(s): TOP of CASING
WELL CONDITION: GOOD
SAMPLE OBSERVATIONS:

WET CHEMISTRIES

SAMPLE TEMPERATURE: 10.3
SAMPLE pH: 8.9
SAMPLE SP. COND: 108
TURBIDITY
Before 7.9 After 5.6

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
INITIAL @20'	12.9	8.4	93	75
25 GAL	12.6	8.7	106	40
50 GAL	12.2	9.3	108	29
75 GAL	12.6	9.1	111	35
110 GAL	12.3	8.2	244	71000
175 GAL	11.5	8.1	253	298
300 GAL	11.2	8.3	252	425
390 GAL	10.9	8.0	249	150

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #

COMMENTS: @1.2' Casing of WATER
6" BOREHOLE = 119.34 GALLONS IN 1
CASING VOLUME 477.45 GALLONS IN 4
BOREHOLES. PUMPED INITIALLY @2.5 GPM
WATER BLACK-GREY W/SILTY LOOK - SLIGHT ODOR
DREW DOWN TO 13' THEN REMAINED STEADY/
STEADY AFTER 87 GALS WATER BECAME TURBID & LOW.
LEVEL REMAINED STEADY @13' EVEN PUMP OUT OF GAS
TURBIDITY RAN TO 290 @ TIME 20 min

Crew Chief Signature: _____ Date: _____

2 HRS 35 min = 367 GALS TBUS = 62
3 HRS 10 min = 475 GALS TBU 64

Lawler, Matusky & Skelly Engineers

Date: 10.27-88
Crew: CS/KPM
Job No: 576-011

pH Meter: 4776
Therm. No: 480
Cond. No: 560

WELL SAMPLING LOG

WELL No: GW-1 (UPGRADIENT)
LOCATION: WEST of GRAVEL PIT
WELL TYPE: CLEARBORE
WELL DIAMETER: 2" I.D.
WELL DEPTH: 74.11
SCREENED INTERVAL:
CASING HT.: STEEL Sleeve 2.21 (from GRADE) PVC 2.19
DEPTH TO WATER: (Static Water Level) 64.41
REFERENCE POINT: Top of PVC
DATE/TIME PURGED: 10.27.88 1613 - 17:28
PURGING METHOD: TEFLON BLADDER PUMP
PURGING DEPTH(s): 64-74'
PURGE RATES (gpm): 1 GAL/3 mins TO 1 GAL/5 MINS
PURGED VOLUME:
DTW AFTER PURGING: 70.91
EST. YIELD RATE: 1 GAL/5 mins
SEAL No:
CHAIN OF CUSTODY No:
4 Bore Volumes: 99 GALS.

TYPE OF SCREENING CASING: PVC SCH 40
WATER BEARING FORMATION(s): COARSE BOULDER SAND & GRAVEL
SAMPLE DATE/TIME: 10-27-88 1615
SAMPLING METHOD: TEFLON BAILER
DTW BEFORE SAMPLING: 69.47
SAMPLING DEPTH(s): TOP
WELL CONDITION: Good
SAMPLE OBSERVATIONS: Brown Silty

WET CHEMISTRIES

SAMPLE TEMPERATURE: 7.8
SAMPLE pH: 8.6
SAMPLE SP. COND: 572
TURBIDITY
Before 15 After 30

TURBIDITY READINGS UNSATISFACTORY

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. JTU's.
~~[illegible]~~	~~[illegible]~~	~~8.7~~	~~560~~	~~37~~
5 GALS	9.1	8.2	460	61
15 GALS.	9.1	8.3	530	40
25 GALS.	8.2	8.3	545	65

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #

COMMENTS: 9.7' Column of water
x 6" open Borehole = 24.6 GALS (1 Vol.)
x4 Borehole Volumes = 99 GALS. TO BE REMOVED
Pumped for 1 hr. 15 mins.

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engr.

Date: 10.26.88 | pH Meter: 4776

Crew: CS/KPM | Therm. No: 480

Job No: 516-611 | Cond. No: 566

WELL SAMPLING LOG

WELL No: GW-2

LOCATION: UPGRADIENT of GW-4 STILL CAST of GW-1

WELL TYPE: Cook Borehole

WELL DIAMETER: 2" I.D.

WELL DEPTH: 43.14

SCREENED INTERVAL:

CASING HT.: ST Stick-up 2.42 | PVC 2.19

DEPTH TO WATER: (Static Water Level) 33.61

REFERENCE POINT: PVC CASING

DATE/TIME PURGED: 10.26.88 14:01 - 14:54

PURGING METHOD: Well Wizard Teflon Bailer Pump

PURGING DEPTH(s): Bottom water - TCP

PURGE RATES (gpm): 2 GPM

PURGED VOLUME:

DTW AFTER PURGING:

EST. YIELD RATE: +2 GPM

SEAL No:

CHAIN OF CUSTODY No:

4 Bore Volumes: 101 GALS.

TYPE OF SCREENING CASING: Slot Type

WATER BEARING FORMATION(s):

SAMPLE DATE/TIME: 10.26.88 14:54

SAMPLING METHOD: TEFLON BAILER

DTW BEFORE SAMPLING: 33.61

SAMPLING DEPTH(s): TCP

WELL CONDITION:

SAMPLE OBSERVATIONS:

WET CHEMISTRIES

SAMPLE TEMPERATURE: 7.1

SAMPLE pH: 6.3

SAMPLE SP. COND: 7.5

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Eh (mV)
15 GALS	8.4	8.42	473	390
45 GALS	8.2	8.32	440	150
75 GALS	8.5	8.29	425	46
100 GALS	8.2	8.45	419	30

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #

COMMENTS: 9.5' WATER COLUMN

25.25 GALS IN 6" BOREHOLE (4 pi r²h).

101 GALS = 4 BOREHOLE VOLUMES.

PUMPED FOR 5 MINS AND WELL WENT DRY

2 GALS

D.O. CHECK AT LAB ON PUMP

SIXTY ALIQUOTS

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

Date: 10.CT.88

Crew: CS/ICAM

Job No: 576-611

pH Meter: 4196

Therm. No: [illegible]

Cond. No: 560

WELL SAMPLING LOG

WELL No: GW-3

LOCATION: [illegible]

WELL TYPE: OLD BOREHOLE

WELL DIAMETER: 3" I.D

WELL DEPTH: 59.62'

SCREENED INTERVAL:

CASING HT.: 1.25' Stickup PVC 1.04

DEPTH TO WATER: (Static Water Level) 49.51'

REFERENCE POINT: Top PVC

DATE/TIME PURGED: 10.28.88 9:16-11:09 Pump Stopped

PURGING METHOD: Grundfos Submersible Pump

PURGING DEPTH(s): 50-58'

PURGE RATES (gpm): 1 GAL/2 min

PURGED VOLUME:

DTW AFTER PURGING: 49.79'

EST. YIELD RATE: +.5 GPM

SEAL No:

CHAIN OF CUSTODY No:

4 Bore Volumes: 100 GALS. Est.

3 Bore Vols = 5"

TYPE OF SCREENING CASING:

WATER BEARING FORMATION(s):

SAMPLE DATE/TIME: [illegible] 1124

SAMPLING METHOD: [illegible]

DTW BEFORE SAMPLING: 49.79'

SAMPLING DEPTH(s): Top [illegible]

WELL CONDITION: Good

SAMPLE OBSERVATIONS:

Very [illegible]

WET CHEMISTRIES

SAMPLE TEMPERATURE: 11

SAMPLE pH: 7.7

SAMPLE SP. COND: 623

TURBIDITY

Before 1600 After 850

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	TURB.
5 Gal	8.2	7.1	620	600
10 Gal	8.2	7.9	577	600
50 Gal	7.9	7.8	600	160
7.5 [illegible]	8.1	7.8	606	350

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT. #

[illegible]

COMMENTS:

10.11 Comm of water

[illegible] Purged Dry [illegible]

[illegible]

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engr

Date: 10-26-88
Crew: CS/KPM
Job No: 516-011

pH Meter: 4771
Therm. No: 450
Cond. No: 540

WELL SAMPLING LOG

WELL No: GW-4
LOCATION: DOWN GRADIENT - EAST OF PIT AREA
WELL TYPE: OVERBURDEN
WELL DIAMETER: 2"
WELL DEPTH: 29.15
SCREENED INTERVAL: STEEL SLEEVE
CASING HT.: 1.92' PVC 1.90
DEPTH TO WATER: (Static Water Level) 17.10
REFERENCE POINT: TOP of PVC CASING
DATE/TIME PURGED: 10-26-88 12:40 -
PURGING METHOD: HORIBA U-10 CONDUCTIVITY METER WITH PERISTALTIC PUMP
PURGING DEPTH(s): ST- BOTTOM
PURGE RATES (gpm): .2 GPM
PURGED VOLUME: +30 GALS.
DTW AFTER PURGING: 20.11
EST. YIELD RATE: .1-.2GPM
SEAL No:
CHAIN OF CUSTODY No:
4 Bore Volumes:

TYPE OF SCREENING CASING: PVC
WATER BEARING FORMATION(s): OVERBURDEN
SAMPLE DATE/TIME: 27-88 12:45
SAMPLING METHOD: TEFLON BAILER
DTW BEFORE SAMPLING: 17.68'
SAMPLING DEPTH(s): TOP WATER COLUMN
WELL CONDITION: GOOD
SAMPLE OBSERVATIONS: CLEAR, NO ODOR, NO FILM

WET CHEMISTRIES

SAMPLE TEMPERATURE: 12.5
SAMPLE pH: 7.5
SAMPLE SP. COND: 475
TURBIDITY
TOP 120
MID 540

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY	Turb. NTUs.
5 GALS/MIN	20.3	7.5	464	600
10	25.4	7.6	485	500
30	8.1	7.8	477	1000

SAMPLE ANALYSIS (List Sample Jar Parameters) — INVENT. #

HORIBA U-10 #1
HORIBA U-10 #2
PERISTALTIC PUMP #1
PERISTALTIC PUMP #2
FOR PUMP TUBES

COMMENTS:
11.15' WATER COLUMN.
30.3 GALS IN 8" OPEN BOREHOLE
121.3 GALS.
PURGED WELL @ .5 GPM FOR 1 HR 30 MIN. WELL WENT DRY. WATER LEVEL STEADY AT 20.11' - ESTIMATED YIELD .1-.2 GPM
PUMP TEMP. STARTED OFF TO COOL DOWN - STEADY AT 25.4 FOR 3 TIMES

Crew Chief Signature: _____ Date: _____

Lawler, Matusky & Skelly Engineers

1.9

DATE : 10.20.88

CREW : JMG/EDM

JOB No.: 576-011
MACTEC

WELL No. GW-4 Stanley

pH No. DEC 0810 4996

THERMOMETER No. 4900

SCT No. [illegible] 3 Lee

TURBIDITY DEC Micro TEC 3324

LAWLER, MATUSKY & SKELLY ENGINEERS

Development
WELL ~~BAILING~~ DATA

Temps elevated due to slow rate & heat from the pump generates

TIME	GALLONS BAILED	PH	Temperature (°C)	SPECIFIC CONDUCTANCE (µmhos/cm)	TURBIDITY (NTUs)
11:29	5	7.3	21.1°	440	1000+
11:41	8				WATER TO 28'
12:30	→ LET WELL RECOVER TO			21 FEET	
	PUMPED AGAIN @ 12.31		RATE of ABOUT		
	1 GAL/3 MIN				
1500	→ PUMPED AGAIN AT		.5 GPM		
	WATER IS STILL [illegible]				

* Initial SWL : 16.35'
Total Well Depth : 28.90
WATER [illegible]
6" BOREHOLE CONTAINS 31.4 GALLONS
WELL PUMPED DOWN [illegible]
FOOT VALVE [illegible]

NOT IN WORK PLAN

RECRA ENVIRONMENTAL, INC.

CHAIN OF CUSTODY RECORD

2.

PROJECT NO: 576-011

SITE NAME: MACHIAS

SAMPLERS (SIGNATURE): Caroline Singler

CMS ECWC.

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	ABNs HSL 120	PESTICIDES + PCBs HSL	EP TOX METALS	TCLP + ignitability	VOCs HSL 810		REMARKS
SS-1	10-26-88	18:20		✓	Gravel Pit	2	✓	✓	✓	✓	✓		
SS-2	10-26-88	18:15		✓	Staged Soil	2	✓	✓	✓	✓	✓		
SS 2 MS	10-26-88	18:15		✓	Staged Soil	1	✓	✓	✓	✓	✓		Per phone conv. w/ Ed Moltrich - LMS to EP tox + metals only and T.CN is OK (Caroline)
SS 2 MSD	10-26-88	18:15		✓	Staged Soil	1	✓	✓	✓	✓	✓		

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Caroline Singler	10-27-88	9:55	
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)
Caroline Singler	10-27-88	9:35	

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)

DATE TIME

REMARKS

Deadlines: Hospital accompanies shipment, copy to coordinator in field

0440

RECRA ENVIRONMENTAL, INC.

CHAIN OF CUSTODY RECORD

PROJECT NO: 576-011

SITE NAME: MACHIAS

SAMPLERS (SIGNATURE): Caroline Singles — LMS ENGINEERS

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	ANs + HSL + 20	PESTICIDES + PCBs	Total + Dissolved Metals + HSL	TPH + HSL	Cyanide + HSL	VOC's HSL + 10	REMARKS
GW-4	10-27-88	1248		✓	Monitoring well East of Pit Area	7	2	1	1	1	2		All matrices + Duplicates per Agency
PW-1	10-27-88	1752		✓	Private Well Northeast of Gravel Pit	7	2	1	1	1	2		
GW-1	10-27-88	1815		✓	Monitoring Well West of Gravel Pit	7	2	1	1	1	2		
GW-3	10-28-88	1224		✓	Monitoring Well East of Pit, Side of road	7	2	1	1	1	2		
Trip Blank	10-25-88	1710				1							

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Caroline Singles	10-28-88	1106	
Caroline Singles	10-28-88	1106	RECEIVED FOR LABORATORY BY (SIGNATURE) Rene O. Lowell

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)

DATE	TIME	REMARKS

CMT

RECRA ENVIRONMENTAL, INC.

CHAIN OF CUSTODY RECORD

PROJECT NO: 576-011

SITE NAME: MACHIAS

SAMPLERS (SIGNATURE): Caroline Singler

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	ABN's HSL+20	PESTICIDES+PCB's+ Total Metals HSL	Total Cyanide HSL	VOC's HSL+10	REMARKS
GW-2	10-26-88	16:34		✓	Monitoring Well East of Gravel Pit	7	2	1	1	1	2	Metals + Cyanide only per objectives of field - will be done immediately upon delivery
COLE	10-26-88	15:26		✓	Private Well	7	2	1	1	1	2	"
COLE MS	10-26-88	15:26		✓	Private Well	7	2	1	1	1	2	"
COLE MSD	10-26-88	15:26		✓	Private Well	7	2	1	1	1	2	"
Field Blank	10-26-88	16:34		✓		7	2	1	1	1	2	"

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Caroline Singler	10-27-88	8:35	
Caroline Singler	10-27-88	9:30	

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)

RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	REMARKS

RECRA RESEARCH, INC.
CHAIN OF CUSTODY RECORD

PROJECT #: R-985-059-01 PROJECT NAME: L. CLARE

STUDY AREA: _____ SAMPLERS SIGNATURE: Robert Wozniak

STATION #		DATE	TIME	SUBSAMPLE CODES	TOTAL # OF SAMPLES	REMARKS	
R-985-059	01	9/4/85	840	# 1	2	601/602 Comb. 608 612	1 VOA, 1 QT
R-985-059	02	9/4/85	855	# 2	2	" " " "	1 VOA, 1 QT
R-985-059	03	9/4/85	915	# 3	1	608, 612	1 QT
R-985-059	04	9/4/85	930	# 4	1	601/602 comb.	1 VOA
R-985-059	05	9/4/85	945	# 5	1	" " "	1 VOA
R-985-059	06	9/4/85	1000	# 6	1	" " "	1 VOA

Relinquished By:	Date/Time:	Received By:	Comments:
Robert Wozniak	9/6/85 930		
Relinquished By: James Erk	Date/Time: 9/6/85 1229	Received By: 9/6/85 12:29	Comments:
Method of Shipment:	Shipped By:	Received By	Comments:

Received for Laboratory: Jane Authorization for Disposal: _____

Job #: 85-1075 Type of Disposal: _____

Date Time: 9-18-85 Date of Disposal: _____

APPENDIX I

APPLICABLE RECORDS

APPENDIX I (Page 1 of 3)

CHRONOLOGICAL LIST OF LITERATURE PERTAINING TO MACHIAS GRAVEL PIT

DATE	PAGES	SUBJECT
09-20-78	I-1	Memo from Dan Pascarella CCDOH to Kevin Heintz, NYSDEC - drums at "Old Machias Dump"
10-03-78	I-2 - I-4	Chester Halgas (CCDOH) to Jack McMahon (NYSDEC) - county-wide drum distribution
07-24-79	I-5	Stanley Lundine (congressman) to Chester Halgas about drums at dump
08-24-79	I-6 - I-8	Halgas responding to Lundine
09-06-83	I-9 - I-10	Recra Phase I submitted (completed report is not included
05-03-85	I-11 - I-13	Raymond Lupe (NYSDEC) to Lawrence Clare (NYSDEC) - Walter B. Satterthwaite (WBSAI) Phase II proposal
05-21-85	I-14	Peter Buechi (NYSDEC) to Bull (Town of Machias) acknowledging incomplete Phase II
08-26-85	See Report, 10-22-85	WBSAI conducts water sampling & geophysical survey
09-04-85	Analytical data are contained in Appendix J	Four drums and two soil samples taken by NYSDEC
09-06-85		Drum samples submitted to Recra for analysis
09-10-85	I-15 - I-16	Buechi (NYSDEC) to Bull (Town of Machias) reminding Bull of NYSDEC interest in site
10-22-85	Appendix J	WBSAI submits report and results
10-23-85	Appendix J	Ryan (NYSDEC) receives results of waste soil samples from 9-6-85
11-20-85	I-17 - I-40	L. Clare (NYSDEC) receives draft of WBSAI groundwater report
12-03-85	Contained in February 1986 Report	WBSAI samples and inventory drums
12-17-85	I-41 - I-42	L. Clare (NYSDEC) to Mike Christopher (WBSAI)

CHRONOLOGICAL LIST OF LITERATURE PERTAINING TO
MACHIAS GRAVEL PIT

DATE	PAGES	SUBJECT
12-18-85	I-43	L. Clare (NYSDEC) to Walt Demick (NYSDEC) - progress; discuss WBSAI work and future plans
01-01-86	I-44	M. Christopher (WBSAI) to W. Demick (NYSDEC) questioning need for Phase II after their work
01-15-86	I-45	Demick (NYSDEC) to Christopher (WBSAI) saying State's Phase II is additional not duplicative
01-23-86	Appendix J	Recra to Clare (NYSDEC) - results of Cole well samples additionals from 10-22 report
02-00-86	I-46 - I-62	WBSAI cleanup plan submitted
02-03-86	Appendix J	Ploscyca (Recra) sends Christopher (WBSAI) 2-1-86 Cole samples
02-04-86	Appendix J	Recra report of Cole 2-1-86 sample for WBSAI
03-04-86	I-63 - I-64	L. Clare (NYSDEC) to Reisner (CCDOH) - passing on 2-1-86 Cole results, WBSAI cleanup plan & discussing chloroform contamination
03-19-86	Appendix J	NYSDOH samples Cole wells
04-11-86	Appendix J	NYSDOH samples Lye Creek for trihalomethanes
10-09-86	I-65 - I-67	Lester, Citizen's Clearinghouse for Hazardous Wastes (CCHW), comment to Betty Cole about well sample and other advice
10-21-86	I-68	Betty Cole to lawyers about Lester (CCHW) information and commenting on WBSAI reputation
02-27-87	I-69 - I-71	Dwyer & Dwyer (Cole lawyers) to Spagnoli (NYSDEC); asking about drums, future plans, and AES proposed monitoring program
03-16-87	I-72 - I-73	Peter Buechi (NYSDEC) responds to Dwyer letter Phase II plans, and referring them to DOH about water quality and monitoring
04-20-87	I-74	Seaman (NYSDOH) to Dwyer (Cole lawyer) stating safe chloroform standards and possible causes of contamination

CHRONOLOGICAL LIST OF LITERATURE PERTAINING TO
MACHIAS GRAVEL PIT

DATE	PAGES	SUBJECT
06-24-87	I-75	L. Clare (NYSDEC) to Town Supervisor inquiring as to why nothing has been completed on site
11-02-87	I-76	L. Clare (NYSDEC) to WBSAI asking about current status of site
11-05-87	I-77 - I-79	L. Clare (NYSDEC) to Town Supervisor updating situation
04-18-88	I-80 - I-82	M. Chen (NYSDEC) to Alfred Shenk requesting permission for placement of monitoring well on Shenk's property
06-09-88	Appendix J	NYSDOH samples Cole wells before and after filter; chloroform still present

RECEIVED

SEP 2

CATTARAUGUS COUNTY
DEPT. OF HEALTH

CATTARAUGUS COUNTY HEALTH DEPARTMENT
P.O. BOX 573, OLEAN, NY 14760
MEMORANDUM

TO : Kevin Heintz, N.Y.S. Department of Environmental Conservation, Buffalo Regional Office

DATE: September 20, 1978

FROM : Dan Pascarella, Cattaraugus County Department of Health

SUBJECT: Industrial Waste Material, Motorola, Inc., 400 West Main Street, Arcade, New York

The deponent, while traveling on Franklin St. in the Hamlet of Machias, County of Cattaraugus, at or about 12:30 P.M. on September 19, 1978, observed numerous metal drums discarded on property owned by the Town of Machias otherwise known as the "Old Machias Dump". After determining that the majority of the drums contained what appeared to be chemical wastes, the deponent contacted Mr. Walter Reisner, a Sanitarian for our Department, and an investigation ensued.

There were present at the subject dump site 97 metal drums, 55 gal. and smaller. The markings as to the original contents varied from varnish to chlorothene, and freon. Some of the drums had leaked with the contents killing the surrounding vegetation. Some of the drums were marked "Ship to: Motorola, Inc., 400 West Main St., Arcade, New York".

We then went to the Motorola Plant in Arcade and spoke with Mr. Wilylle, an Industrial Engineer for the subject plant. It was determined that all the metal drums observed at the old Machias dump site did in fact come from the Motorola Plant in Arcade. We were informed that the contents of the drums is not as labeled on the drums, but rather industrial wastes as follows:

1. Hamidaw--a whitish liquid consisting of cutting oil and water
2. Epoxi Resins as waste
3. Steel shavings.

We were advised that a Mr. Daniel Griswald had contracted to haul the subject industrial wastes away and had been doing such since April 1978.

It was suggested that possibly Mr. Griswald had sold some drums to Mr. Donald Krepps, Town of Machias Highway Superintendent. This Department was unable to contact Mr. Krepps or Mr. Griswald to substantiate such.

Since this comes under the Department of Environmental Conservation jurisdiction, this matter is hereby referred to you.

If we can be of any further assistance, please feel free to contact us.

DAP/mm
cc: Chester Halgas and Walter Reisner, Cattaraugus County Health Department.

Jack McMahon

FILE: CATTARAUGUS
REGION 9 AND INTERIM

DEC 8-10

Jack McMahon, DEC - BRO

October 3, 1978

Chester Halgas

Motorola Industrial Waste Disposal

The following is a report on our activities concerning the subject waste from the Motorola plant in Arcade which found its way to various locations in northeastern Cattaraugus County.

On September 19, 1978, Mr. Dan Pascarella of our office observed 97 drums on the old Machias Town sanitary landfill site. He investigated the matter and wrote the attached report which was referred to Kevin Hintz of your Department. On or about September 25th, Mr. Reisner of this office brought to my attention that more drums were in the area. I then contacted Mr. George Wyllie, chief industrial engineer at Motorola, to more specifically determine the nature of the wastes.

Through subsequent field investigations by Messrs. Pascarella and Reisner, it was determined by September 29, 1978, that approximately 2500 drums of industrial waste from Motorola had been placed in Cattaraugus County by three unregistered waste haulers at the following locations:

Prior to May of 1976, apparently all of the wastes had been hauled by Community Disposal Services to their landfill in Erie County. At that time, they went out of business and waste was then hauled by William Ballard, Osmon Road, Freedom Town, Cattaraugus County (492-2113) from May 1976 to May of 1977. During that time, he took approximately 1,000 drums which were given to the Previty Auto Wrecking yard on Galen Hill Road, Freedom Town, which is located approximately ½ mile south from the intersection with Route #98. All of these drums had been emptied by Mr. Previty on his property. He has a private well for his house and business on the property. No other water supplies are in the immediate area, and it is doubtful if any appreciable amount of waste found its way into Clear Creek, a protected trout stream, approximately ½ mile to the north of the dumping site. Reportedly, the waste materials were used to oil roads, and the drums were used to support junk cars.

From May 1977 to March 1978, approximately 1,000 drums were taken by a Donald Tillinghast, 18 Yacht Club Drive, Machias (353-8826) to the following locations: From May to winter, approximately 600-800 drums were deposited at Tidds Junkyard on County Road #72, several hundred yards west of the Big N Plaza at Yorkshire Corners. Mr. Tidds reported that he gave away approximately 100 of these drums which are unaccounted for except for 20 which went to Michael Wolfer in Delevan. Approximately 50% of the drums at Tidds Junkyard had been spilled or opened and a considerable amount of spillage exists on the property. Nearby residences and businesses are served by the Yorkshire Town public water supply, and there appears to be no threat from a water supply standpoint. The site of the drums is very [illegible] and it is doubtful if appreciable amounts of the waste got into Cattaraugus Creek which is approximately ½ mile away. Apparently the winter weather precluded dumping of the drums at Tidds Junkyard and reportedly Mr. Tillinghast gave 20 drums to Camp Arrowhead on Route #16, Yorkshire Town, which were later buried. He also gave approximately 100 drums to Norman Rogers who used them for fill on his property, approximately ½ mile east of the Village of Delevan on California Road. 13 drums were given to Terwilliger Excavation in Franklinville which are still intact, and 13 drums were dumped on the Boehmer property on Route #16, Machias, directly across

and approximately 225' distant from the new Town of Machias and County Infirmary well. At the Boehmer site, more than half of the drums had been spilled. It is further reported that some unknown quantity of drums were dumped and covered in a ravine on the south side of Route #242 just west of its junction with Route #16. In addition, 97 drums had been dumped at the aforementioned Machias landfill site, which is no longer in operation there. A number of the drums had been spilled and significant amount of spilled wastes are on the site. Fortunately, except for the 2 [illegible] mentioned above, no other water supplies appear to be possibly affected, and the aforementioned spillages are not in locations where appreciable overland flow of the wastes to streams would occur.

From March 1978 to the end of September when Motorola discontinued allowing private haulers to take these wastes, approximately 600 drums were taken by a Dan Griswold, Reynolds Road, Franklinville (676-2403) to the Town of Machias gravel pit on Very Road, located approximately one mile south of the intersection of Very Road and County Road #16, which is slightly more than two miles directly west of the hamlet of Machias. At this location, approximately one-half of the drums had been emptied, and it is reported that the Town of Machias used these waste materials in oiling some of the Town roads. However, we have been unable to verify this report, and the Town Supervisor has stated that she knew nothing of the storage or the use of this material.

On Thursday, September 28th, the writer toured several of the sites with Messrs. Vought and Wyllie of Motorola and Mr. Reisner of this office. The Motorola representatives indicated that most, if not all, of the drums came from their plant. The drums are mainly identified by the product that they contained when they were shipped to Motorola and are largely characterized by the names of the [illegible], e.g. Magnolia Chemical, chlorothane, freon, etc. The newer drums have waste labels affixed to them by Motorola.

Motorola uses the following products which may in some part be discarded as industrial waste: Machining oils (Hamidraw D21-HV, GM Industries Limited 991, and HM 1301 DC), epoxies, epoxy solvent (Dibutylphthalate), flux, flux thinner (Alpha Metal's 810), degreasers, polyurethane varnishes, Tolune, Xylene, Freon, dilute hydrochloric acid, metal grindings and metal. Motorola is to prepare a report stating the relative amounts of these products which may find their way into the industrial waste.

Investigation with suppliers and manufacturers revealed that many of the products are proprietary and that the exact content was not revealed to Motorola. The contents as reported by the suppliers and manufacturers are:

Hamidraw D21-HV - Harry Miller Corp., Philadelphia, PA (215-324-4000). Sulfonated petroleum oil 19.6% by weight; petroleum oil, 19.4%; chlorinated petroleum wax, 4.5%; lead tallate solution, 19.7% (75% kerosene and 25% lead tallate. % lead in lead tallate is 42%); Butyl Carbitol, 3% (the solution has a pH of 9.5 and the manufacturer advises handling with care. D21-HV is used in its undiluted form and also a 50% dilution with water at Motorola.

HM 1301 DC is also made by Harry Miller Corp. and contains: Mineral oil, 65%; sodium petroleum sulfonate, 14%; lead tallate, 19%; ethyloxylated alcohol, 2%.

The epoxy formulations used were obtained from a previous supplier, Hysol of Olean, New York, who reports that the epoxy resin is approximately a 400 molecular weight diglycidyl ether of bisphenol A plus 5% cresyl glycidyl ether. The hardener is a polyoxypropylene diamine.

The machine oil 991 supplied by GM Industries Limited in Tonawanda (693-6050) consists of the following: Tall oil, 10%; polysperm oil, 3%; sodium petroleum sulfonates, 7%; stearic acid, .3%; triethanolamine, 4.5%; hexylene glycol, 4%. Union Carbide U con LB 65, 2% (a proprietary compound which is a poly alkaline glycol); pine oil, .5%; emulsifier, .5%, chlorinated paraffin wax, 2%; petroleum oil, 15%; tetrasodium EDTA, .75%; biocide solution, 1.4% (solution of 18.5% 2' dihydroxy; 5' 5' dichloro-diphenyl methane, 6.7% of 50% sodium hydroxide and the rest water); Blue dye, .015%; water, 45.5%.

The flux is Alpha Metals, New Jersey (201-434-6778) and consists of a gum resin, an organic activator and a terpine alcohol solvent blend. The flux thinner is Alpha Metals 810 and a blend of alcohol and terpine solvent. No one was available who could give an exact formulation.

The degreasers used are trichloroethene and trichloroethylene.

The waste also contains metal grindings and machining wastes together with paper cups and rags, presumably from the epoxy casting process.

A literature review of the toxicity of the above chemicals indicates that practically all of them are mildly to moderately toxic, except for the biocide and lead. Fortunately, most of the spillage has occurred in environmentally insensitive areas except for the possible involvement of two water supplies. This Department plans to sample these two supplies together with any others that may be reasonably close to the two spillages, and have the samples analyzed for lead. It is the writer's opinion that lead will travel to the ground waters more quickly than any of the other chemicals and that it would therefore be a good indicator chemical.

In the writer's opinion, the spillages present a moderate environmental hazard that at this time, aside from the possible aforementioned affect on water supplies, poses no public health problem because of the remoteness and nature of the sites. The question of what to do with the spillages is therefore more properly the responsibility of the Department of Environmental Conservation, as is the matter of the three unregistered industrial waste haulers.

There are approximately 800 intact drums of Motorola's industrial waste at the aforementioned sites. Because of their nature and the potential deleterious environmental effects, they should be moved to a satisfactory disposal area. In this regard, this office has requested Motorola to move the intact drums. It is anticipated that they will be making a decision in the very near future.

Although ignorance of the exact nature of these chemicals is not a good excuse, it must be pointed out that in the opinion of the writer, neither Motorola nor the three haulers had any good indication as to the wastes' actual content.

CRH:PH
Attachment
CC: Machias Office
William Bruyere, Plant Manager, Motorola

STANLEY N. LUNDINE
39TH DISTRICT, NEW YORK

COMMITTEE ON
BANKING, FINANCE AND
URBAN AFFAIRS

SELECT COMMITTEE ON
THE AGING

430 CANNON BUILDING
WASHINGTON, D.C. 20515
PHONE: 202-225-3161

Congress of the United States
House of Representatives
Washington, D.C. 20515

DISTRICT OFFICES:

ROOM 122, FEDERAL BUILDING
P.O. BOX 1044
JAMESTOWN, NEW YORK 14701
PHONE: 716-484-0252

180 STATE STREET
ELMIRA, NEW YORK 14902
PHONE: 607-734-0302

ROOM 606, 101 N. UNION STREET
OLEAN, NEW YORK 14760
PHONE: 716-372-1818

RECEIVED

JUL 26 1979

CATTARAUGUS COUNTY
DEPT. OF HEALTH

Tuesday, July 24, 1979

Chester Halgas
Environmental Health Services
Cattaraugus County Department of Health
302 Laurens Street
Olean, New York 14760

Dear Mr. Halgas:

I am requesting your assistance on behalf of my constituent, Joseph Yeager, of Machias, New York, who is concerned with the apparent dumping of hazardous wastes in a gravel pit near Machias by a truck bearing the name of the Nuco Chemical Company, which is apparently a division of Hooker Chemical Company, of Niagara Falls, New York.

Mr. Yeager also claims that several 55-gallon drums of chemicals are hidden by weeds at the dump site in Machias. He is concerned with the environmental impact of such storage as well as the county's awareness of the situation.

I hope that your office will act promptly to investigate Mr. Yeager's concerns and provide my Olean district office with a report on the matter, as well as an indication of any action that will be taken to alleviate any hazardous waste dumping situation that may be apparent. Thank you for your assistance. Please do not hesitate to contact my Olean district office, if I may be of further assistance to you in this or other matters.

Sincerely,

Stan Lundine

Stanley N. Lundine
Member of Congress

SNL: emj

THIS STATIONERY PRINTED ON PAPER MADE WITH RECYCLED FIBERS

August 24, 1979

COPY

Congressman Stanley N. Lundine
Room 606
101 North Union Street
Olean, New York 14760

Subject: Alleged Dumping Incident near Machias

Dear Congressman Lundine:

I received your letter of July 24, 1979, regarding alleged dumping of hazardous wastes in a gravel pit near Machias. I apologize for our delay in responding, but quite a bit of investigative work was needed to determine the entire scope of the matter. However, Tom Cowley of your office was apprised as quickly as I had something definite to report.

The matter is not new to the Department. On June 19, 1979, the Supervisor of the Town of Machias, Mrs. Bea Tarasik, reported this alleged incident to me. She reported that one of her townspeople, Mr. Joe Yeager, had seen this alleged dumping. On that date, a telephone contact was made with Mr. Yeager. Mr. Yeager indicated at that time that he had not seen the incident, but had heard from a man who desired to remain anonymous that the anonymous party had seen a Newco chemical tank truck near one of the ponds at the gravel pit owned by Buffalo Slag off Franklin Street. The truck driver was standing next to the discharge valve. The viewer went to get his camera; but when he returned, the truck was gone. Mr. Yeager was told that he had given us little concrete information and that to pursue the matter further we would have to be allowed to interview the man who saw the incident. Mr. Yeager was asked to try to get this individual to agree to talk to me.

On that same date, the matter was referred by telephone to Mr. Robert Mitry of the New York State Department of Environmental Conservation, since there was a possibility that the matter was a concern of their Department. On July 27, 1979, the attached report was received from Mr. Kevin Hintz of that office, which revealed no problems.

From June 19th until July 26th, no further action was taken since the man who had seen the incident had not come forward to talk to us, although we had requested this through Mr. Yeager.

On July 26th, we received your letter. Again Mr. Yeager was contacted by telephone. He indicated that he had misinformed us earlier and that the incident had taken place on the Machias Junction Road, not Franklin Street, and that any dumping would have been into the road ditch, not the pond.

A representative of the Department met Mr. Yeager in Machias and inspected the road ditch where Mr. Yeager indicated the dumping might have taken place. No indications such as oily scums, discolored soil, dead fish or gegetation were observed which would lead one to believe that toxic materials were not dumped. Mr. Yeager was asked if the man who saw the incident actually saw a discharge. Mr. Yeager indicated that he thought the man had only seen the truck driver standing next to the discharge valve. Mr. Yeager was asked if he was sure that this was the area where the alleged incident took place. Mr. Yeager indicated that he thought it was, but the man who told him about it had not been that specific.

On that day, two employees of the Buffalo Slag Co. were interviewed who had been working in the area where the alleged incident took place. They indicated that they had not seen any chemical trucks around.

Once again, Mr. Yeager was asked to attempt to get the eyewitness to come forward to help us with our investigation. He stated he would try. To date, the eyewitness has not come forward.

In addition, we contacted Newco and requested that they advise us of any activities which might have been on-going in the area between June 10th and 19th. A Newco representative, Mr. Laubisch, reported that no trucks bearing their logo would have been in the Machias area on those dates. One of their dump trucks hauling scrap metal passes Machias every day, but has no signs on it.

Our investigation revealed that a company associated with Newco, the HLF Holding Company, owned a substantial amount of land (240+acres) near the area of the alleged dumping in Machias. This land was checked for evidence of any dumping; no evidence of this was found.

After learning of this association, Michael Desmond, an investigative reporter for the Buffalo Courier Express, who has recently been checking on Newco's operation and associations in the waste handling business, was contacted. He furnished the Department with the names of about 20 companies associated with Newco. We checked to see whether or not any of these companies held property near the alleged dump site or anywhere else in Cattaraugus County. We found no indication that Newco or any of these associated companies own any other land in Cattaraugus County.

In view of the information available at this time, no further action is planned regarding this matter. If and when new information becomes available, we will initiate the appropriate follow-up action and notify all appropriate parties.

COPY

The second paragraph of your July 24th letter deals with several 55-gallon drums of chemicals hidden in the weeds at the old Machias Town dump. Again, this matter is not new to us. These barrels are empty and pose no public health problem. We do check this area periodically to make sure no full barrels are deposited there.

Very truly yours,

Chester R. Halgas, P.E., Director
Environmental Health Services

CRH:PS

Enclosure

CC: Mr. John Beecher - DEC Region 9
Mr. [illegible]ter Burke - DEC Region 9
Dr. [illegible]oss and Mr. McIlwaine

COPY

Recra 8-10

I

New York State Department of
Environmental Conservation
50 Wolf Road
Albany, New York 12232

Attention: Mr. Norman H. Nosenchuck, P.E.
Director - Division of Solid Waste

RE: PHASE I - PRELIMINARY INVESTIGATION OF THE MACHIAS GRAVEL PIT

Dear Mr. Nosenchuck:

Attached, please find our Phase I - Preliminary Investigation of the above referenced site. These activities have been carried out under the New York State "Superfund" legislation.

Pertinent information regarding this site is summarized below.

The Gravel Pit located on Very Road in Machias, New York is owned and operated by the Town of Machias. The site received approximately 600 drums of waste material from March 1978 to September 1978. These drums were delivered to the site by hauler Daniel Griswald, who received the drums from the Motorola Corporation in Arcade, New York. The drums are suspected of containing wastes such as: epoxy resins, acids, flammable and non-flammable solvents and cutting oils. Approximately one-half of the drums received had their contents spilled onto the ground surface. The remaining materials were surface piled or the oily waste material was used by town personnel to control dust on local roads.

The surrounding area is rural with the majority of residences concentrated in the Village of Machias, two (2) miles east of the site.

Remedial action suggested as appropriate to this site to be carried out in Phase II - Field Investigations is summarized in Section 7.0 of the attached report.

Should you have any questions or require additional information, please feel free to contact me directly.

Sincerely,

RECRA RESEARCH, INC.

Richard L. Crouch

Richard L. Crouch
Project Manager

RLCaf
Enclosure

MACHIAS GRAVEL PIT

NEW YORK STATE SUPERFUND
PHASE I SUMMARY REPORT

September 6, 1983

Prepared By:

Recra Research, Inc.
4248 Ridge Lea Road
Amherst, New York 14226

For:

New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-0001

M. O'Toole
P. Buechi
P. Burke
J. Lacey
W. Demick
R. Lupe
D. Vitale
T. Reynolds

white
FILE

TO: Mr. Lawrence Clare, P.E., Region 9
FROM: Mr. Raymond Lupe, P.E., Bureau of Hazardous Site Control, Western Site Investigation
SUBJECT: Phase II Work Plan - Machias Gravel R.E.L. cat
DATE: May 3, 1985

The proposed Work Plan (pgs. 1-7) for the Phase II Field Investigation of the Machias Gravel Pit, Site #905013, prepared by W.B. Satterthwaite has been reviewed. This proposed work plan is inadequate because it does not meet or exceed the scope of work outlined in the generic Phase II work plan, or the proposed Phase II field investigation presented in the September 1983 Phase I report, Machias Gravel Pit, prepared by Recra Research. While some of the following concerns may be addressed in the appendices which we have not received, several major deficiencies were noted. Our major concerns are as follows:

1. Geophysics - The proposed work plan does not propose to conduct geophysical studies during the initial phase of the work. Both the generic work plan and the Phase II work plan outlined by Recra Research in the September 1983 Phase I Report include geophysical studies, such as terrain conductivity. These studies are to be conducted to initially characterize, to the extent practical, the subsurface stratigraphy and assist in determining the location of monitoring wells. Since drums are stored on-site, a magnetometer survey may help define if any drums have been buried. The work plan should include a geophysical study which will adequately define stratigraphy and the extent of waste disposal/migration (see Revised Generic Work Plan, April 1985).

2. Well Drilling - The proposed work plan recommends the installation of two on-site monitoring wells; and proposes to also utilize three downslope domestic wells for the collection of water samples. Insufficient information on the domestic wells (location, well logs, development, etc.) is available to determine the suitability of their use for monitoring purposes. Often, the use of such wells is impractical because of their development or location. It is recommended that at least four monitoring wells, as recommended in the Recra Research Phase I report, be installed. At least one upgradient and two downgradient wells are required. Permeability tests and other soil characterization tests should be conducted on each boring or monitoring well. The proposal to screen soil samples with an OVA to decide if organic chemical analyses is necessary is generally acceptable, except where obvious discoloration or contamination is present. A composite sample from obviously contaminated areasshould be collected and analyzed for priority pollutants, E.P. toxicity and heavy metals. Proposed detection limits and quality control need to be specified.

3. Well Sampling and Analytical Efforts

A water sample from each monitoring well and the three domestic wells should be collected and analyzed for the following:

E-11

"Total metals, EPA priority pollutants with GC/MS scan in which all peaks greater than 10 percent of the nearest calibrating standard are identified, TOX, and other indicator parameters recommended in the Recra Research, Phase I report."

Each monitoring well should have a dedicated sampler and proposed detection limits need to be specified. Domestic wells should be analyzed for any contaminants found in on-site monitoring wells regardless of TOX values. In addition, if TOX exceeds 10 mg/l, a VOC scan should be performed.

4. Other Chemical Analyses (drums, soil, and surface water)

a. The drummed wastes must be adequately classified to determine if they are hazardous or non-hazardous wastes. The Recra Research Phase I report indicates that the drummed material from Motorola Corporation (Arcade, New York) may contain epoxy resins; hydrochloric acid; phosphoric acids; toluene, xylene, trichloroethane, trichloroethylene, freon and cutting oil. It is recommended that the consultant discuss this matter with representatives of the TDF which may receive these wastes and Motorola Corporation to determine which analyses will be required to best characterize the drums. For example, PCB analyses may be required.

b. In regard to contaminated soil samples, a full priority pollutant analyses and E.P. Toxicity tests should be conducted.

c. The sampling of drums and their disposal may pose significant hazards. A health and safety plan must be submitted and be acceptable to this Department, prior to initiating the work.

d. There is no proposal to sample surface waters. A clear statement indicating that the site cannot impact surface waters is needed. If sampling is to be conducted, at least one upstream and one downstream sample of water and sediments are needed. The work plan should specify locations and procedures for any surface water samples.

5. Air Monitoring

An initial air monitoring survey using MSA explosimeter and HNU/OVA meters should be conducted. The survey should include on-site monitoring and upwind and downwind monitoring. The results of these surveys should be used for modification of health and safety plans and be summarized in the report. Air monitoring must also be provided during the field investigations and drum removal programs.

6. QA/QC

The information on QA/QC was not provided for our review. This information is apparently part of the appendices which your office has. An acceptable QA/QC program must be part of the final work plan. All work must be conducted in compliance with the NYSDEC Analytical Quality Control and Reporting requirements as adopted from the USEPA Caucus Protocol for the Contract Laboratory Program. If you do not have copies available, please advise.

In addition, the QA/QC concerns regarding well drilling, well development, sampling and analyses by any subcontractors requires the submission of acceptable QA/QC plans.

7. Health and Safety

The health and safety program for the drum removal activities requires special consideration and must be provided to NYSDEC for approval before initiating work.

A separate health and safety plan is needed for the investigation. This was not included in the material provided to this office, but may be included in the appendices which your office has. An acceptable health and safety plan should also be part of the final work plan.

8. Drum Removal

The drum removal program needs to be described in more detail. More information on the testing/characterization, proposed disposal sites, procedures, and health and safety are required.

In conclusion, the current work plan is unacceptable for a Phase II study. In addition, much more consideration to the drum removal program is needed, especially as to sampling/analyses to characterize the wastes, designation of disposal sites and a detailed health and safety plan. While some of the above comments on QA/QC and health and safety may be addressed in the appendices, additional work appears necessary. If you have any questions, please call me at (518) 457-9538.

RL:cl

600 Delaware Avenue, Buffalo, New York 14202-1073

May 21, 1985

RECEIVED
MAY 23 1985
BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF SOLID AND
HAZARDOUS WASTE

The Honorable Lee Bull
Supervisor, Town of Machias
Pleasant Valley Road
Machias, New York 14101

Dear Supervisor Bull:

Machias Gravel Pit
Site No. 905013

Our review of the investigation proposal of your consultant, Walter Satterthwaite Associates, for removal of the barrels and assessing site contamination of the Machias Gravel Pit has been completed. In its present revised form, the study proposal does not completely satisfy our requirements for a Phase II Field Investigation. The Town is, therefore, proceeding at its own risk in undertaking the proposed preliminary site contamination assessment. Further study may be necessary after the proposed program is completed to fulfill the Phase II requirements.

Although the Town of Machias has decided not to enter into an Order on Consent for conducting a Phase II Study, I would still encourage the Town to proceed with the barrel removal program as outlined in your consultant's proposal. Region 9 staff can be made available to provide whatever guidance and assistance that may be necessary to complete the barrel removal program.

We would be more than willing to meet with you and/or your consultant to discuss the program. Please contact either Lawrence Clare or myself at 716/847-4585 with any questions.

Yours truly,

PJB/c

Peter J. Buechi, P.E.
Associate Sanitary Engineer

LSC:cag

cc: Mr. Peter Burke
Mr. Lawrence Clare
Mr. Walter Dawick
Mr. Donald Swang

Ray
Please call Larry. If no order and no agreement on work plan - the counter productive to tell them to go ahead. Better for us to do it W

I-14

600 Delaware Avenue Buffalo, New York 14202-1073

RECEIVED

SEP 12 1985

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF SOLID AND
HAZARDOUS WASTE

September 10, 1985

The Honorable Lee Bull, Supervisor
Town of Machias
Pleasant Valley Road
Machias, New York 14101

Dear Supervisor Bull:

Machias Gravel Pit
Site No. 905013

This letter is being written to update the information and data currently available on the inactive hazardous waste site owned by the Town of Machias on Very Road.

It is our understanding that the Town of Machias has retained Walter B. Satterthwaite Associates, Inc. to perform some investigatory work on the site. According to your consultant, the following work is in progress:

1. Cost estimates and activity descriptions for removing the barrels and contaminated soil are being obtained from private companies.

2. Sampling of some private wells on Very Road for a limited number of parameters was undertaken by your consultant in late August, 1985.

It is our understanding that we will be contacted when the well sampling data becomes available.

Region 9 personnel inspected the gravel pit on Wednesday, September 5, 1985. Several barrels and spilled sediment samples were obtained. It was noted that most of the barrels on site are either open, emptied and/or punctured with bullet

holes. It is our belief that a substantially larger volume of wastes have been drained into the soil than was the case last Fall (1985).

The purpose of this letter is to advise you of our continued concern with the status of this site and the potential adverse impact on the environment and groundwater from the waste material on site.

It is requested that you keep us advised of your consultant's activities with respect to barrel removal and groundwater sampling.

Yours truly,

Peter J. Buechi, P.E.
Associate Sanitary Engineer

LGC:egb
cc: Mr. Donald Swanz
Mr. Walter Demick
Mr. Michael Christopher
Mr. Lawrence Clare

WALTER B. SATTERTHWAITE ASSOCIATES, INC.

11 N. FIVE POINTS ROAD
WEST CHESTER, PA 19380
(215) 692-5770

Walter B. Satterthwaite, P.G.
President
David F. Lakatos, P.E.
Principal

November 20, 1985

Mr. Larry Clare
New York Department of
Environmental Conservation
600 Delaware Avenue
Buffalo, NY 14202-1073

Re: Draft Report on Groundwater Monitoring
Machias Gravel Pit

Dear Larry:

Enclosed please find one copy of the draft groundwater monitoring report prepared by Walter B. Satterthwaite Associates for the Town of Machias. The report covers field activities conducted around the gravel pit on August 26, 1985, including sampling of four water-supply wells on the Cole property and geophysical (conductivity) surveys in the vicinity of the gravel pit.

Please note that, although the conclusions reached by this study are generally favorable, the report is a draft and is subject to possible change. Specifically, Satterthwaite Associates plans to re-sample the wells for organics during subsequent activities at the gravel pit. This will supplement the metals data and replace the organics data from August that was lost by the analytical laboratory.

Please do not hesitate to call me at (215) 692-5770 if you have any questions regarding this report.

Sincerely,

Mike Christopher

Mike T. Christopher
Project Geologist

MTC/slp
Enclosure

I

GROUND-WATER MONITORING AT THE MACHIAS GRAVEL PIT

October 22, 1985

Prepared by:

Walter B. Satterthwaite Associates, Inc.
11 North Five Points Road
West Chester, PA 19380

DRAFT

WALTER B. SATTERTHWAITE ASSOCIATES, INC.

GROUND-WATER MONITORING AT THE MACHIAS GRAVEL PIT

1.0 INTRODUCTION

Walter B. Satterthwaite Associates, Inc. (WBSAI) conducted limited sampling and analysis of groundwater and a geophysical (conductivity) survey on August 26, 1985, at a gravel pit located in Machias, New York. The town of Machias, which authorized this work, owns and operates the gravel pit to obtain materials for winter road sanding. These activities were completed to determine, in a qualitative manner, if there is evidence of subsurface contamination resulting from the storage of waste materials in the gravel pit in 1978 and subsequent accidental losses of these waste materials. The study also was performed in partial fulfillment of an investigation being undertaken by the Town (similar to a NYDEC Phase II study) to define the nature and extent of contamination caused by these wastes, and ultimately arrange for their disposal in an environmentally sound manner. Samples were obtained from existing ground-water wells in the vicinity of the site; conductivity measurements were obtained with a portable geophysical testing device over several traverses.

2.0 SITE DESCRIPTION

2.1 Location

The Machias gravel pit is located approximately 9000 feet southwest of the town of Machias, New York, which is situated in central Cattaraugus County (Figures 2-1 and 2-2). The pit is located on top of a hill which overlooks the valley drained by Ischua Creek and its tributary. The area is rural; land usage around the site is agricultural or undeveloped swamps and woodland, with the exception of scattered dwellings in the valley. The area immediately south and east of the gravel pit (to the Ischua Creek tributary) is undeveloped. To the north and west are corn and alfalfa fields; northeast of the site is a residence, across Very Road from the eastern access road to the pit.

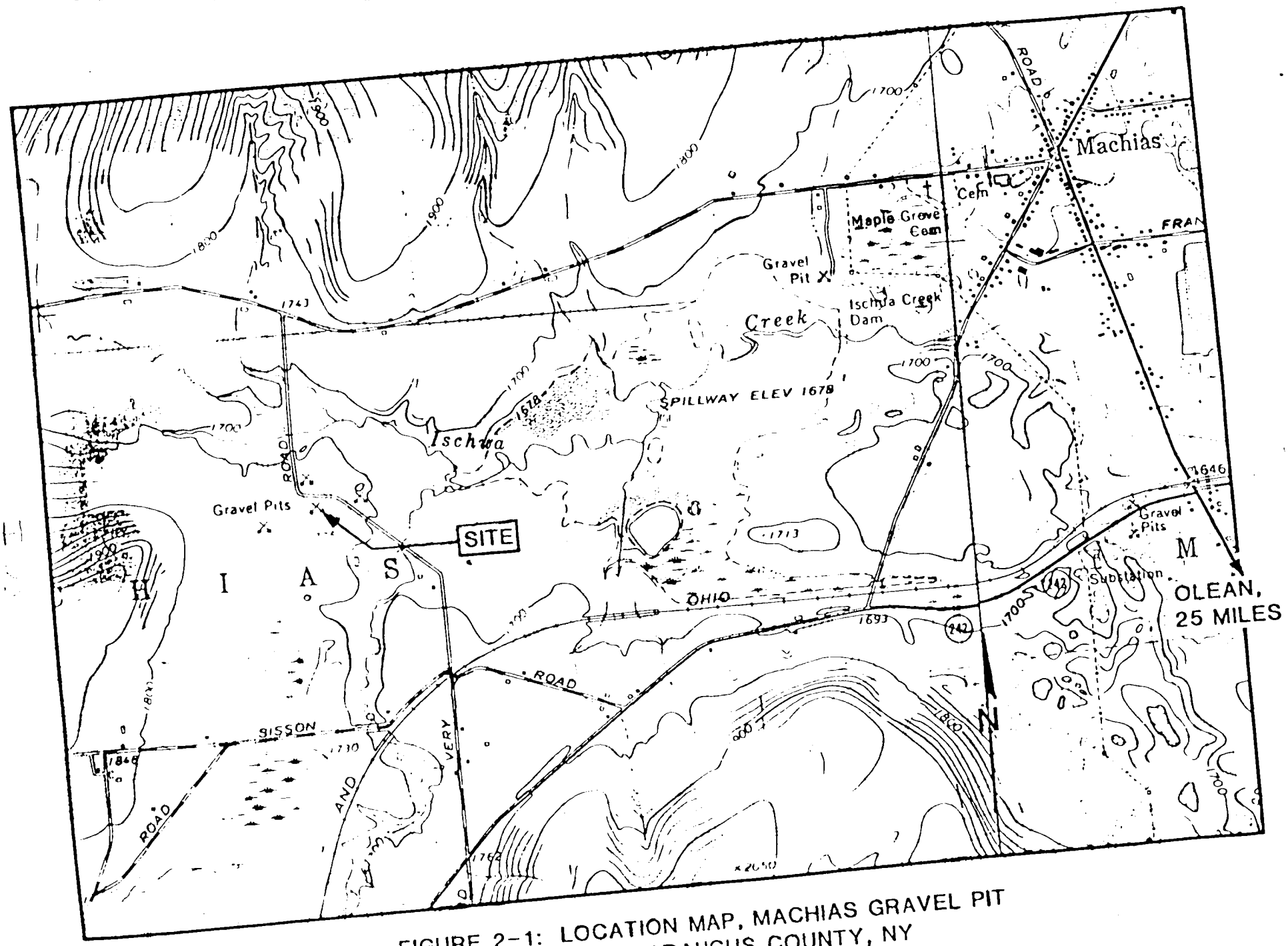


FIGURE 2-1: LOCATION MAP, MACHIAS GRAVEL PIT
CATTARAUGUS COUNTY, NY

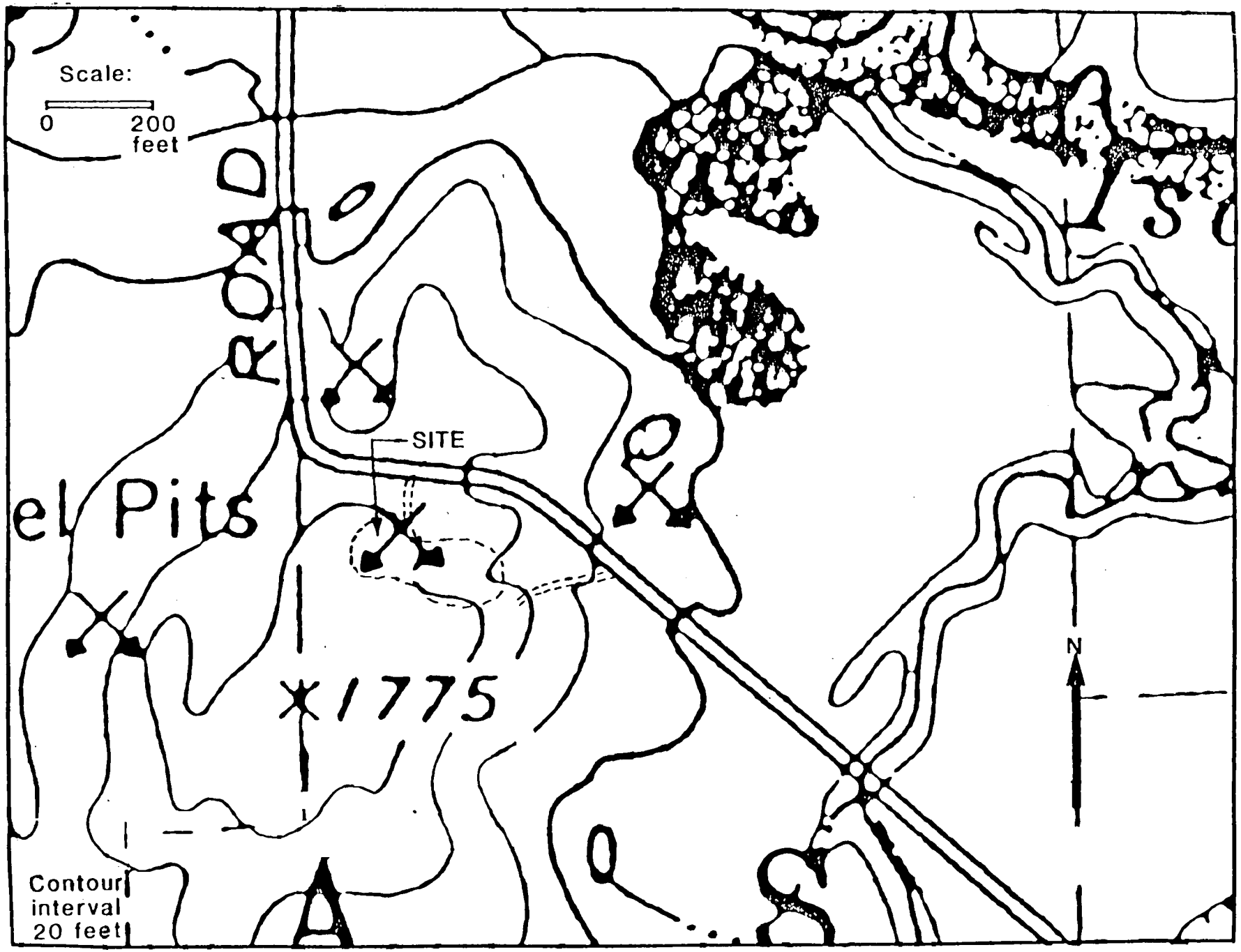


FIGURE 2-2: SITE TOPOGRAPHY, MACHIAS GRAVEL PIT, CATTARAUGUS COUNTY, NY

2.2 Topography and Surface Water

The topography of the area around the gravel pit consists of low rolling hills, dissected by several perennial and intermittent streams. Drainage of the surrounding land flows east via Ischua Creek; surface runoff from the unexcavated land surrounding the gravel pit flows north and east down the hill to the creek. Drainage of rainfall entering the pit generally seeks the lower levels of the excavation and ponds until it is evaporated or slowly infiltrates. Due partly to the topography and geologic characteristics of the valley floors in this area, there are two swampy areas in proximity to the site; the Ischua Creek Dam forms a large wetland area to the north and east, and Bird Swamp is located about 3000 feet to the south. According to earlier reports, both of these bodies of surface water are classified as Class C water resources.

2.3 Geology and Groundwater

Machias is located in an area that underwent extensive glaciation, and the surface geologic and hydrologic conditions reflect the impact of these events. Generally, this includes the presence of glacially-derived sedimentary material of various thickness and composition, differential erosion and subsequent burial of bedrock surfaces, and distorted drainage patterns.

Bedrock in the Machias area is the Gowanda Shale member of the Canadaway Formation, of upper Devonian age. The rock consists of interbedded shales and thick- to thin-bedded siltstones; the entire unit is approximately 275 feet thick (Recra Research, 1983). According to published reports and local drillers, the depth to bedrock in the Machias area can vary from 20 to 40 feet on the flanks of stream valleys to over 350 feet along the valley axis (Grant Wiley, personal communication). Because of the extreme depth of bedrock in the valleys and the presence of permeable, water-bearing sedimentary deposits at shallower depths, the Gowanda Shale is rarely used for water supply in this area. Wells in the immediate vicinity of the gravel pit are all screened in sand and gravel deposits at depths of 40 to 60 feet.

Sedimentary material overlying the bedrock consists of glacial till, extensive outwash deposits, and a thin layer of soil. The soil has been classified as a sandy loam and is rather permeable in most locations, especially on the tops and sides of hills where surface runoff has reduced the clay content of the soil. However, according to a local driller, the soil layer in the stream valleys can be much thicker, or is more till-like and similar to hardpan (Grant Wiley, personal communication). Thicknesses of up to 10 feet of this lower-permeability material have been encountered. Further evidence of the extensive nature of this material in the valleys is seen in the many swamps and ponded surface water in the Machias area.

The material visible in the sidewalls of the gravel pit excavation indicates that the hill on which the pit is located consists mainly of poorly-sorted, cross-bedded deposits of clayey sand and gravel. The gravel mining operations, which are conducted by town personnel, have opened the pit to a depth of about 30 to 40 feet below the original land surface, with little observable change in the characteristics of the exposed material. Test pits excavated by WBSAI in areas away from the mining operations tend to confirm these observations.

Although the town of Machias has a public water distribution system supplied from two wells north of the town and from two springs, the residences in the immediate vicinity of the gravel pit are supplied by private wells. Based on field observations, there are four residences near the site with operating wells; the Judd Cole residence and a rented cabin located across Very Road from the pit, and two residences to the east located on the other side of a creek from the site (Figure 2-3). Information from local drillers, including the contractor who installed the well at the Cole's barn, indicates that none of the wells in the area exceed 40 to 60 feet in depth, mainly because the sand and gravel deposits present in the outwash and till provide abundant, good-quality water and are common at shallow depths. Therefore, it is reasonable to assume that surface water (Ischua Creek and its tributary to the east of the gravel pit) acts as a ground-water divide, and that the wells on the east side of the creek are isolated from groundwater passing beneath the gravel pit.

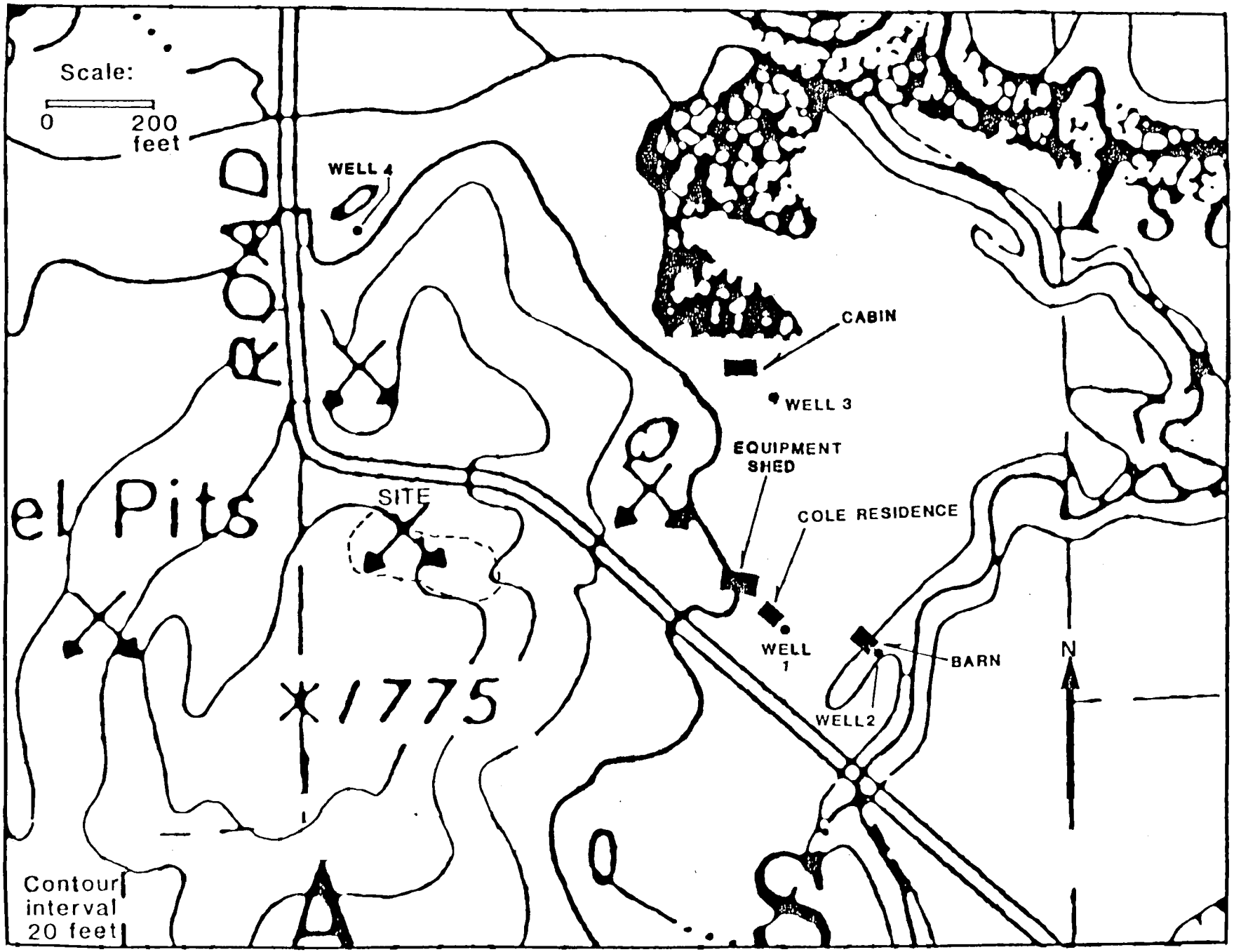


FIGURE 2-3: RESIDENCE AND WELL LOCATIONS
IN VICINITY OF MACHIAS GRAVEL PIT

The water table in the vicinity of the gravel pit is variable; the test pits and mining operations which have exposed sand and gravel at least 30 feet below land surface encountered dry or only slightly moist conditions. Therefore, the water table may be as much as 50 to 60 feet below the hill on which the gravel pit is located. In contrast, static water levels in the residential wells were measured at 10 to 15 feet below ground, indicating that the depth to groundwater is considerably ~~lower~~ less in proximity to the creek.

Information collected from local drillers, from interviews onsite, and from measurements made during the well sampling in August indicate that the four closest wells (see Figure 2-3) to the gravel pit have the following characteristics:

TABLE 2-1: SUMMARY OF WELL DATA FROM AROUND GRAVEL PIT

Well No.	Location	Date Installed	Depth	Pumping Rate*
1	Cole Residence	1975 ?	28 feet	6 gal/min
2	Cole Barn	1978 ?	29 feet	6 gal/min
3	Cabin	1979	45 feet	3 gal/min
4	Field	1980-1981	80 feet	Not used

* typical

These wells, with the exception of the field well, are currently used for water supply. The residential wells (Nos. 1 and 3) both are connected to water softening/filtration systems. The barn well (No. 2) is used exclusively for watering stock and for equipment cleaning. According to the Coles, when the cabin well was drilled it produced rather poor-quality water (pronounced hydrogen sulfide odor) at a lower yield than the other two wells. This may be an indication that this well is screened in aquifer materials of lower permeability, higher organic content, or a combination of these factors.

3.0 SITE HISTORY

3.1 Waste Materials

According to past reports, approximately 600 drums of waste materials were delivered to the town gravel pit during the period March 1978 to September 1978. These wastes originated at the Motorola Company plant in Arcade, New York, and were transported to the site by a waste hauler, Daniel Griswald. The oily material was used for dust control on nearby dirt roads, due to a limited budget for the purchase of road oil. The gravel pit was used as the transfer point to fill a tank on a truck prior to spraying the oil on rural roads. Over the years, after the road oiling had stopped, some material has been released at the site through drum corrosion, or drum puncturing by irresponsible target shooters. Based on a visual survey by WBSAI in May 1985, there are currently 151 drums remaining onsite; 103 of these drums are empty or contain very little residue. The remaining 48 drums contain varying amounts of tarry solids, oily liquids, or are closed and cannot be characterized.

Liquid material from some of the drums that have been punctured, corroded, or spilled has entered the soil; much of this appears to have been thick, oily waste that soaked the upper silty layer of soil or ponded at the surface.

Until a recent site visit by NYDEC on September 5, 1985, no samples of the materials in the barrels had been analyzed. NYDEC reportedly obtained approximately 5 samples of contaminated soil and barrel contents; the analysis of these materials is currently underway (Lawrence Clare, personal communication).

3.2 Site Listing by NYDEC

In 1979, the NYDEC began a program of listing suspected or known waste sites where unauthorized or environmentally-unsound disposal practices had occurred (Abandoned Sites Act, Chapter 282, NY Laws of 1979). Each site was assessed, using the Hazard Ranking System (HRS) from the CERCLA regulations, based on information contained in a 'Phase 1' study completed for the site. The Phase 1 study involves the collection and review of readily-available information of all aspects of the site

DRAFT

available at the time. In the case of the Machias gravel pit, the Phase 1 study was conducted by Recra Research, Inc. and was completed in September, 1983. The preliminary HRS ranking assigned to the site, based on the Phase 1 information, was 23.9. This ranking, together with uncertainties regarding site geology, waste composition, and contaminant migration, led NYDEC to attempt to write a Consent Order directing the town to satisfactorily clean up the site, according to the state's program guidelines. While the Town did agree to conduct a complete site study and evaluation, a consensus was never reached on the terms of this Order. The Town Board of Supervisors felt that further consent could not be given until they knew the site conditions.

3.3 WBSAI Involvement

WBSAI was retained by the Town of Machias in September, 1984, to advise the town on the best course of action to resolve pending enforcement or investigative action by NYDEC. WBSAI representatives conducted an inspection of the site on October 12, 1984, including the excavation of test pits and a visual inventory of barrels remaining at the site. The eight test pits were excavated from 7 to 12 feet deep, starting in an area near the barrel storage area and moving to progressively lower elevations within the gravel pit. In no case was any soil discoloration, odor, waste material, or saturated condition encountered. This is particularly significant for the test pit nearest the barrels, where observable indications would be expected if migration of waste materials had occurred.

A work plan, covering barrel and contaminated soil removal, water sampling, and development of remedial alternatives, was submitted to DEC for approval on January 29, 1985. Subsequent discussions with DEC personnel led to the revision of parts of this work plan, which was re-submitted on March 21, 1985. In July, 1985, WBSAI representatives again visited the site to determine the condition of the remaining wastes, to determine the accessibility of nearby wells for sampling, and to obtain permission to access these wells. Onsite investigations, comprising sampling of four existing wells and a geophysical (conductivity) survey, were conducted on August 26, 1985. The results of these investigations are summarized in this report.

4.0 FINDINGS

4.1 Geophysical (Conductivity) Survey

4.1.1 Procedure

WBSAI used a Geonics EM-34B conductivity meter to determine subsurface conductivity at selected locations around the gravel pit. The purpose of the survey was to determine if there were any areas of markedly different or abnormally high conductivity, which might indicate the presence of contaminants in the soil or groundwater. The Geonics instrument uses a system of polarized coils to induce a current flow in the ground, and directly reads the resulting measure of conductivity. Depending on the spacing of the coils, different current paths can be induced, thereby providing measurements at several different depths.

The survey was arranged as a series of traverses, which provides continuity between data points and facilitates plotting the data on a base map. All traverses were referenced to a baseline, which was chosen to be a fence line clearly identifiable both in the field and on the topographic map for the site (Figure 4-1). To assist in locating survey points in the field, a line of stations 100 feet apart was measured along Very Road. These "road stations" are shown on Figure 4-1 and are referenced in the presentation of field conductivity data. The locations of the traverses and individual test points are also shown on this figure; locations in the field were determined by tape measurement from the baseline and from bearings taken with a Brunton compass.

Initially, several spot readings were taken in an area remote from the gravel pit, where a section of the subsurface known to be uncontaminated was expected to return typical (baseline) conductivity values. Readings were obtained with the coils at three different spacings in both horizontally- and vertically-polarized modes. All of these combinations produced rather uniform results, indicating a relatively homogeneous conductivity profile. A coil spacing of 20 meters was then selected for the traverses, because this would provide readings at an approximate depth of 30 meters, the estimated average depth to the water table beneath the hill. However, occasional sections of traverses were run at different spacings to determine if readings were substantially different at other depths.

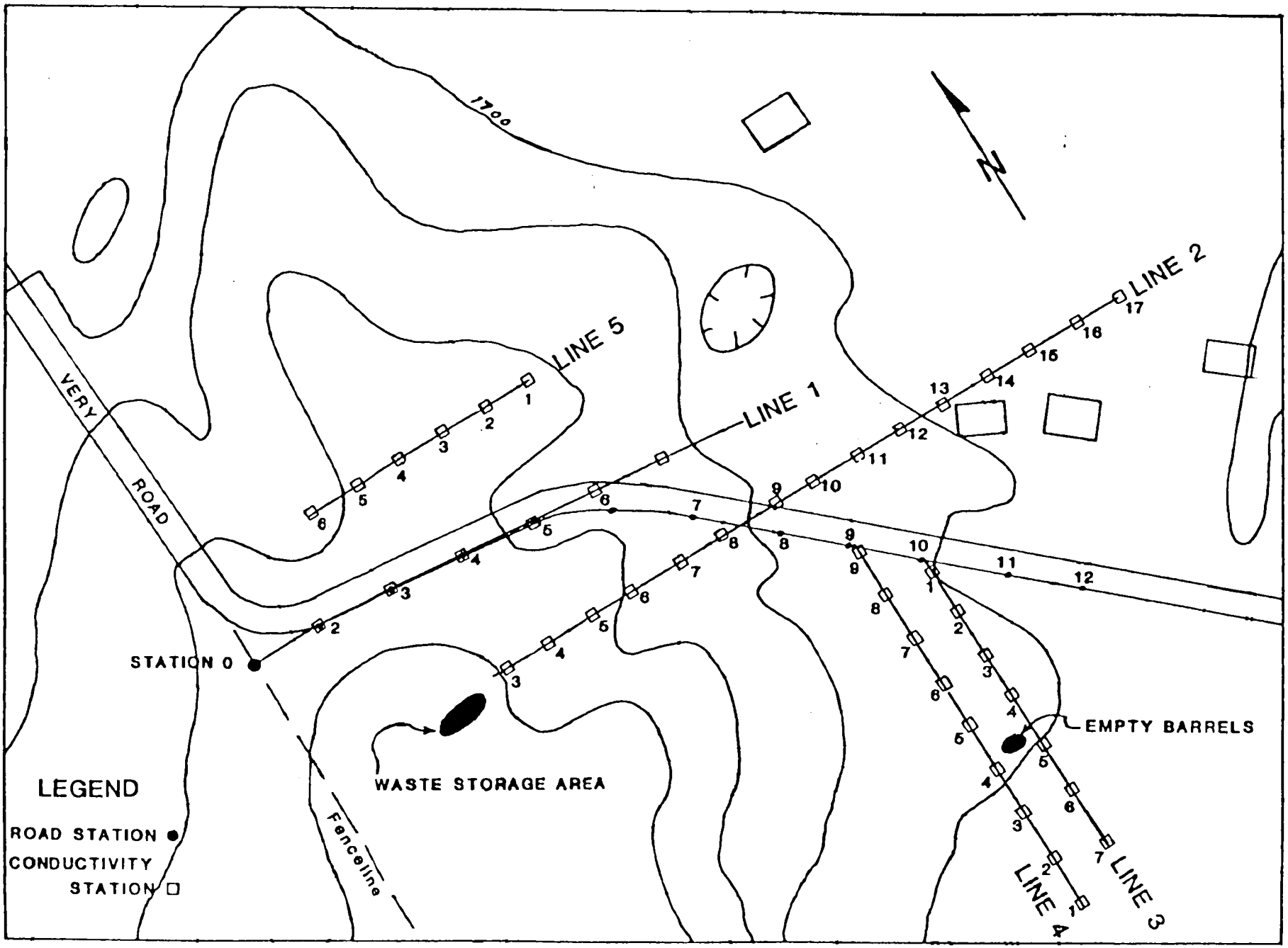


FIGURE 4-1: LOCATION OF TRAVERSE LINES, MACHIAS GRAVEL PIT

DRAFT

The calibration of the EM-34B instrument consisted of obtaining horizontally- and vertically-polarized readings at the baseline location (designated "station 0" on Figure 4-1) and returning to this station for readings at the conclusion of the survey. The final readings were in agreement with the initial readings (between 4 and 6 millimhos/meter), indicating no significant change in calibration or instrument drift.

4.1.2 Survey Data and Interpretation

The conductivity data is presented in Table 4-1. The survey traverses referred to in the table are shown in Figure 4-2. It is obvious from these data that no significant increases or decreases in conductivity were observed for Lines 1, 3, 4, or 5. The only significant change for Line 2 was observed in proximity to an equipment wash pad. The property owner, who observed part of the surveying activities in this area, stated that he had used the wash pad to rinse off a piece of construction equipment 20 minutes prior to the readings taken at Stations 13 and 14. The elevated readings, therefore, appear to reflect the disposal of this rinsewater (and possibly other conductive residues from the equipment) into the soil. The slightly elevated readings observed at Stations 10 through 17 on Line 2 and Stations 1 through 3 on Line 3 may represent the decrease in depth to the water table caused by the lower elevations of these stations. No increase in conductivity was observed in or near the gravel pit, suggesting that a plume of conductive material is not present.

4.2 Groundwater Sampling

4.2.1 Identification of Locations, Parameters, and Surveying

Based on earlier field observations and interviews, WBSAI selected four wells near the gravel pit for sampling and analysis. These wells, all located across Very Road from the site (Figure 4-3), are owned by Mr. Judd Cole; three of the wells used by him for domestic water supply. The wells are located between the gravel pit and Ischua Creek; based on earlier assumptions regarding the effectiveness of the creek as a groundwater discharge boundary and information on well depths collected in July, it was determined that the wells would be suitable locations to sample the groundwater for contamination originating in the gravel pit, if it was indeed present.

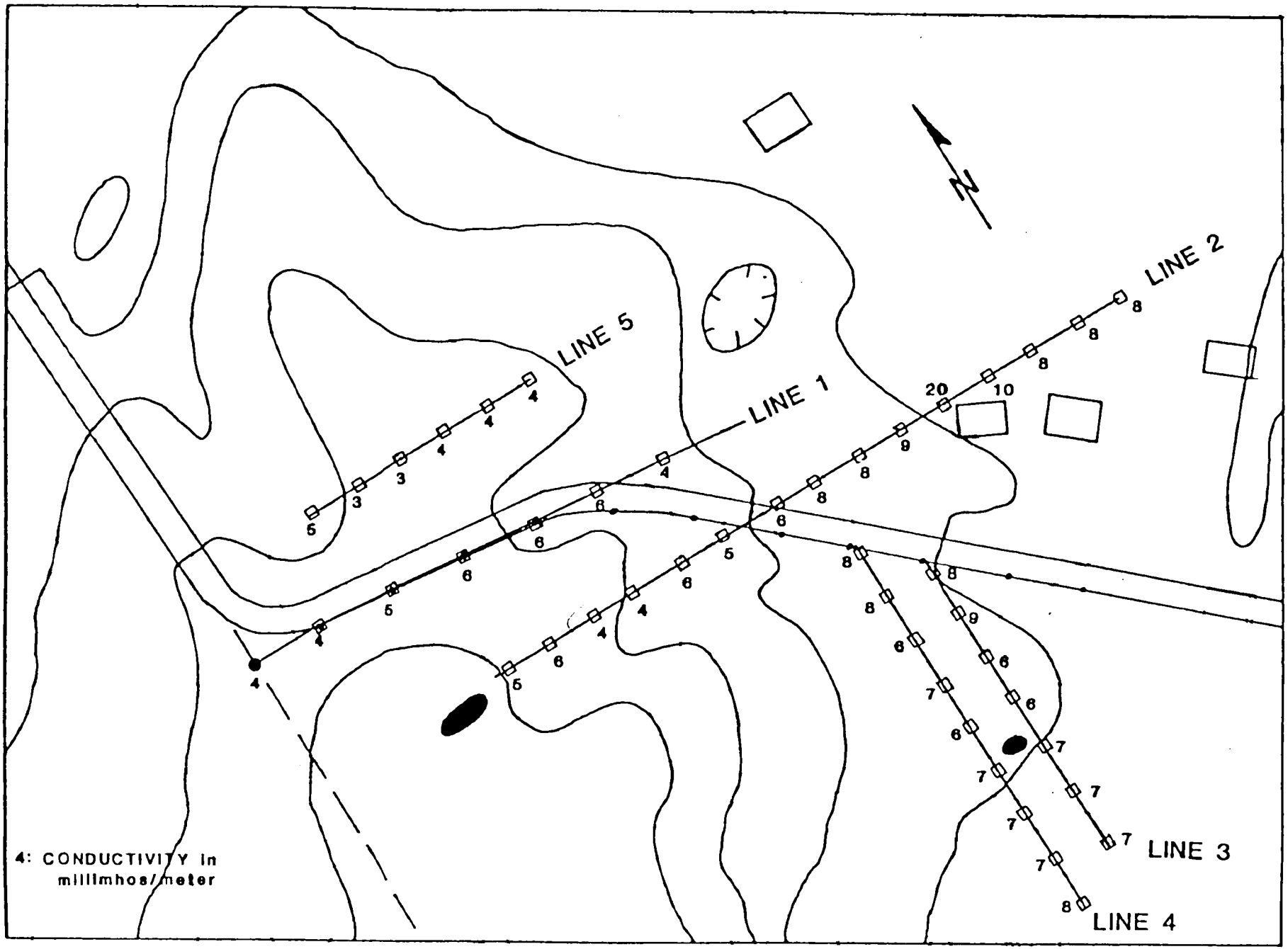


FIGURE 4-2: CONDUCTIVITY DATA, MAGNIA GRAVEL PIT

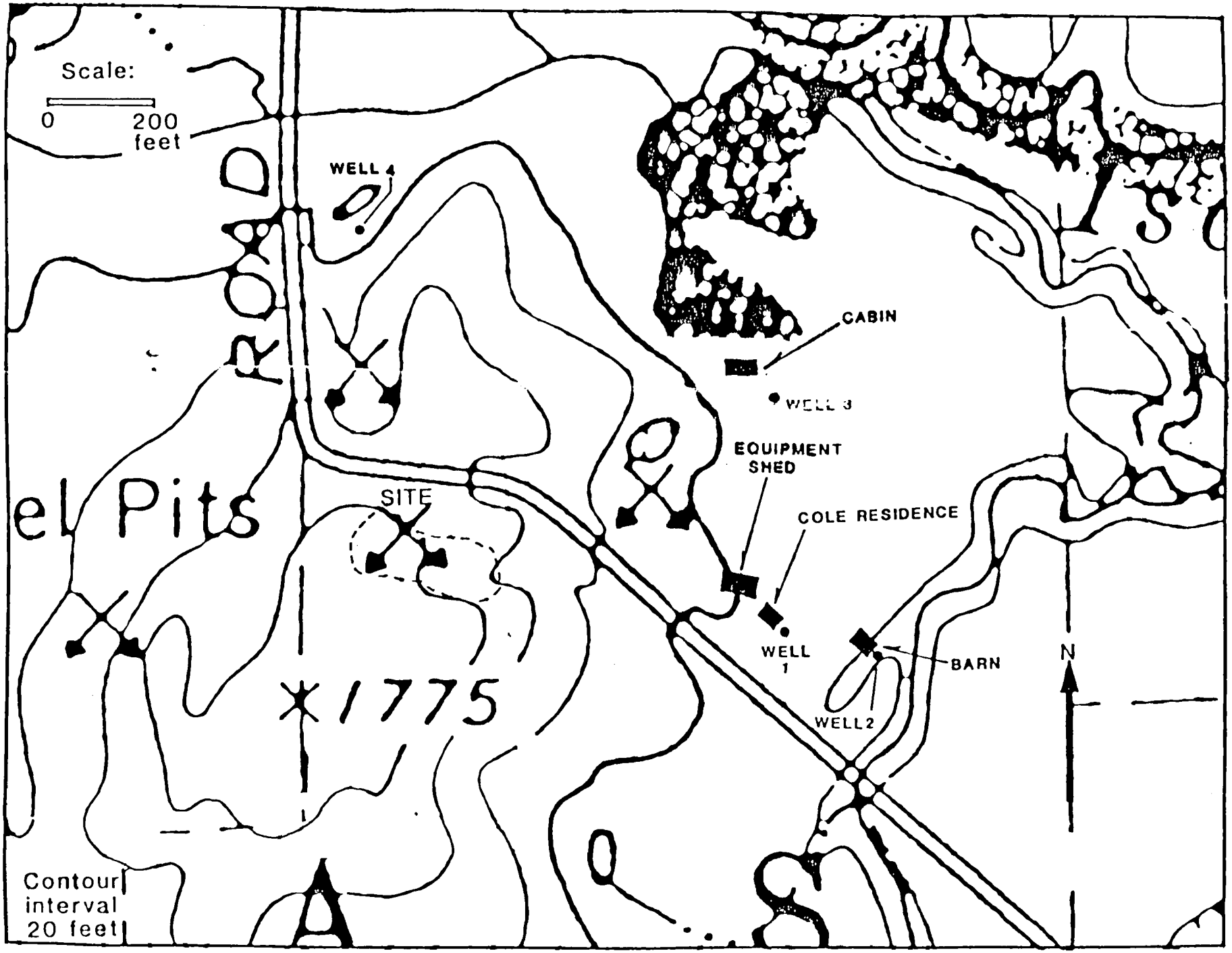


FIGURE 4-3: RESIDENCE AND WELL LOCATIONS
IN VICINITY OF MACHIAS GRAVEL PIT

DRAFT

TABLE 4-1: Summary of Conductivity Measurements

Line	Station	Spacing	Conductivity, millimhos/m. Horizontal	Vertical	Comments
0	0	20 meters	4	6	Reference point
1	1	20 meters	4	6	Line parallel to Very Road
	2	20 meters	4	6	
	3	20 meters	5	6	
	4	20 meters	6	6	
	5	20 meters	6	6	
	6	20 meters	6	6	
	7	20 meters	4	6	
2	3	20 meters	5	5	Line to m. south of Line 1.
	4	20 meters	6	4	
	5	20 meters	4	5	
2	3	10 meters	3	4	Coil spacing changed.
	4	10 meters	4	4	
	5	10 meters	4	5	
2	6	20 meters	4	-	Vertical readings not taken due to similarity with horizontal.
	7	20 meters	6	-	Coil spacing changed.
	8	20 meters	5	-	
	9	20 meters	6	-	
	10	20 meters	8	-	
	11	20 meters	8	-	
	12	20 meters	9	-	
	13	20 meters	20	-	Edge of equipment wash pad.*
	14	20 meters	10	-	Reading across elec. fence.
	14a	20 meters	13	-	Fence current turned off.
	15	20 meters	8	-	
	16	20 meters	8	-	
	17	20 meters	8	-	

* Wash pad used for rinsing equipment 20 minutes prior to reading; see text.

TABLE 4-1: Summary of Conductivity Measurements

Line	Station	Spacing	Conductivity, millimhos/m. Horizontal	Vertical	Comments
3	1	20 meters	8	-	Line south from road station 10.
	2	20 meters	8	-	
	3	20 meters	9	-	
	4	20 meters	6	-	
	5	20 meters	6	-	
	6	20 meters	7	-	
	7	20 meters	7	-	
	8	20 meters	7	-	
4	1	20 meters	8	-	Line 20 m. west of Line 3.
	2	20 meters	7	-	
	3	20 meters	7	-	
	4	20 meters	7	-	Station 10 m. west of smaller barrel storage area.
	5	20 meters	6	-	
	6	20 meters	7	-	
	7	20 meters	6	-	
	8	20 meters	8	-	
	9	20 meters	8	-	
5	1	20 meters	4	-	Line 40 m. north of road Station 6.
	2	20 meters	4	-	
	3	20 meters	4	-	
	4	20 meters	3	-	
	5	20 meters	3	-	
	6	20 meters	5	-	

Information obtained from a report on remedial action at a similar site (obtained from NY DEC) suggested that the wastes locates at Machias might contain some of the same materials. The materials included waste cutting oils, solvents, igneous coolants, and various solid or liquid resins. Based on information obtained from town personnel, it appeared that a majority of the barrels which still contained liquid probably were waste coolants or cutting oils. On this basis, WBSAI selected analytical parameters which would provide a broad indication of the presence of these contaminants. Samples were analyzed qualitatively for base/neutral and acid extractable organics and quantitatively for National Primary Drinking Water Regulations (NPDWR) metals. Sample analyses were performed by Recra Research Inc., Environmental Laboratory Division, Buffalo, New York.

To allow determination of water-level elevations with respect to the surrounding topography, the elevations of the four well casings were surveyed and referenced to the nearest benchmark. However, the description of the benchmark obtained from the National Geodetic Information Center was somewhat ambiguous and it is questionable whether the correct mark was located in the field. Analysis of field calculations indicates that the initial elevation assumed for the mark which was used results in anomalous elevations for several intermediate features (e.g., railroad grade crossings) along the surveyed line. Therefore, casing elevations have been referenced to the elevation of a stream crossing on Very Road nearby, taken from the topographic map for the area; the elevation assumed for this point may be in error by $\pm$ 0.5 feet with respect to the National Geodetic Vertical Datum, but does provide accurate elevation differences between the individual well casings and the creek water levels.

4.2.2 Sampling Procedures

The wells were sampled according to the following procedure:

- Each well was inspected for damage, opened (where accessible), and the static water level was measured with a steel tape. Depths were referenced to the top of casing.

- Each well was purged of three volumes of standing water in the casing. For three of the wells, with dedicated pumps, the taps were allowed to run at a measured rate until at least the required volume had been removed. The fourth well was purged with a submersible pump.

- Each well was sampled directly from the tap (Wells 1, 2, and 3) or with a bottom-filling, Teflon bailer (Well 4). Two samples were collected from each well; a 500-ml sample for metals and a 1-liter sample for organics. The metals samples were filtered through 0.45-micron glass filters, preserved with nitric acid, and stored in polyethylene bottles. The organics samples were stored in amber glass bottles, and were unpreserved.

- Each sample was immediately placed on ice in an insulated cooler for shipment to the laboratory, under chain of custody documentation.

- Field parameters (pH, specific conductivity, and temperature) were determined on a final bailerful of water.

The results of this activity are presented in Table 4-2.

TABLE 4-2: Summary of Sample Analyses
Machias Groundwater Sampling

Parameter	Well #1	Well #2	Well #3	Well #4	Field Blank
Specific Conductance, umhos:	340	280	550	80	12
Temperature, °C =	13	12	12	14	16
pH =	7.71	7.99	7.11	9.16	5.99
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.16	.043	0.12	0.07	0.06
Cadmium	<0.005	<0.005	0.007	<0.005	<0.005
Chromium	<0.005	<0.005	<0.005	<0.005	<0.005
Lead	<0.005	0.016	0.020	0.015	0.012
Mercury	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.005	<0.005	<0.005	<0.005	<0.005
Static Water Level (ft):	17.23	10.60	12.31	11.80	-
Elevation, msl:	1683.02	1683.00	1686.10	1694.52	-

- All metals results reported as mg/l.
- All analyses performed according to applicable US EPA methods.
- Values reported as "less than" (<) indicate the working detection limit for that sample/parameter.

4.2.3 Sampling Results

Evaluation of the quality control data associated with the metals samples indicates that the analyses reported above are of acceptable quality with no adjustments needed. Analyte recoveries on laboratory spikes were marginally above 100% (except lead, 82% and barium, 79%). Presence of analytes in the field blank is significant only for barium and lead, and these levels are acceptably low.

Analysis of the samples submitted for an organic scan with a flame ionization detector (FID) also included a spike, for which no recovery (0%) was obtained by the lab. Therefore, although no organics were detected in any of the samples submitted, the low spike recovery indicates that the results for the organics scan are somewhat questionable; accordingly, no results were supplied by the analytical laboratory. WBSAI intends to resample the wells for analysis for organics during field activities involving the characterization of the residual materials in the gravel pit.

4.3 Discussion

The data from the geophysical survey (Figures 4-1 and 4-2) indicate that the conductivity signature of the subsurface in and around the gravel pit appears to be very uniform and non-conductive. The only significant increase in conductivity occurred around an equipment wash area across the road from the gravel pit. This increase was very localized (it was only observed at two or three stations along the traverse line) and discussions with the property owner revealed that a piece of construction equipment had been washed off approximately 20 minutes before the stations were measured. There also seemed to be a slight increase in conductivity in areas that are topographically lower than the gravel pit (e.g., Lines 3 and 4, and Stations 14-17 of Line 2). This is attributable to a shallower depth to groundwater and does not represent a significant change over background values anyway.

The presence of a plume of conductive leachate from the barrel storage area such as might be caused by dissolved metals or polar organic compounds in the groundwater, would be expected to show significantly increased conductivity measurements along traverse lines crossing the plume. This expectation was enhanced

by the use of coil spacings designed to obtain measurements from and below the approximate depth estimated for the water table, and by the use of higher-sensitivity scales on the instrument. The essentially flat conductivity profile at nearly all survey locations suggests that such a plume does not exist. It is possible, however, that leakage from the barrel area is non-conductive or is not amenable to detection by this geophysical method. Until valid data on organics in groundwater are available, no conclusive interpretation of these data is possible.

Evaluation of the dissolved metals data for the groundwater wells (Table 4-2) indicates that there do not appear to be any observable impacts from the wastes at the gravel pit on these wells. All of the wells are located downgradient of the gravel pit, based on topographic slope, the presence of groundwater discharge points (streams) to the north and east, and the measured static water levels in the wells. With the exception of very low levels of lead and barium (both of which were also present in the field blank), and one value of cadmium at just above the detection limit, the water samples from these wells are essentially devoid of the eight metals analyzed for elevated levels of specific conductance suggest that moderate concentrations of other metals (e.g., iron and manganese) or conductive anions (e.g., sulfate, chloride from road salt) may be present. According to a local driller, elevated levels of iron, manganese, and hardness are not uncommon in the glacial sediments (Grant Wiley, personal communication).

Information on a site with a similar waste disposal history and the same waste source, obtained from NY DEC files, suggested that the waste types at Machias might include solvents, coolants, oils, and tarry/resinous solids. Examination of the remaining barrels confirms the presence of materials that appear to be oils and coolant mixtures, in addition to solid tar or resin. Certain of these materials, specifically the coolants and oily sludges, could be expected to contain appreciable amount of metals, such as lead or chromium. Therefore, the absence of the analyzed metals in the groundwater wells suggests that there is no observable impact from wastes at the gravel pit.

4.4 Conclusions and Recommendations

Geophysical (conductivity) surveys and groundwater well testing in the vicinity of the Machias gravel pit appear to indicate that waste materials, located in the gravel pit, are not causing measurable contamination of groundwater downgradient of the pit. Although the conductivity instrument used and the analytes selected (NPDWR metals) may not be able to detect all types of contaminants that could originate from the wastes (such as volatile organics or non-polar compounds), the geophysical and chemical test results tend to support each other when viewed in conjunction.

Definitive conclusions about the presence of organic materials in the wells cannot be made due to the loss of analytical data on organic parameters by the laboratory. The observed low levels of metals, however, suggest that waste-derived contaminants in general are not affecting the wells.

Based on these conclusions, it appears that no further action is needed in terms of protecting the water wells with chemical or physical filtration apparatus. However, the drums of waste material should be tested, removed, and properly disposed to prevent additional contaminants from reaching the ground. WBSAI is currently preparing a protocol, including health and safety procedures, to follow up this recommendation.

600 Delaware Avenue, Buffalo, N.Y. 14202-1073

December 17, 1985

Mr. Michael Christopher
Walter B. Satterthwaite Associates, Inc.
11 N. Five Points Road
West Chester, PA 19380

Dear Mr. Christopher:

Machias Gravel Pit
Site No. 905013

This letter will confirm our recent telephone conversations regarding the current status of the Machias Gravel Pit and plans for subsequent work.

The following points summarize the current situation:

1) Phase II Investigation

A Phase II Investigation has been scheduled for the Spring of 1986 by a State contractor.

2) Town of Machias Groundwater Monitoring

In 1985, the Town completed a conductivity survey of the site and a sampling of adjacent private wells. Resampling of the wells for organics was to take place in December, 1985.

3) Barrel Sampling

In September 1985, Region 9 sampled some of the on site barrels and spilled contents. The results show the presence of hazardous substances (TCE) in several samples. A copy of the sampling summary is attached.

4) Barrel Removal Program

The Town is currently evaluating a protocol for testing residual materials (barrels and soil) for subsequent removal from the site. Several disposal options (secure landfill, sewage treatment plant, sanitary landfill and an oil recycler) are being considered. Barrel sampling and classification activities have been started.

As discussed last week, it will be necessary for the Town to have appropriate hauler permits (Part 364) for removing barrels from the site. When the analysis have been received and disposal destinations determined, it will be necessary for this Office to review the data prior to removing material from the site. The following sewage treatment plants may be receptive to accepting some of the material:

Mr. Frank Nerone
Niagara County S.D. No. 1
(716) 693-0001

Mr. David Smith
Amherst Wastewater
Treatment Plant
(716) 691-9771

I will be looking forward to receipt of your detailed plan for removing the barrels and contaminated soil.

Very truly yours,

Lawrence G. Clare
Senior Sanitary Engineer

cc: Walter Demick
Peter Buechi

LGC:jps

New York State Department of Environmental Conservation

MEMORANDUM

TO: Walt Demick, Bureau of Hazardous Site Control Att: Tom Reynolds
FROM: Lawrence Clare
SUBJECT: Machias Gravel Pit (Site No. 905013)
Draft Phase II Work Plan
DATE: December 18, 1985

The Machias Gravel Pit Site was originally (1984) scheduled to be investigated by a responsible party, the Town of Machias. It is now scheduled for completion by a D.E.C. contractor (Round 2).

A considerable amount of work has been accomplished at this site in the past six (6) months. Some of this work may be useful (and should be considered) in the Phase II Study. Accordingly, I am forwarding, herewith, the following material:

1) Dec. 17, 1985 letter to Consultant
re: Barrel removal program

2) Summary of Region 9 barrel sampling results - Sept. 4, 1985 sampling

3) Groundwater Monitoring Study (Oct. 22, 1985)
Results of Conductivity Study and partial results of private well sampling

With respect to the draft Phase II Work Plan, and taking into consideration the attached information, the following comments are offered:

1) The conductivity survey performed by the Satterthwaite should be incorporated into any similar work proposed by State resources. (Perhaps the resistivity work proposed by RECRA is unnecessary).

2) Groundwater elevations in the four (4) wells seems to indicate a groundwater flow to the East (as shown in the Draft Work Plan). If wastes were spilled during the transfer of material to the road spreading equipment, contamination may exist east of proposed GW-3 on the draft work plan. Relocation of GW-3 and GW-4 to the east (downhill) of the pile of empty drums is recommended.

3) The data from the private wells (both that are already available and the organics analysis currently in process) should be included in formulation of the Phase II Investigation Report.

LGC:jps

WALTER B. SATTERTHWAITE ASSOCIATES, INC.

11 N. FIVE POINTS ROAD
WEST CHESTER, PA 19380
(215) 692-5770

Walter B. Satterthwaite, P.G.
President
David F. Lakatos, P.E.
Principal

RECEIVED
JAN 07 1986
BUREAU OF HAZARDOUS SITE CONTROL

January 1, 1986

Mr. Walter Demick
New York Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233-0001

RE: Town of Machias Gravel Pit; ID # 905013

Dear Mr. Demick:

We are in receipt of your November 15, 1985 letter to the Town of Machias regarding a Phase II investigation at the Town gravel pit. As the Town's consultant in this matter, we have been working closely with Mr. Lawrence Clare of NYDEC Region 9 in resolving the conditions at the site (reference Mr. Clare's letter to me of December 17, 1985). Our current plans include examining the feasibility of disposing of a majority of the drummed materials via an oil recycler and a municipal wastewater treatment plan; we have submitted several composite samples of these materials for analysis and are expecting results in about one week.

In addition, it was my understanding that because satisfactory progress is being made in resolving this site, the need for a state-sponsored Phase II investigation was eliminated. We are continuing to work towards having the drummed materials and affected soil removed in an acceptable manner, within the financial constraints of the Town, and I believe that our activities to-date have shown our commitment to this goal. I hope, therefore, that your letter was an oversight and resulted from a misunderstanding about the status and current activities at the site.

Sincerely,

Michael T. Christopher

Michael T. Christopher, P.G.
Project Geologist

MTC/slp

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-0001

Henry G. Williams
Commissioner

January 15, 1986

Michael T. Christopher, P.G.
Project Geologist
Walter B. Satterthwaite Associates, Inc.
11 N. Five Points Road
West Chester, PA 19380

Dear Mr. Christopher:

We are aware of the efforts being made by the Town of Machias in relation to past drum disposal at their gravel pit (I.D. #905013), but at present only above ground and surficial contamination is being accounted for.

Our scope of activities does not propose to duplicate completed work performed on behalf of the Town but will address itself to potential groundwater and neighboring surface water problems. The Town's activities do not take into consideration the sites close proximity to private wells, surface water bodies and wet lands which may be significantly impacted.

The fact that our office has initiated a state sponsored Phase II investigation is not an indication that we are not supportive of the Town's efforts but we recognize potential for additional problems. The drums have been on site for an extended period of time possibly leaking and there is the chance that materials had been disposed of directly onto the ground surface. Both of these situations would be expected to impact below ground soil and water quality.

If there is any additional questions as to why we are proceeding with a Phase II investigation, feel free to contact me directly at (518) 457-9538.

Sincerely,

Walter E. Demick

Walter E. Demick, P.E.
Supervisor
Western Investigation Section
Bureau of Hazardous Site Control
Division of Solid and Hazardous Waste

bcc: w/inc. - N. Nosenchuck
M. O'Toole
P. Buechi
C. Goddard
R. Olazagasti
W. Demick
R. Lupe
T. Reynolds
file

WD:jaf

I-45

6

Rec 2/4/86
@Town Hall
Meeting

MACHIAS GRAVEL PIT

PROPOSED CLEAN UP PLAN

February 1986

Prepared by:

Walter B. Satterthwaite Associates, Inc.
720 North Five Points Road
West Chester, PA 19380
(215) 692-5770

8-17-88

I-49

WALTER B. SATTERTHWAITE ASSOCIATES, INC.

MACHIAS GRAVEL PIT

PROPOSED CLEAN UP PLAN

1.0 INTRODUCTION

This plan describes a proposed plan of activities to properly remove and dispose of various materials and soil in the final site clean up of the Town's gravel pit in Machias, New York. The site presently contains approximately 100 empty drums and 66 partially filled drums, which remained at the gravel pit after use in road-oiling operations several years ago. The oily materials were given to the Town by the Motorola facility in Arcade, New York, portrayed as an acceptable material for road oil. The gravel site was used as a temporary site from which to fill the road-oiling equipment. The existing drums were left over from that operation. This site was designated by the New York Department of Environmental Conservation (NYDEC) under the Inactive Hazardous Waste Site Program.

This plan is intended to serve as a supplement to the October 1985 report on groundwater sampling and geophysical testing prepared by Walter B. Satterthwaite Associates, Inc. (WBSAI) for the Town of Machias. WBSAI conducted these activities as consultant to and on behalf of the Town of Machias, in accordance with NYDEC's requirements for Phase II studies under the Inactive Sites program. Descriptions of the Machias site geology, hydrology, and environmental conditions have been detailed in the groundwater monitoring report and are not repeated herein.

Drum sampling and testing of the samples was conducted in December 1985 and January 1986. These results are presented in Section 2.0, along with a discussion of the conclusions developed from the test results, as they apply to characterizing the types of materials in the drums. The proposed removal and disposal plan is presented in Section 3.0.

2.0 SAMPLING AND ANALYSIS ACTIVITIES

2.1 Drum Sampling

On December 3, 1985, WBSAI inspected and sampled all of the drums that contained any kind of material and inspected the condition of the remaining drums that are empty. The objective of this activity was to determine the amount(s) and nature of the materials in the drums on an individual basis and to perform characterization of the materials. The samples were taken in accordance with EPA-recommended procedures, described in SW-846, Test Methods for Evaluating Solid Waste (EPA, 1984), using a

Coliwasa-type drum sampler constructed of 1/2-inch diameter glass tubing. The sampler was inserted slowly through the drum bung holes to obtain samples and cleaned each time after a sample was taken. Samples were collected in labeled, one-pint glass containers. As each drum was sampled, it was numbered with spray paint to facilitate identification. The condition and content (volume) of each drum was also noted, using a standardized data form (Figure 1) shown as an actual form from the Machias investigation.

The samples were characterized onsite for consistency, color, and odor. The results of this characterization are presented in Table 1.

2.2 Physical Behavior Testing

Each drum sample was tested to observe its behavior in water by dropping a small amount of material into a beaker of water and noting the result. The objective of this testing was to determine which materials were aqueous (i.e., would dissolve or disperse), which were "floaters" (immiscible and denser than water). On this basis, sample materials could be grouped into broad categories. Each solution was briefly shaken to enhance dispersion and was immediately sampled for volatiles with a portable organic vapor analyzer (OVA). The results of this testing are presented in Table 2.

These data were used to classify the drummed materials into several broad categories, in conjunction with (1) physical appearance and behavior, and (2) the OVA readings. The categories that were selected are:

- water;
- oil;
- suspended solids (including pigments);
- resins/oils (paint-related); and
- chlorinated.

As a characterization of the site, the majority of the drums appear to contain water, oil-based paint residues (oils, resins, or pigments), or a mixture of these components. Only two samples were identified as containing a chlorinated hydrocarbon, and another as a water-soluble "oil" or polyol.

Walter B. Satterthwaite Assoc., Inc.

DRUM SAMPLE EVALUATION

DRUM I.D. : #32

Project Name: _____

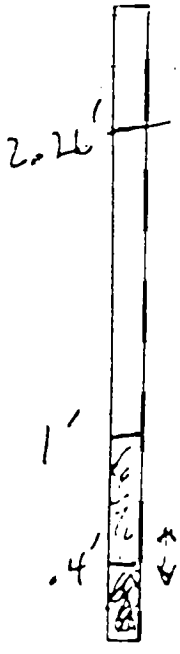
Project No.: _____

Samplers: _____

Date: _____

Time: 5:00

SKETCH: (Layering, etc.)



CONDITION OF CONTAINER (DRUM): #3321

Any Corrosion? : No

Upright or On Side? : upright

OVA Reading (Total Organics): _____

Special Notes: Bung Open

"Dow Voranol" on drum

↑ Polyglycol

SAMPLE DESCRIPTION:

	1	2	3	
Number Of Layers:				
Thickness:	1.26'	.6'	.4'	
Color:	yellow white	med brown	dark brown	
Odor:	Undistinguishable odor			
Viscosity:	non-viscous	non-viscous	non-visc	
Behavior in Water:	Dissipates	Dissipates	—	
Classification: (organic, water-soluble, possibly chlorinated org.)	Water Sol.	Water Sol.		
Added to Composite Sample? :	NO	NO	NO	

Special Notes:

DRUM NO.	CORROSION	ORIENTATION	BUNG	APPROX VOLUME	LAYER NO. 1 Thickness	LAYER NO. 1 Color	LAYER NO. 1 Odor	LAYER NO. 1 In water:	LAYER NO. 2 Thickness	LAYER NO. 2 Color	LAYER NO. 2 Odor	LAYER NO. 2 In water:	LAYER NO. 3 Thickness	LAYER NO. 3 Color	LAYER NO. 3 Odor	LAYER NO. 3 In water:
1	slight	upright	shut	unknown	Bung rusted shut	------	------	------	------	------	------	------	------	------	------	------
2	slight	upright	open	1/3	0.1 ft	dk.red	oily	floats	0.9 ft	lt.brn	oily	floats	------	------	------	------
3	no	upright	open	1/2	2.1 ft	cldy.yel	???	soluble	------	------	------	------	------	------	------	------
4	slight	on side	open	1/4	0.5 ft	org-yel	slight	soluble	------	------	------	------	------	------	------	------
5	slight	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
6	corroded	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
7	no	upright	open	full	2.6 ft	red	oily	soluble	0.2 ft	brown	no	sludge	------	------	------	------
8	slight	upright	open	full	1.7 ft	yellow	paint	soluble	0.6 ft	yellow	paint	sinks	------	------	------	------
9	slight	upright	open	1/2	1.7 ft	org-yel	leathr	soluble	------	------	------	------	------	------	------	------
10	corroded	on side	shut	2/3	2.0 ft	------	------	NS--F	------	------	------	------	------	------	------	------
11	slight	upright	open	1/2	2.1 ft	yellow	paint	soluble	0.4 ft	yellow	paint	sludge	------	------	------	------
12	no	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
13	no	upright	open	1/8	0.1 ft	red	oily	???	------	------	------	------	------	------	------	------
14	slight	upright	open	1/2	1.8 ft	yellow	paint	soluble	0.3 ft	yel-wht	paint	soluble	0.5 ft	red-brn	sinks	no
15	slight	on side	shut	1/4	0.6 ft	yellow	paint	sinks	------	------	------	------	------	------	------	------
16	slight	on side	shut	1/3	1.0 ft	yel-brn	paint	sinks	------	------	------	------	------	------	------	------
17	corroded	upright	shut	1/8	0.3 ft	dk brn	strong	floats	------	------	------	------	------	------	------	------
18	corroded	upright	open	1/2	1.5 ft	orange	paint	sinks	------	------	------	------	------	------	------	------
19	corroded	upright	shut	1/8	0.2 ft	yel-brn	alt pnt	frozen	------	------	------	------	------	------	------	------
20	corroded	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
21	severe	upright	shut	3/4	0.5 ft	white	paint	soluble	2.2 ft	yel-brn	paint	sinks	------	------	------	------
22	slight	upright	shut	1/2	1.5 ft	yel-wht	paint	sinks	------	------	------	------	------	------	------	------
23	corroded	upright	open	1/3	0.2 ft	clr-wht	paint	soluble	0.2 ft	dk red	paint	sinks	------	------	------	------
24	moderate	upright	shut	1/3	0.3 ft	dk brn	oily	floats	0.3 ft	yel-brn	oily	floats	------	------	------	------
25	slight	upright	shut	full	2.3 ft	yel-wht	alt pnt	soluble	0.3 ft	red	none	sludge	------	------	------	------
26	no	on side	open	1/2	0.6 ft	yellow	paint	sinks	0.5 ft	red-brn	none	sinks	------	------	------	------
27	slight	upright	open	1/3	1.0 ft	yellow	paint	soluble	------	------	------	------	------	------	------	------
28	severe	upright	shut	empty	------	------	------	------	------	------	------	------	------	------	------	------
29	slight	upright	shut	3/4	2.0 ft	yel-wht	paint	soluble	0.6 ft	red	none	sludge	0.1 ft	white	none	sludge
30	slight	upright	open	full	0.2 ft	dk brn	none	floats	2.3 ft	yel-wht	paint	soluble	0.4 ft	dk brn	none	sludge
31	no	upright	open	2/3	1.5 ft	white	paint	soluble	0.5 ft	white	paint	sludge	0.2 ft	dk brn	none	sludge
32	no	upright	open	3/4	1.3 ft	yel-wht	???	soluble	0.6 ft	brown	???	soluble	0.4 ft	dk brn	???	soluble
33	slight	upright	open	3/4	1.1 ft	yel-brn	paint	soluble	0.2 ft	brown	paint	soluble	0.1 ft	red-brn	paint	soluble
34	slight	upright	open	full	3.0 ft	clr-yel	paint	soluble	0.5 ft	white	paint	soluble	------	------	------	------
35	moderate	upright	open	1/10	0.1 ft	yel-wht	paint	NS--F	------	------	------	------	------	------	------	------
36	slight	upright	open	1/2	1.3 ft	yel-brn	paint	soluble	0.3 ft	yel-wht	paint	sinks	------	------	------	------
37	slight	upright	open	1/4	0.3 ft	yellow	???	soluble	0.1 ft	org-brn	???	floats	------	------	------	------
38	moderate	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
39	moderate	upright	shut	2/3	1.8 ft	wht-yel	paint	soluble	0.8 ft	white	paint	sinks	------	------	------	------

TABLE 1: DRUM CHARACTERIZATION DATA

DRUM NO.	CORR-OSION	ORIENT-ATION	BUNG	APPROX VOLUME	LAYER NO. 1 THICK-NESS	LAYER NO. 1 COLOR	LAYER NO. 1 ODOR	LAYER NO. 1 IN WATER:	LAYER NO. 2 THICK-NESS	LAYER NO. 2 COLOR	LAYER NO. 2 ODOR	LAYER NO. 2 IN WATER:	LAYER NO. 3 THICK-NESS	LAYER NO. 3 COLOR	LAYER NO. 3 ODOR	LAYER NO. 3 IN WATER:
40	slight	upright	shut	7/8	1.7 ft	cldy yel	paint	soluble	1.0 ft	brown	paint	sinks	------	------	------	------
41	moderate	upright	open	3/4	1.6 ft	yellow	paint	soluble	0.9 ft	wht-brn	paint	sinks	------	------	------	------
42	moderate	upright	open	1/10	0.1 ft	yellow	paint	NS--F	------	------	------	------	------	------	------	------
43	slight	upright	shut	empty	------	------	------	------	------	------	------	------	------	------	------	------
44	slight	upright	open	1/4	0.8 ft	orange	paint	sinks	------	------	------	------	------	------	------	------
45	slight	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
46	moderate	upright	open	1/2	1.1 ft	cldy yel	strong	soluble	------	------	------	------	------	------	------	------
47	severe	upright	open	1/3	0.3 ft	white	paint	sinks	0.3 ft	brown	paint	sinks	------	------	------	------
48	slight	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
49	slight	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
50	slight	on side	open	1/4	0.5 ft	cldy wht	paint	soluble	------	------	------	------	------	------	------	------
51	slight	on side	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
52	none	upright	shut	unknown-bung rusted shut				------	------	------	------	------	------	------	------	------
53	moderate	on side	open	1/8	0.3 ft	water	none	soluble	0.1 ft	wht-grey	none	???	------	------	------	------
54	moderate	upright	open	1/4	0.6 ft	white	paint	sinks	0.3 ft	brown	paint	sinks	------	------	------	------
55	slight	upright	open	2/3	2.2 ft	org-brn	paint	soluble	------	------	------	------	------	------	------	------
56	slight	upright	open	full	0.8 ft	org-brn	paint	soluble	0.4 ft	white	paint	sinks	1.5 ft	brown	paint	sinks
57	moderate	upright	shut	1/2	0.2 ft	cldy wht	paint	soluble	1.45 ft	dk brn	paint	sinks	------	------	------	------
58	slight	upright	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
59	slight	upright	shut	full	2.6 ft	yel-wht	paint	soluble	0.2 ft	white	paint	sludge	0.1 ft	brown	paint	sludge
60	slight	upright	shut	full	2.9 ft	yel-wht	sh.pol.	soluble	0.4 ft	white	sh.pol.	sludge	0.1 ft	brown	sh.pol.	sludge
61	moderate	upright	shut	full	3.0 ft	yellow	paint	soluble	0.8 ft	lt brn	paint	soluble	0.2 ft	white	paint	sludge
62	moderate	upright	open	1/3	0.4 ft	wht-brn	paint	sinks	0.3 ft	brown	paint	sinks	------	------	------	------
63	moderate	upright	shut	1/4	0.4 ft	yellow	paint	sinks	0.1 ft	white	paint	sinks	------	------	------	------
64	slight	upright	open	1/4	0.5 ft	cldy wht	paint	soluble	0.1 ft	white	paint	sludge	------	------	------	------
65	moderate	upright	open	1/2	2.2 ft	clear	slt pnt	soluble	------	------	------	------	------	------	------	------
66	slight	upright	shut	full	1.0 ft	cldy org	paint	soluble	1.0 ft	white	paint	sinks	1.0 ft	brown	paint	sinks
67	moderate	upright	shut	1/2	0.6 ft	white	paint	soluble	0.7 ft	brown	paint	sludge	------	------	------	------
68	slight	upright	open	1/2	1.1 ft	clear	paint	soluble	0.2 ft	red-brn	paint	sludge	------	------	------	------
69	moderate	upright	shut	3/4	1.6 ft	orange	paint	soluble	0.6 ft	white	paint	sludge	0.4 ft	brown	paint	sludge
70	severe	upright	shut	1/3	0.3 ft	cldy wht	???	soluble	0.4 ft	brn-wht	???	sludge	------	------	------	------
71	moderate	upright	shut	1/2	0.1 ft	dk brn	decay	floats	0.8 ft	clr-cldy	decay	soluble	------	------	------	------
72	none	on side	shut	1/3	0.7 ft	yellow	paint	soluble	0.2 ft	brown	paint	soluble	------	------	------	------
73	slight	upright	shut	full	2.0 ft	brn-wht	sh.pol.	soluble	0.6 ft	wht-brn	sh.pol.	sludge	------	------	------	------
74	severe	on side	open	empty	------	------	------	------	------	------	------	------	------	------	------	------
75	moderate	upright	open	full	2.9 ft	clr-cldy	slt pnt	soluble	------	------	------	------	------	------	------	------
76	slight	upright	open	1/3	0.4 ft	yellow	paint	soluble	0.2 ft	white	paint	sinks	0.2 ft	brown	paint	sludge
77	moderate	upright	shut	1/10	0.1 ft	------	------	NS--F	------	------	------	------	------	------	------	------
78	none	on side	open	1/3	1.1 ft	water	none	soluble	------	------	------	------	------	------	------	------
79	slight	upright	shut	full	0.5 ft	cldy wht	frty oil	soluble	2.1 ft	red	frty oil	sinks	------	------	------	------

Note: NS-F indicates 'no sample--frozen'

TABLE 1 (cont'd)

Drum No.	Top layer	Estimated percent	Bottom layer	Estimated percent	OVA reading (ppm)	Comments
1	---	---	---	---	---	Drum not openable
2	F	•	M	•	45	motor oil
3	M	100	•	•	0	
4	M	100	•	•	0	
5	---	---	---	---	---	empty drum
6	---	---	---	---	---	empty drum
7	M	•	•	•	0	like hyd. fluid
8	---	---	---	---	---	
9	M	100	•	•	0	
10	---	---	---	---	---	no sample-frozen
11	F	1	S	25	0	
12	---	---	---	---	---	empty drum
13	---	---	---	---	---	
14	S	50	•	•	2	
15	F	1	S	50	0	
16	F	5	M	95	2	oil paint
17	F	100	•	•	20	motor oil
18	M	100	•	•	1	oil paint
19	---	---	---	---	---	no sample-frozen
20	---	---	---	---	---	empty drum
21	F	10	S	50	0	oil paint
22	F	1	S	50	1	
23	F	5	S	50	3	
24	F	•	M	•	0	motor oil
25	F	5	S	25	0	
26	F	5	S	25	40	oil paint
27	M	100	•	•	2.5	
28	---	---	---	---	---	empty drum
29	M	100	•	•	0	
30	F	•	S	•	0	motor oil
31	F	1	S	50	0	
32	M	95	F	5	0	oil paint
33	F	5	S	50	0	
34	M	95	•	5	0	
35	---	---	---	---	---	no sample-frozen
36	F	5	S	25	45	oil paint
37	F	•	M	•	2	
38	---	---	---	---	---	empty drum
39	F	10	S	50	0	
40	F	10	S	50	1	oil paint
41	F	5	S	50	0	oil paint
42	---	---	---	---	---	no sample-frozen
43	---	---	---	---	---	empty drum
44	S	100	•	•	0	like shellac
45	---	---	---	---	---	empty drum
46	M	100	•	•	0	
47	F	10	S	75	5	slight meth. chloride
48	---	---	---	---	---	empty drum
49	---	---	---	---	---	empty drum
50	M	100	•	•	0	
51	---	---	---	---	---	empty drum
52	---	---	---	---	---	Drum not openable
53	---	---	---	---	---	water: not tested
54	F	10	S	75	2	slight meth. chloride
55	M	100	•	•	0	
56	S	50	•	•	4	
57	F	10	S	50	10	
58	---	---	---	---	---	empty drum
59	M	100	•	•	•	
60	M	100	•	•	0	
61	M	•	•	•	1	
62	F	10	S	90	75	some meth. chloride
63	M	•	S	•	2	
64	M	100	•	•	0	
65	M	100	•	•	0	
66	M	•	S	•	3	
67	M	•	S	•	5	
68	M	65	S	25	4	
69	M	100	•	•	0	
70	M	•	S	•	7	
71	F	10	M	90	0	heavy oil
72	M	•	S	•	1	
73	M	•	•	•	0	
74	---	---	---	---	---	empty drum
75	M	100	•	•	0	water
76	M	70	S	25	3	
77	---	---	---	---	---	no sample-frozen
78	M	100	•	•	0	water
79	M	•	S	•	1000	chlor. solvent odor

Key: F= floats, S= sinks, M= miscible

TABLE 2: PHYSICAL TEST DATA

2.3 Quantity Estimates

Using the information from the data sheets collected during the drum sampling investigation (see Figure 1), estimates of the quantities of materials in each of the categories were prepared. The objective of this activity was to determine the total amount (volume) of materials present and the proportion of the materials in each category. This information was necessary to investigate various waste treatment/disposal alternatives.

Quantity estimates are based on the measured thickness of each layer in the drums, converting this to gallons based on the following relationships:

$$\frac{\text{Total capacity of drum (55 gallons)}}{\text{Height of drum (3.0 feet)}} = 18 \text{ gallons/foot}$$

$$18 \frac{\text{gallons}}{\text{foot}} \times \text{No. of feet per layer} = \text{No. of gallons in layer}$$

The estimates developed from these data are presented in Table 3. The data were also used to calculate the relative percent of material in each drum compared to the total volume (1850 gallons), which was used to prepare composite samples for treatability testing.

2.4 Analytical Data

A composite sample, consisting of all drum samples except No. 79 (which appeared to contain a relatively high percentage of chlorinated material), was prepared by using the relative proportions shown in Table 3 and was submitted to DuPont Wastewater Treatment Service, Deepwater, New Jersey, for treatability analysis. The results of this analysis indicate that the composited material is compatible with and treatable by their process (see Appendix A).

Individual samples of materials (No. 285-14, -44 and -79), which appeared to be reasonably pure and which did not easily fit into the classification scheme, were analyzed by infrared spectrophotometry (IR). These samples were from Drum 18, Drum 14 and Drum 79, and were analyzed by Greenwood Laboratories of Kennett Square, Pennsylvania. The results of the IR testing are presented in Figure 2.

TABLE 3: VOLUME CALCULATIONS

Drum No.	DEPTH OF LAYER (FT) WATER	OIL	SUS.SOL	RESIN	CHLOR.	AMOUNT OF MATERIAL (GAL) WATER	OIL	SUS.SOL	RESIN	CHLOR.	
1	Drum not openable					0.0	0.0	0.0	0.0	0.0	
2	0.0	0.9	0.0	0.0	0.0	0.0	16.5	0.0	0.0	0.0	
3	2.1	0.0	0.0	0.0	0.0	39.0	0.0	0.0	0.0	0.0	
4	0.5	0.0	0.0	0.0	0.0	9.2	0.0	0.0	0.0	0.0	
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
7	0.0	2.6	0.2	0.0	0.0	0.0	46.7	3.7	0.0	0.0	
8	1.7	0.0	0.0	0.6	0.0	31.2	0.0	0.0	11.0	0.0	
9	1.7	0.0	0.0	0.0	0.0	31.2	0.0	0.0	0.0	0.0	
10	2.0	0.0	0.0	0.0	0.0	36.7	0.0	0.0	0.0	0.0	
11	1.7	0.0	0.0	0.4	0.0	31.2	0.0	0.0	7.3	0.0	
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
13	0.0	0.1	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	
14	1.8	0.0	0.3	0.5	0.0	32.1	0.0	5.5	8.2	0.0	
15	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	11.0	0.0	
16	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	19.1	0.0	
17	0.0	0.3	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	
18	0.0	1.5	0.0	0.0	0.0	0.0	28.2	0.0	0.0	0.0	
19	0.2	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
21	0.0	0.0	0.5	2.1	0.0	0.0	0.0	9.2	38.5	0.0	
22	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	27.5	0.0	
23	0.2	0.2	0.0	0.0	0.0	3.7	3.7	0.0	0.0	0.0	
24	0.0	0.6	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	
25	2.3	0.0	0.0	0.3	0.0	42.2	0.0	0.0	6.2	0.0	
26	0.0	0.7	0.0	0.5	0.0	0.0	11.9	0.0	9.2	0.0	
27	1.0	0.0	0.0	0.0	0.0	19.1	0.0	0.0	0.0	0.0	
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
29	3.0	0.0	0.0	0.0	0.0	54.1	0.0	0.0	0.0	0.0	
30	2.4	0.2	0.0	0.4	0.0	43.1	3.7	0.0	7.3	0.0	
31	1.5	0.0	0.5	0.5	0.0	27.5	0.0	9.2	9.2	0.0	
32	1.3	0.0	0.6	0.4	0.0	23.1	0.0	11.0	7.3	0.0	
33	1.2	0.0	0.3	0.5	0.0	21.1	0.0	5.5	9.2	0.0	
34	2.5	0.0	0.5	0.0	0.0	45.8	0.0	9.2	0.0	0.0	
35	0.2	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	
36	1.3	0.0	0.0	0.3	0.0	23.8	0.0	0.0	5.5	0.0	
37	0.3	0.1	0.0	0.0	0.0	5.5	1.8	0.0	0.0	0.0	
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
39	1.8	0.0	0.8	0.0	0.0	33.0	0.0	14.7	0.0	0.0	
40	1.7	0.1	0.0	0.9	0.0	31.2	1.8	0.0	16.5	0.0	
41	1.6	0.0	0.2	0.8	0.0	29.3	0.0	3.7	13.7	0.0	
42	0.3	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	
43	0.1	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	
44	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	14.7	0.0	
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
46	1.0	0.0	0.1	0.0	0.0	18.3	0.0	1.8	0.0	0.0	
47	0.0	0.0	0.2	0.3	0.1	0.0	0.0	3.7	5.5	1.8	
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
50	0.0	0.0	0.5	0.0	0.0	0.0	0.0	9.2	0.0	0.0	
51	0.3	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	
52	Drum not openable					0.0	0.0	0.0	0.0	0.0	
53	0.3	0.0	0.0	0.1	0.0	5.5	0.0	0.0	1.8	0.0	
54	0.0	0.0	0.5	0.3	0.1	0.0	0.0	9.2	5.5	1.8	
55	2.2	0.0	0.0	0.0	0.0	39.4	0.0	0.0	0.0	0.0	
56	0.8	0.0	0.4	1.5	0.0	14.7	0.0	7.3	27.5	0.0	
57	0.2	0.0	0.0	1.5	0.0	2.7	0.0	0.0	26.6	0.0	
58	0.1	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	
59	2.7	0.0	0.2	0.2	0.0	48.6	0.0	3.7	2.7	0.0	
60	2.5	0.0	0.4	0.2	0.0	44.9	0.0	7.3	2.7	0.0	
61	2.1	0.0	0.2	0.8	0.0	37.6	0.0	3.7	14.7	0.0	
62	0.0	0.0	0.3	0.0	0.5	0.0	0.0	5.5	0.0	8.2	
63	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	10.1	0.0	
64	0.5	0.0	0.0	0.1	0.0	9.2	0.0	0.0	2.4	0.0	
65	2.2	0.0	0.0	0.0	0.0	39.4	0.0	0.0	0.0	0.0	
66	1.0	0.0	1.0	1.0	0.0	18.3	0.0	18.3	18.3	0.0	
67	0.0	0.0	0.6	0.7	0.0	0.0	0.0	11.0	12.8	0.0	
68	1.1	0.0	0.0	0.3	0.0	19.2	0.0	0.0	4.6	0.0	
69	1.6	0.0	0.6	0.4	0.0	29.3	0.0	11.0	7.3	0.0	
70	0.3	0.0	0.0	0.3	0.0	5.5	0.0	0.0	5.5	0.0	
71	0.8	0.1	0.0	0.0	0.0	13.7	1.8	0.0	0.0	0.0	
72	0.7	0.0	0.0	0.3	0.0	12.8	0.0	0.0	4.6	0.0	
73	0.1	0.0	2.0	0.7	0.0	1.8	0.0	36.7	11.9	0.0	
74	0.3	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	
75	3.0	0.0	0.0	0.0	0.0	54.1	0.0	0.0	0.0	0.0	
76	0.4	0.0	0.2	0.2	0.0	6.4	0.0	3.7	3.7	0.0	
77	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.8	0.0	
78	1.1	0.0	0.0	0.0	0.0	20.2	0.0	0.0	0.0	0.0	
79	0.5	0.0	0.0	0.0	2.1	9.2	0.0	0.0	0.0	37.6	TOTAL
						GALLONS PER CATEGORY: 1089.5	134.6	203.5	391.6	49.5	1868.7
						REL. PROPORTIONS (%): 58.3	7.2	10.9	21.0	2.6	

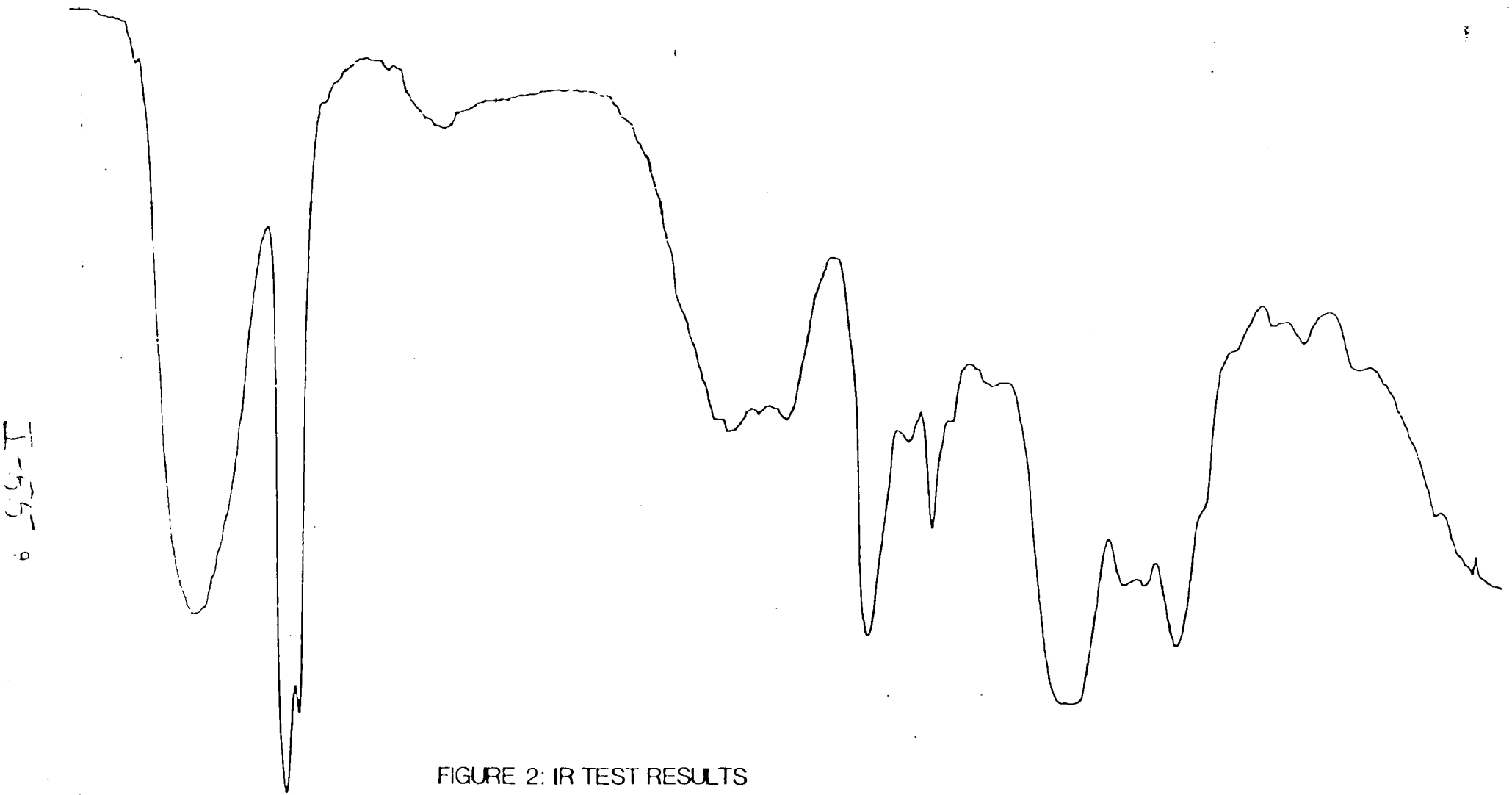


FIGURE 2: IR TEST RESULTS

G-L-6863-1

WALTER B. SATTERTHWAITE ASSOC. INC.

Sample: #285-18

GREENWOOD LABORATORIES

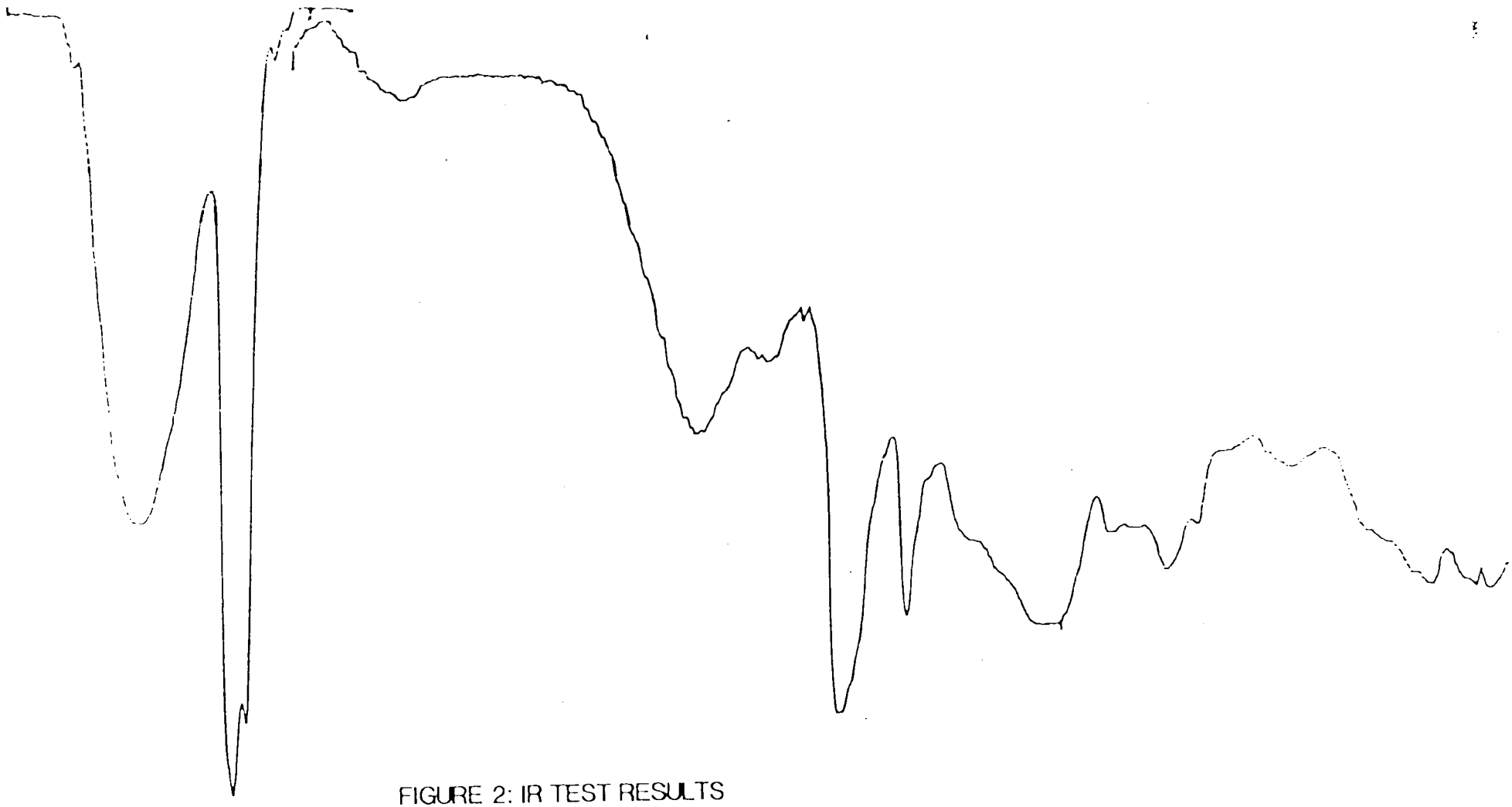


FIGURE 2: IR TEST RESULTS

Sample: #285-44

ATTN: B. SATTERTHWAITE ASSOC. INC.

GREENWOOD LABORATORIES

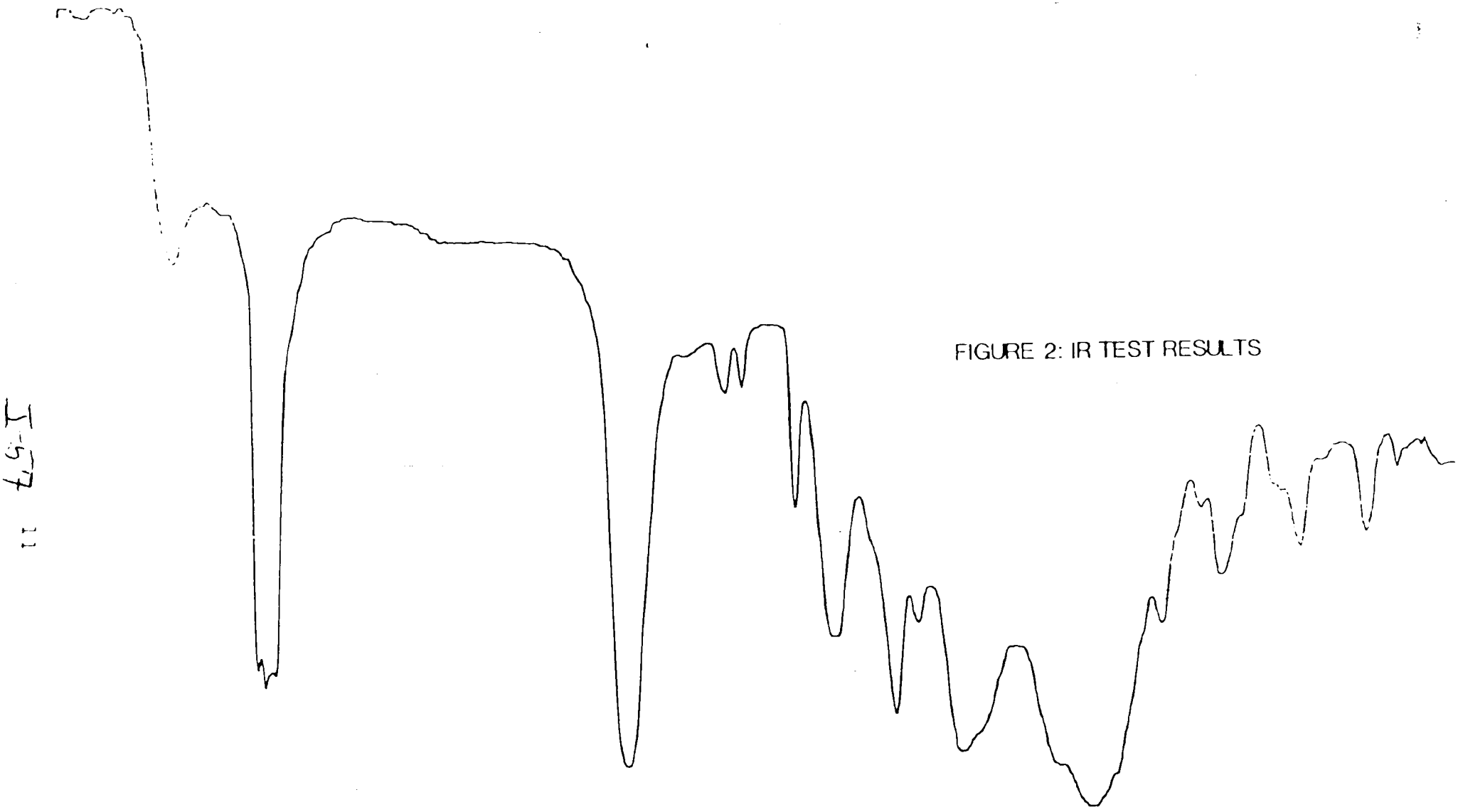


FIGURE 2: IR TEST RESULTS

Sample: #285-79

2.5 Discussion

The initial visual inspection and descriptions (odor, color, etc.) of the sampled material (see Table 2) strongly suggest that the majority of the samples consist of water, oil-based paint-like materials, or mixtures of these components that exist in two or more phases. Only a few drums appeared to contain other kinds of materials, such as used motor oil (Drums 17, 24, and 30), possible hydraulic fluid (Drum 7), or chlorinated materials (Drum 79). This hypothesis is supported by the solubility and the organic vapor data (see Table 2-2). Out of 56 samples tested, 20 were miscible in water and another 9 have miscible phases comprising more than 50 percent of the total amount in the drum. Twenty-seven samples have major components that are immiscible in water; a majority of these are denser than water but exhibit no organic vapor when sampled by the OVA. Most of these samples have a distinct paint-like odor, are viscous, and contain a material that appears to be pigment.

Only Drum 79 contains materials that are immiscible, denser than water, and exhibits high OVA readings (>50 ppm); these characteristics lead to the conclusions that (1) the material in this drum is a chlorinated hydrocarbon, and (2) that chlorinated materials are not present in large quantity in any of the other drums. Those samples that also show elevated OVA readings (Drums 26, 36, and 57) do not exhibit a solvent smell, indicating that the vapor is due to a nonchlorinated hydrocarbon.

The IR analyses conducted on the three separate samples (#285-18, -44, -79) indicate that the material in drums 18 and 44 to be some sort of resin. The IR spectra are somewhat similar to an alkyd resin, with a significant water content. Sample 285-79 was also analyzed by gas chromatography, which revealed that it contains a very volatile component. Tests conducted by WBSAI indicate that this material will not burn; the accumulated data suggest that it is probably a resin with a Freon solvent component.

3.0 REMOVAL AND DISPOSAL PLAN

This section describes proposed activities to remove and dispose of the materials in the drums at the Machias gravel pit, the empty drums and the surficial soil which has been contacted by some of these materials in the past. This proposed plan is submitted to NYDEC for review and approval, after which it will be used as the guideline for conducting this work.

3.1 Regulatory Requirements

Under federal and New York State law, the Town of Machias must apply for and receive a hazardous waste generator permit to remove the drummed materials from the gravel pit. This is necessary because some of the materials contain hazardous constituents (i.e., lead, methylene chloride). Upon approval of this removal and disposal plan, WBSAI will apply for such a permit on behalf of the Town. Application will be made to NYDEC Bureau of Hazardous Site Control in Albany, New York, in accordance with the regulations of 6NYCRR372.2.

The materials must be manifested offsite to a licensed, permitted transporter and disposal facility. At this time, we anticipate that transportation will be handled by Delaware Container Company, Inc., a New York-permitted hazardous waste hauler. Modifications to their permit, as per 6NYCRR364, will be completed on approval of this plan. We also anticipate using duPont Wastewater Treatment Services, a permitted hazardous waste treatment facility, for ultimate disposal of the drummed materials. Details of these two firms' permit data and capabilities are enclosed as Appendix A.

The drum of chlorinated material is anticipated to be disposed of at a permitted facility operated by CECOS in Niagara Falls, New York. Permit requirements and transportation will be arranged with this facility as described above.

Removal of the drummed materials from the site will leave approximately 80 empty 55-gallon drums and approximately 7 to 10 cubic yards of sand and gravel that may have contacted some of the material. We anticipate disposing of these nonhazardous materials at the Chaffee Landfill, after completing the required forms (47-19-7) for land disposal. Transportation of these materials will be handled by C.I.D., Inc., operators of the Chaffee Landfill.

3.2 Removal of Drummed and Residual Materials

Removal of the onsite materials will involve three steps: segregation of the drum of chlorinated material, removal of all other drummed material via a vacuum truck, and removal of empty drums and soil via a special rolloff container.

3.2.1 Drummed Materials

The drum of chlorinated material (Drum 79) is already numbered from prior sampling activities; it will be further marked with paint and flagged so that further removal and disposal activity will not affect the integrity of the drum. Based on earlier inspection, the drum is in good condition (upright, no corrosion); it will be covered with a polyethylene sheet to preclude any additional contact with rainfall.

The vacuum truck supplied by Delaware Container will remove the contents of the other drums containing liquids and suspended solids. Since a majority of the drums contain water, this activity will be conducted shortly after the drums have an opportunity to thaw out and become pumpable. This activity will be supervised by WBSAI personnel to ensure that (1) the correct drums are pumped, and (2) that as much material as possible is removed from each drum.

3.2.2 Residual Material

The empty drums and any sand and gravel affected by the loss of drummed material will be removed to a rolloff container supplied by C.I.D., Inc. The empty drums will be inspected to ensure that a minimum of residual material is left, and will be crushed using the Town's front end loader. The empty drums will be inspected, crushed and loaded prior to the removal of the silty sand so that the site can be left in a totally clean condition. Drum removal and sand/gravel excavation will also be done with Town equipment under WBSAI supervision. Excavation of approximately 7 to 10 cubic years (40 feet by 10 feet by 0.5 - 0.8 foot deep) is estimated; if visual inspection of the soil at this depth reveals further evidence of contact with drummed materials, additional material will be removed. Upon completion of this work, the front end loader will be properly washed down and cleaned to assure no residuals leaving the site.

3.3 Disposal

Disposal of the above materials will involve three steps:

1. transport the drummed materials to duPont's treatment facility;

2. disposal of the crushed drums and soil via rolloff container at the Chaffee Landfill; and

3. transport and disposal of the drum of chlorinated material at the CECOS facility.

3.3.1 Drummed Materials

The drummed materials will be manifested offsite and will be taken by Delaware Container Company to the duPont treatment facility in Deepwater, New Jersey. This treatment plant, which has analyzed and accepted a composite sample of the materials for treatment (see Appendix A), will use a powdered activated carbon/ biological treatment process to dispose of these materials.

3.3.2 Residual and Chlorinated Materials

The rolloff container of crushed, empty drums, sand, and gravel will be taken to C.I.D.'s landfill in Chaffee, New York, for disposal.

Drum 79, containing chlorinated materials, will be properly manifested offsite and disposed at the CECOS facility in Niagara Falls, New York. We anticipate at this time that transport of this single container will be handled by CECOS directly or by C.I.D., Inc.

CH-1 REV. 7-80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

WILMINGTON, DELAWARE 19898

CHEMICALS AND PIGMENTS DEPARTMENT
Technical Laboratory (D)
Chambers Works
Deepwater, NJ 08023

January 29, 1986

Mr. Mike Christopher
Walter B. Satterthwaite Assoc.
720 N. Five Points Rd.
West Chester, PA 19380

Dear Mike:

WASTEWATER TREATMENT SERVICE
PRICE QUOTATION

We have evaluated your road maintenance wastewater sample and found it to be acceptable for treatment at our Chambers Works facility. This sample was identified as D-4146 by Du Pont, and we estimate the disposal cost to be $.071/pound or $.59/gallon based upon the below price schedule and a total volume of 1,900 gal.:

- Tank Truck Handling.....$235.00 per truck
- Treatment Cost
  - TOC Removal.....$ 1.50 per pound
  - Acid Waste Neutralization.....$ 0.26 per pound
  - Solids Removal.....$ 0.25 per pound

Minimum Treatment and Handling Charge of $450.00 per Truck ($650 if less than 10,000 gallons).

This estimate is based on the sample you submitted and assumed the sample is representative of the wastewater to be treated from this source.

If this cost estimate is acceptable for treatment and disposal of your wastewater, please call me (609-540-2727) or John P. Cardie (609-540-3712) if I am not available. We will develop and send you a contract proposal for your approval and signature.

Once we receive the signed contract, we will countersign and assign your wastewater stream a contract number after which you may begin shipments.

Thank you for your interest in our wastewater treatment service. Please call us if you have any questions.

Sincerely yours,

B. Z. Miller

I-62

BZM/sab
6288C

Western Invest Section
T. R.
File: Reg. 9
Cattaraugus Co. Machias Gravel Pit

New York State Department of Environmental Conservation

MEMORANDUM

TO: Mr. Reisner, Cattaraugus County Health Department
FROM: Mr. Clare, Region 9
SUBJECT: MACHIAS GRAVEL PIT
SITE NO. 905013
DATE: March 4, 1986

In confirmation of our March 3rd telephone conversation, I am attaching copies of the following information:

1. Satterthwaite sampling data of Judd Cole's four(4) wells. (Received at February 4, 1986 meeting.)

2. Satterthwaite drum removal and cleanup program report. (Received at February 4, 1986 meeting.)

3. Copy of our February 20th acceptance letter on Satterthwaite's approval.

All of the above information is related to the Town's efforts to remove the drums and contaminated soil at their cost.

In a separate action, D.E.C. will be performing a Phase II Investigation at this site in 1986. We are proceeding with this investigation since the Town of Machias is not willing to sign an Order on Consent to perform this work as a responsible party. The Town was also not willing to install the monitoring wells which we believe to be essential for the Phase II investigation.

With respect to Judd Cole's wells and your contact with him yesterday, a map of the well locations with respect to the gravel pit is attached. Mr. Cole was at the February 4th meeting with the Town of Machias and Satterthwaite Associates. He is, therefore, aware of all current and proposed activities at the site.

According to my telephone conversation with Mr. Cole yesterday, he obtained his own water samples and had them analyzed at a New Hampshire laboratory. The results were supposedly similar - with 7.1 ppb vs. 5.6 ppb of chloroform found at his home well. No other contaminants were found at either his house well or in the other wells. I referred Mr. Cole to your office at the suggestion of Ron Tramantano after obtaining the following information from him:

1. Chloroform may be formed during well disinfection with chlorine-normally in combination with humic acids from soil.

RECEIVED
MAR 05 1986
BUREAU OF HAZARDOUS SITE CONTROL
DIVISION OF SOLID

I-63

2. THM's (including chloroform) normally disappear from wells with the dissipation of free residual chlorine.

3. Formation of chloroform, and the absence of any other organics, in a water supply well is unusual. No cases of chloroform alone in a water supply well have been shown to be associated with a hazardous waste site.

4. The drinking water standard for THM's is 100 ppb - far higher then the concentrations measured in the Cole well.

I sincerely hope that the attached information will be of assistance in your contact with Judd Cole. If more data or information is needed from our file, please feel free to call me at 716/847-4585.

LQC:ts
Attachments

cc: Mr. Peter Buechi
Mr. Raymond Lupe

CITIZEN'S CLEARINGHOUSE FOR HAZARDOUS WASTES, INC.
POST OFFICE BOX 926, ARLINGTON, VIRGINIA 22216
(703) 276-7070

October 9, 1986

Ms. Betty Cole
9450 Very Road
Machias, NY 14101

Dear Ms. Cole:

I have reviewed the materials you forwarded on the Machias Gravel Pit and the analytical results of the tests conducted on your well water. I will respond to your specific questions, but try to keep in mind that these questions have no easy clear-cut answers.

Scientists just don't know what happens when people are exposed to small amounts of one (or even worse, several) chemical(s) over long periods of time. As a result, interpreting results comes down to opinion, what one scientist thinks versus another. Conservative scientists make decisions in a way that if they're wrong, the consequence is that they have provided an extra measure of protection for people's health. On the other hand, if you assume higher exposures are "safe" and it turns out you're wrong, the consequence is that people become ill unnecessarily. It makes a lot of sense to me to err on the side of protecting people's health, rather than wait for the bodies to be sure that chemical "x" caused the problem. What makes this situation even worse is that the decision-makers aren't the ones taking the risks, you are. With this in mind, I will do my best to answer your questions.

1. Did the Dumpsite Contaminate Our Well Or Wells? Without more specific testing, it's not possible to answer this question. The work done by Satterthwaite Associates does not provide sufficient information, and in some instancess, the information is inadequate. Specifically:

- No groundwater samples were collected and sampled from the site itself. This is necessary to assess water quality at the site.

- Original results from organics sampling for wells located closest to the site (your wells) were lost (Satterthwaite Associates Report, October 22, 1985, p. 22). When these wells were resampled, only volatile organics were looked for. Non-volatile, base-neutral organics were not included in these second tests (RCRA Report, February 3, 1986).

- Sampling procedures for reported metals analyses were inappropriate. These samples were filtered. Filtering is a common procedure when sampling groundwater, but is inappropriate when sampling drinking water. This is because people drink the water unfiltered. If the samples are filtered, the results will not give an accurate picture of the potential contamination present in the water. These wells should be resampled, unfiltered samples collected and analyzed.

- The conductivity survey conducted by Satterthwaite Associates is limited in it's ability to measure volatile and non-polar, organic chemicals. Thus, if these chemicals are present, this method of assessment will show nothing, even if the area is highly contaminated. Satterthwaite admits this limitation (see p. 22 of the October 22, 1985 Report).

- The contents of the barrels were not specifically analyzed for. Instead, a general scanning meter (OVA) was used which detects only certain types of chemicals at a detection level of approximately 1 part per million (ppm). In addition, infrared (IR) analysis "spectra" are provided without including any reasonable means to independently interpret these results. As is, they are meaningless. These barrels should be resampled, analyzed using gas chromatography/mass spectometry (GC/MS) to specifically identify what's in the barrels.

In general, chloroform has been identified in your water, rather consistently. The source, however, is unclear. If the source was the gravel pit, there would likely be additional chemicals present, unless chloroform was a major waste product dumped in the pit. To establish this will requires more specific and accurate test results than currently available.

2. What Dangers Exist to Our Health? The primary chemical detected in your water is chloroform. This chemical has been found to cause cancer in animals and is a suspect human carcinogen. As a result, some argue that any exposure increases your risk of getting cancer. The National Academy of Sciences has established an exposure level for non-carcinogenic effects (that is for health problems caused by chloroform other than cancer) that they believe causes no adverse effects. These levels are:

22 mg/liter (ppm) for a 24 hour exposure, and

3.2 mg/liter (ppm) for a 7-day expsoure

No lifetime exposure was calculated because of the cancer causing ability of chloroform.

When comparing your results to these values:

0.007 mg/liter (ppm) - Water Test Result

0.004 mg/liter (ppm) - DOH Result
0.0058 mg/liter (ppm) - RCRA Result

You can see that the results from your water are well below these numbers. But then, how long have these chemicals been in your water? The longer they have been in the water, the greater the risk. Also, the longer they have been in the water, the greater the risk of cancer. As you can see, there is no simple answer.

3. What Damage May Have Already Occurred? This is hard to say. It depends primarily on how long exposure has been occuring. The liver and kidney are primary target organs affected by exposure to chloroform and appropriate tests for measuring the function of these organs would need to be taken. I've enclosed several summaries of the toxicity of chloroform which provides more information on symptoms and health effects.

4. How Should We Proceed Regarding Cleanup? I'm not sure what you mean. If the gravel pit is the source of contamination, then you need to maintain pressure on the City to remove contaminated barrels and soil. You may also want to get them to provide a fresh/clean drinking water source.

5. Once the Barrels are Removed, How Long Will the Contaminants Remain? Again, this depends on how much of the contmainants remain in the soil, and how much leaked out of the barrels. If they do a good job of removing contaminated soil, along with the barrels, any sign of contamination may quickly go away. The only way to know is to test the remaining soil at the site (gravel pit) and to measure how much (if any) chemicals are present and do the same with the groundwater.

I hope this response helps to answer your questions. As I said earlier, there are no simple answers. There just isn't enough known. It comes down to what you're willing to live with, what you're willing to accept. You and your family have to decide what is best for you. I hope I have helped provide you with enough information and an understanding of what isn't known so that you can judge for yourself.

If I can be of any further assistance, or if you have other questions, feel free to contact me at any time.

Sincerely,

Stephen U. Lester
Science Director

SUL/gfm

Code 2nd.

Bette Cobb
9450 Very Rd.
Machias, N.Y. 14101

OCT 23 19

Oct. 21, 1986

Dear Mr. Dwyer

Steve Lester from CCHW called me today to see if I had any questions concerning the material they had mailed. During the conversation he said that Satterthwaite Assoc. had been involved with other sites that CCHW had reviewed. He said they tend to take jobs that are fairly cut and dried and make a lot of assumptions on the contamination amount without backing it up with scientific testing. He also said that there are many errors in the reports they have already submitted to the Town of Machias. Mr. Lester questioned me about the machine that Satterthwaite's called a mass spectrometer. He said the machine I described was not a mass spectrometer because it was too small and cost about $500,000 and the last dealings he had with Satterthwaite's they did not own one. The software used in the machine I saw could also be used in a mass spectrometer giving it the appearance of the more expensive machine but not the capabilities. On the computer screen that I saw, it had "mass spectrometer" on the top. He also said that they could program that portable machine to recognize the chemicals they expected to find and leave out any they didn't think were present therefore it wasn't reliable. He also said the contents of the barrels were not analized in the reports he saw so therefore we can't know what chemicals to test our water for. He did suggest we might want to find a gasoline test which would also include toluene.

I thought you would be interested in Mr. Lester's news.

I-68

DWYER & DWYER, P.C.
ATTORNEYS AT LAW
WESTSTAR PROFESSIONAL BUILDING
1616 WEST STATE STREET
P.O. BOX 648
OLEAN, NEW YORK 14760
716 373-1920

JOSEPH C. DWYER
ELAINE NIVER DWYER
EDWARD M. SHARKEY

PRACTICE LIMITED TO
CIVIL TRIAL LAW

BARBARA L. LAVERTY
LEGAL ASSISTANT

RECEIVED
MAR - 2 1987
N. Y. S. DEPT. OF
ENVIRONMENTAL CONSERVATION
REGION 9

February 27, 1987

Mr. Spagnoli
Hazardous Wastes Division
N.Y.S. Department of
Environmental Conservation
600 Delaware Avenue
Buffalo, New York 14202

Re: D.E.S. Site #905021

Dear Mr. Spagnoli:

We represent Judd and Bette Cole, who live on Very Road, Town of Machias, County of Cattaraugus. As you know, the State has identified the Machias gravel pit, located across from the Cole property on Very Road, as a toxic waste site. On behalf of the Coles, we wonder if you would kindly address the following matters:

(1) Although most of the Motorola waste drums have been removed, the clean-up firm refused to touch several barrels which allegedly contain solidified waste. Please advise us what plans D.E.C. has to insure removal of the remaining drums;

(2) We note that the contents of most of the original 600 barrels leaked out on the site. Also we note that no guarantee exists that other barrels are not buried and as yet remain undiscovered at the site. In light of uncertainties, we wonder what ongoing or additional plans D.E.C. has to conduct or to order conducted additional testing of the Coles' well water. In this regard, we also note:

a) Citizen's Clearinghouse for Hazardous Wastes has reviewed the tests conducted by Satterthwaite and has found them somewhat lacking. See enclosed report;

b) Advanced Environmental Services, of Niagara Falls, has reviewed D.E.C. records in our possession and has suggested additional testing to insure the quality of the Coles' drinking water. See enclosed "Proposed Monitoring Program".

Please consider this letter to be a formal request for the following:

(1) Prompt removal of remaining barrels located at the

Machias gravel pit;

(2) Additional testing of the Coles' water supply, including:

a) ph
b) specific conductance
c) total organic Carbon
d) total organic Halides

We are sure that you share our concern for the health and property of Judd and Bette Cole, and we trust that this matter can be resolved without further ado.

Thank you, and we look forward to your reply.

Yours very truly,

DWYER & DWYER, P.C.

BY:
Joseph C. Dwyer

JCD/jh
Enclosure
CERTIFIED MAIL

RETURN RECEIPT REQUESTED

PROPOSED MONITORING PROGRAM
FOR WELL WATER ON THE
COLE PROPERTY IN MACHIAS, NEW YORK

1.0 SAMPLE LOCATIONS

Wells with pumps - house, barn, cabin

2.0 SAMPLING FREQUENCY

Quarterly the first year, then once per year thereafter

3.0 PARAMETERS

3.1 Indicators of Groundwater Contamination

pH
Specific Conductance
Total Organic Carbon
Total Organic Halides

3.2 Gravel Pit Site Specific Indicators

Purgeable Halocarbons
Purgeable Aromatics
Lead

ADVANCED
ENVIRONMENTAL SERVICES INC.

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, N.Y. 14202-1073

Henry G. Williams
Commissioner

March 16, 1987

Mr. Joseph C. Dwyer
Dwyer and Dwyer, P.C.
1616 West State Street
P.O. Box 648
Olean, New York 14760

Dear Mr. Dwyer:

Machias Gravel Pit
Site No. 905013

Your February 27, 1987 letter to Mr. Spagnoli has been referred to me for response. As the engineer in charge of the Solid and Hazardous Waste Program in Region 9, I am familiar with the activities at the Machias Gravel Pit. (Site No. 905013 on the Inactive Hazardous Waste Disposal Site Registry).

According to our records, the Machias Gravel Pit received approximately 600 drums of waste material, the majority of which was emptied into a road spreader in the gravel pit and spread on town roads for dust control purpose. The amount of material/liquid spilled or otherwise disposed of on site is not known. Based on previous experience with Motorola wastes and the sampling completed to date, something less than 10% of these drums would contain hazardous wastes.

The responsibility of this Department with respect to Inactive Hazardous Waste Sites is to determine whether or not contamination exists, assess remedial alternates and ultimately to secure appropriate remedial action. The focus of our authority and program efforts are on the site itself and its effect on the environment. The New York State and Cattaraugus County Health Department, on the other hand, are responsible for potable water supplies. I feel certain that, based on our previous contacts with your client, that this distinction is understood.

With the concurrence of this office, the Town of Machias has undertaken two (2) distinct steps to address this situation:

1) Drum Removal

A total of 170 drums have been removed and properly disposed of through February 27, 1987. The Town's consultant is trying to locate an acceptable final disposal point for the four (4) remaining drums. The entire cost of the removal was born by the Town of Machias.

2) Contaminant Evaluation

Walter B. Satterthwaite Associates, the Town Consultant prepared a report on site contamination which included sampling of the Cole wells, a geophysical survey, drum sampling and soil sampling. The intent of this study was to assess site contamination and attempt to locate evidence of contamination. The scope of this study was limited but beneficial.

The next step to be taken by this office is to complete a Phase II level study of the site. This includes the installation of groundwater monitoring wells to determine whether or not any contamination of the groundwater directly attributable to this site exists. This study is currently scheduled to begin in late 1987. It is not expected that the results will be available before 1988.

While I certainly share the concerns of your clients with the chloroform concentrations in their well, we have only limited authority in this area. Since there is no evidence linking the chloroform content of the Cole's well with the contaminants in the gravel pit, we cannot justify any type of emergency action based on this problem.

With respect to the questions and request raised in your letter, the following responses (using your numbering system)appear appropriate:

1) This Department has taken no enforcement action requiring the Town of Machias to remove drums. The Town has voluntarily removed 170 drums to date. We will continue to work with the Town and their consultant to insure expeditious removal of the remaining four (4) drums.

2) The comments by the Citizen's Clearing House and Advanced Environmental Services both address the potability of the private well water. This is an area within the jurisdiction of the NYS and Cattaraugus County Health Department. It is inappropriate for this Department to infringe in any way on their responsibilities. I would recommend that your request for sampling of the Cole well for drinking water quality purposes be made of one of those agencies.

I empathize with the frustration your clients are experiencing with the continued contamination of their potable water supply. While I can assure you that this Department is proceeding as expeditiously as possible, under current restraints, it is unfortunately a very slow pace.

If there are any other specific questions, or should we be able to provide any further assistance, please feel free to telephone either Mr. Clare or myself at 716-847-4585.

Very truly yours,

Peter J. Buechi, P.E.
Regional Engineer for Solid and Hazardous Waste

cc: Mr. John Tygert
Mr. Lawrence Clare
Mr. Walter Demick
Mr. Louis Violanti
Mr. Chester Halgas

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Regional Office 584 Delaware Avenue Buffalo, New York 14202

David Axelrod, M.D.
Commissioner

OFFICE OF PUBLIC HEALTH
Linda A. Randolph, M.D., M.P.H.
Director
Olivia Smith-Blackwell, M.D., M.P.H.
Regional Health Director

Walt & file
✓ CC Roy
4/24/87

April 20, 1987

RECEIVED
APR 22 1987
CATTARAUGUS COUNTY
DEPT. OF HEALTH

RECEIVED
APR 22 1987
CATTARAUGUS COUNTY
DEPT. OF HEALTH

Mr. Joseph C. Dwyer
Dwyer and Dwyer Attorneys at Law
Weststar Professional Building
1616 West State Street
P.O. Box 648
Olean, NY 14760

Dear Mr. Dwyer:

This letter has been forwarded in response to your letter dated April 13, 1987 regarding the private water system serving the Cole property on Very Road, Machias, Cattaraugus County.

Based upon the documents included with the previously mentioned letter, it is apparent that the concern of the Coles is due to chloroform.

Per the New York State Drinking Water Regulations, specifically 10NYCRR Part 5, the drinking water standard for public water systems is 0.10 milligrams per liter (equivalent to 100 micrograms per liter).

Due to the lack of specific information regarding the particulars of the situation, the following general statements are brought to your attention.

1. chloroform may be generated as a by-product of the chlorination of potable water.

2. chloroform is readily removed by activated carbon treatment.

3. drinking water standards are generally based upon the injection of 2 liters (about one quart) of water per person for 65 years.

For further more specific information, please contact the Cattaraugus County Health Department.

Very truly yours,

Richard N. Seaman

Richard N. Seaman
Regional Water Supply Engineer

RNS:ww

cc: Mr. Halgas, CCHD
Cattaraugus PWS General file

CATT

PJB
JST
Machias Gr Pit

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, N.Y. 14202-1073

Henry G. Williams
Commissioner

June 24, 1987

Supervisor Eugene Very
Town of Machias
Pleasant Valley Road
Machias, New York 14101

Dear Supervisor Very:

Machias Gravel Pit
Site No. 905013

Since overseeing the drum removal program at the Machias Gravel Pit in October 1986 and on February 27, 1987, this office has had no contact from your consultant or the Town regarding the completion of the removal activity.

There are several outstanding issues at this site:

1) A report on the drum removal/sampling has not been submitted by your consultant.

2) The contaminated soil (TCE) is uncovered and has not been turned or aerated.

3) Four (4) drums remain on site. Your consultant indicated in our last contact (March 17, 1987) that the contents of these drums would require incineration but that the incinerator was out of compliance.

Each of these points requires Town action.

The Phase II Study of this site is included in a State Contract which has not been executed. The study should, however, be underway before the end of the current calendar year.

The purpose of this letter is to reiterate our perception of the current status of the site. While the Phase II Investigation is being delayed by DEC contractual problems, the drum removal issues remain in the Town's power to resolve.

If you should have any questions or desire any input on any part of this problem, please feel free to contact me at 716-847-4585.

Very truly yours,

Lawrence G. Clare, P.E.
Senior Sanitary Engineer

cc: Catt. Co. Health Dept.
Mr. Walter Demick
Mr. John Tygert

I-75

CARL Dennis

Walt Demick West. Assist Sect

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, N.Y. 14202-1073

Thomas C. Jorling
Commissioner

November 2, 1987

RECEIVED

NOV 04 1987

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

Mr. Randall K. Dickinson
Walter B. Satterthwaite Associates
720 N. Five Points Road
West Chester, PA 19380

Dear Mr. Dickinson:

Machias Gravel Pit
Site No. 905013

Since initiating a cleanup action at the Machias Gravel Pit Site in October 1986, we have had no written communication with your firm. It has been (is) our understanding that a written report on this removal action was (is) to be prepared. To date, no data, project summary or technical information related to this action has been received.

The site currently remains unsecured and unremediated. As of October 26, the pile of contaminated soil has been spread out on a plastic sheet. This aeration process was originally recommended by your firm in October 1986. Four drums of waste, which we understand must be incinerated, remain on the site. This office has received no analytical data on either the contaminated soil or remaining drums.

During the October 1986 and February 1987 drum removal actions, it was our understanding that a complete summary report was to be prepared and submitted by your firm through the Town of Machias. My record of our discussions indicate that we would receive the following:

1) Summary of drums removed (total count, disposition)
2) Quantity estimate of liquid removed from the drums and ponded spills
3) A summary of portable mass spec data on the solvent saturated soil. No confirmation of the parameters found in the soil (particularly the unknown) has been submitted nor is available in our field notes.

We are requesting that you provide us with this data and information.

Your cooperation in providing this data will be appreciated.

Very truly yours,

Lawrence G. Clare

Lawrence G. Clare, P.E.
Senior Sanitary Engineer

cc: Town of Machias
Mr. Walter Demick
Mr. John Tygert
Cattaraugus Cty. Health Dept.

I-76

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, N.Y. 14202-1073

Thomas C. Jorling
Commissioner

November 5, 1987

RECEIVED
NOV 10 1987
BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

Supervisor and Town Board
Town of Machias
Pleasant Valley Road
Machias, New York 14101

Gentlemen:

Machias Gravel Pit (905013)

On June 24, 1987, the status of the Machias Gravel Pit site was summarized in a letter to the Town of Machias. A copy of that letter is enclosed.

Since June, the Town of Machias has:

1) Spread the contaminated soil out on a plastic sheet. Our inspections have not shown any evidence that the soil is being turned over periodically. This soil must be turned over to assure release of volatile compounds. Sampling will be necessary before the soil is disposed of.

2) The gravel mining now in progress (October 1987) is not in the area which we previous agreed on. Enclosed is a site sketch prepared in 1986. The current mining area is cross hatched in red. This area could conceivably be affected by runoff from the contaminated soil area (shown in red also). This area should not be mined while the 4 drums and pile of contaminated soil remain on site.

We continue to expect a report on the drum removal already completed. On November 2, 1987, a letter was sent to your consultant requesting the analytical data and a summary of the removal activities. To date, we have not received this data. The purpose of this letter is merely to assure a mutual understanding of the status of the site. It is our feeling that a meeting to review the overall status of this site, including the inactive hazardous waste problem, the gravel mining operation and the Town's proposal to construct a hew highway garage on this property might be mutually beneficial. If you concur and desire a meeting, please contact Mr. John Tygert in this office at 847-4585.

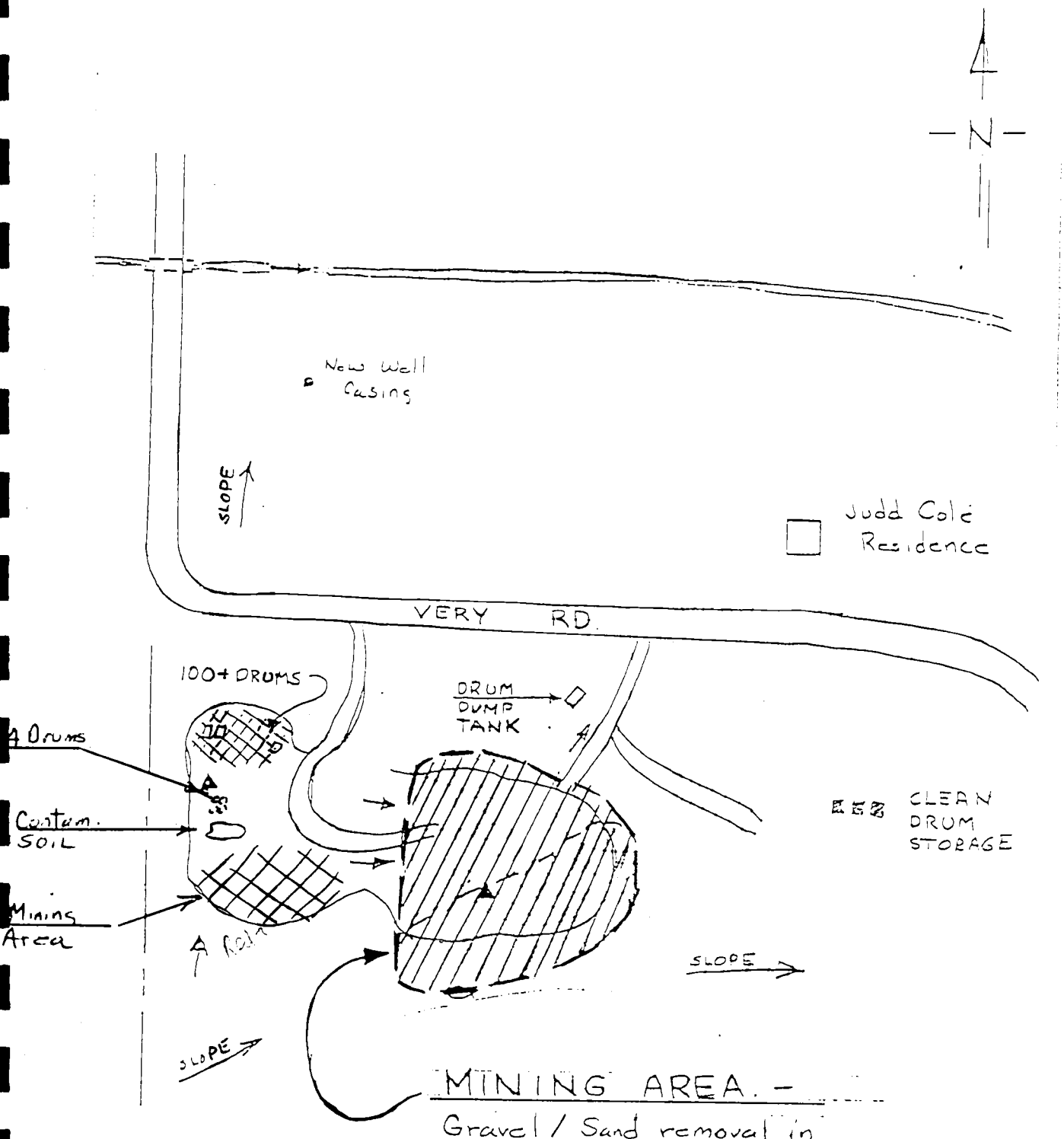
Very truly yours,

Lawrence G. Clare, P.E.
Senior Sanitary Engineer

cc: Mr. Chester Halgas
Mr. Peter Buechi
Mr. Walter Demick

I-72

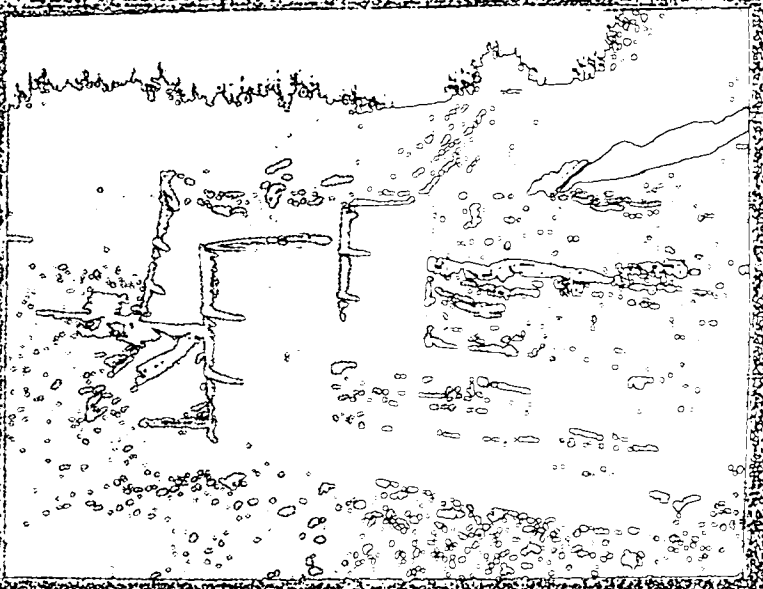
MACHIAS GRAVEL PIT - 905013



RED - OCT., 1987

OCT. 14, 1986

Lawrence Clare



I-79

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

April 18, 1988

Mr. Alfred Shenk
West Valley Road
Machias, NY 14101

Dear Mr. Shenk:

Re: Machias Gravel Pit, ID #905013

The New York State Department of Environmental Conservation (DEC), under the Environmental Conservation Law, is planning a Phase II investigation of the Machias Gravel Pit. As part of the investigation, we expect to locate monitoring well GW-1, as indicated on the enclosed sketch. Our Region 9 office has determined that you may be the owner of the land on which this well is to be located. This is a request that you allow the DEC access to the locations for constructing the monitoring well.

The Phase II investigation involves the drilling of a hole in the ground of approximately 50 feet depth, then constructing the monitoring well. Once completed, the monitoring well will be below ground, and the only visible portion will be a 4-inch diameter iron pipe sticking up 3-4 feet from the ground. There will also be some concrete grout around the stem of the pipe to act as a seal against run-off water.

In order to drill the hole and construct the well, a truck-mounted drill rig and other accessories, as a water tank, grout mixing container and drilling equipment will have to be brought to the location, and generally a mess will be made. However, we clean up the area to the greatest extent possible at the end of each day and at completion of the well construction; we expect that six days may be needed for this project. Furthermore, once our investigation is completed, DEC will remove the well and restore the area to its original state.

DEC 9-1-88
8-17-88
I-80

I would appreciate your cooperation in this matter. Please contact Michael Komoroske or me at (518) 457-0639 if you have any questions.

Sincerely,

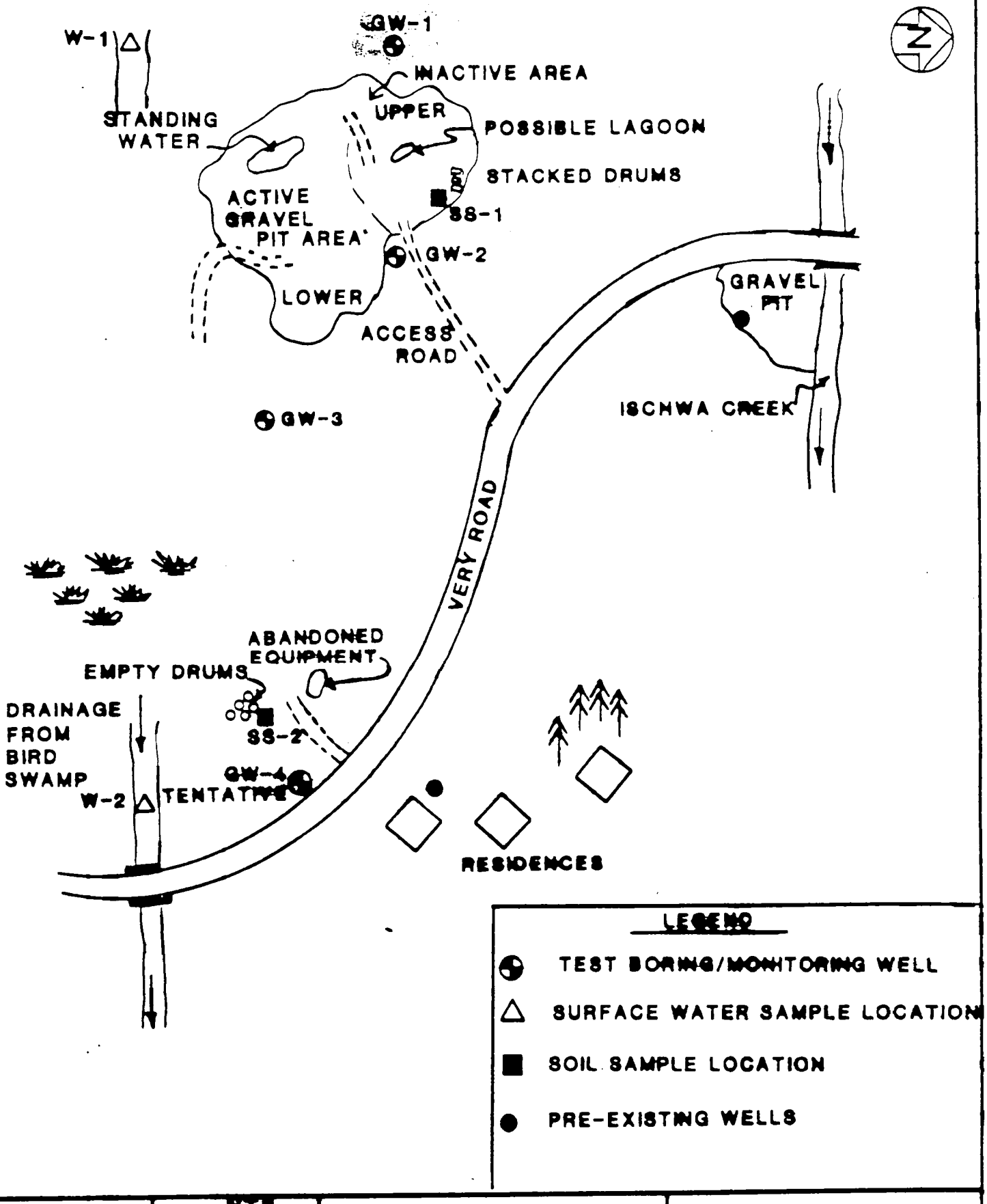
Marsden Chen

Marsden Chen
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation

Enclosure

bcc: M. Komoroske
M. Chen
File

MC/ch



BRUNING	Scale: NTS		MACHIAS GRAVEL PIT NYS SUPERFUND PHASE II	PROPOSED SAMPLING LOCATION MAP
	By	Date		
	Dwn. SSN	10/84		
	Ckd.			
	Ap'vd.		SITE NO. 905013	
	Rev.		Project No. 5C280503	A FIGURE 1

.1160-1

APPENDIX J

ANALYTICAL DATA

Machia's BW E
Samples 01, 02

RECRA ENVIRONMENTAL LABORATORIES

Division of Recra Research, Inc.

October 23, 1985

Mr. John M. Ryan
New York State Department of
Environmental Conservation
Bureau of Hazardous Waste
50 Wolf Road
Albany, NY 12233

Re: Analytical Results

Dear Mr. Ryan:

Please find enclosed results of the analyses of the waste samples received at our laboratories on September 6, 1985.

The analysis and report were delayed due to time spent in clarifying the requested analysis. Requested Method ~~612~~ was not applicable to waste sample. The samples were analyzed by Method 8270.

001
02

The information contained in this report has been reviewed for completeness and accuracy by the individuals whose signature appears on this cover letter.

If you have any questions concerning these data, do not hesitate to contact our Customer Service Representative at (716) 692-7620.

Sincerely,

RECRA ENVIRONMENTAL LABORATORIES

James A. Ploscyca
Laboratory Director

John J. Jugovich
Organic Coordinator

JJJ/JAP/jhs
Enclosure
cc: ✓Ahmad Tayyebi

I.D. #85-1077

4248 Ridge Lea Road, Amherst, New York 14226
Telephone Sales (716) 838-6200
Laboratory (716) 692-7620

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/23/85

PESTICIDES/PCB'S

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION	
		R-985-059-01	R-985-059-02
aldrin	µg/g	<2	<0.2
alpha-BHC	µg/g	<2	<0.2
beta-BHC	µg/g	<2	<0.2
delta-BHC	µg/g	<2	<0.2
gamma-BHC	µg/g	0.86	0.16
chlordane	µg/g	<10	<2
4,4'-DDD	µg/g	<4	<0.4
4,4'-DDE	µg/g	<4	<0.4
4,4'-DDT	µg/g	<4	<0.4
dieldrin	µg/g	<4	<0.4
alpha-endosulfan	µg/g	<4	<0.4
beta-endosulfan	µg/g	<4	<0.4
endosulfan sulfate	µg/g	<4	<2
endrin	µg/g	<4	<0.4
endrin aldehyde	µg/g	<4	<0.4
heptachlor	µg/g	<4	<0.2
heptachlor epoxide	µg/g	6.2	<0.2
PCB-1016	µg/g	<10	<2
PCB-1221	µg/g	<20	<4
PCB-1232	µg/g	<20	<4
PCB-1242	µg/g	<10	<2
PCB-1248	µg/g	<10	<2
PCB-1254	µg/g	<10	<2
PCB-1260	µg/g	<10	<2
toxaphene	µg/g	<40	<7

ADDITIONAL SAMPLE INFORMATION

Sample Date	9/4/85	9/4/85
Extraction Date	9/26/85	9/26/85
Analysis Date	10/10/85	10/9/85

FOR RECRA ENVIRONMENTAL LABORATORIES John J. Jaquish

DATE 10/23/85

I.D. #85-1077

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
QUALITY CONTROL

Report Date: 10/23/85

VOLATILE RECOVERY ANALYSIS OF
SAMPLE R-985-059-01

COMPOUND IDENTIFICATION	ng OF SPIKE	ng RECOVERED	% RECOVERY
carbon tetrachloride	200	214	107
chlorobenzene	200	240	120
chloroform	200	224	112
dibromochloromethane	200	176	88
1,1-dichloroethane	200	236	118
1,1-dichloroethylene	200	258	129
1,2-dichloropropane	200	230	115
methylene chloride	200	176	88
tetrachloroethylene	200	240	120
1,1,2-trichloroethane	200	222	111
trichloroethylene	200	212	106

ADDITIONAL SAMPLE INFORMATION

Sample Date	9/4/85
Analysis Date	9/30/85
Internal Standard - Level	20 µg/g
bromochloromethane - Recovery	119%
Internal Standard - Level	20 µg/g
2-bromo-1-chloropropane - Recovery	107%
Internal Standard - Level	20 µg/g
1,4-dichlorobutane - Recovery	113%

FOR RECRA ENVIRONMENTAL LABORATORIES John D. Augustch

DATE 10/23/85

I.D. #85-1077

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/23/85

VOLATILES

COMPOUND	DETECTION LIMIT (µg/g Wet)	SAMPLE IDENTIFICATION R-985-059-01	SAMPLE IDENTIFICATION R-985-059-02
toluene	6.0	BDL	BDL
1,1,1-trichloroethane	3.8	160 µg/g Wet	390 µg/g Wet
1,1,2-trichloroethane	5.0	ND	ND
trichloroethylene	1.9	3.6 µg/g Wet	BDL
trichlorofluoromethane	2.8	ND	ND
vinyl chloride	10	ND	ND

ADDITIONAL SAMPLE INFORMATION

Sample Date	9/4/85	9/4/85
Analysis Date	9/30/85	9/30/85
Internal Standard - Level	20 µg/g	20 µg/g
bromochloromethane - Recovery	69%	103%
Internal Standard - Level	20 µg/g	20 µg/g
2-bromo-1-chloropropane - Recovery	70%	92%
Internal Standard - Level	20 µg/g	20 µg/g
1,4-dichlorobutane - Recovery	56%	108%

FOR RECRA ENVIRONMENTAL LABORATORIES John A Augenti

DATE 10/23/85

I.D. #85-1077

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/23/85

VOLATILES

COMPOUND	DETECTION LIMIT (µg/g Wet)	SAMPLE IDENTIFICATION	
		R-985-059-01	R-985-059-02
acrolein	400	ND	ND
acrylonitrile	400	ND	ND
benzene	4.4	ND	ND
bromodichloromethane	2.2	ND	ND
bromoform	4.7	ND	ND
bromomethane	10	ND	ND
carbon tetrachloride	2.8	ND	ND
chlorobenzene	6.0	ND	ND
chloroethane	10	ND	ND
2-chloroethylvinyl ether	10	ND	ND
chloroform	1.6	ND	ND
chloromethane	10	ND	ND
dibromochloromethane	3.1	ND	ND
1,2-dichlorobenzene	2.2	ND	ND
1,3-dichlorobenzene	2.1	ND	ND
1,4-dichlorobenzene	2.5	ND	ND
1,1-dichloroethane	4.7	ND	BDL
1,2-dichloroethane	2.8	ND	ND
1,1-dichloroethylene	2.8	ND	BDL
trans-1,2-dichloroethylene	1.6	ND	ND
1,2-dichloropropane	6.0	ND	ND
cis-1,3-dichloropropene	5.0	ND	ND
trans-1,3-dichloropropene	5.0	ND	ND
ethylbenzene	7.2	BDL	BDL
methylene chloride	2.8	ND	36 µg/g Wet
1,1,2,2-tetrachloroethane	6.9	ND	ND
tetrachloroethylene	4.1	ND	ND

(Continued)

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/23/85

BASE/NEUTRALS

COMPOUND	DETECTION LIMIT (µg/kg Wet)	SAMPLE IDENTIFICATION R-985-059-02
hexachlorobenzene	6,600	ND
hexachlorobutadiene	6,600	ND
hexachlorocyclopentadiene	6,600	ND
hexachloroethane	6,600	ND
indeno(1,2,3-cd)pyrene	6,600	ND
isophorone	6,600	ND
naphthalene	6,600	ND
nitrobenzene	6,600	ND
N-nitrosodimethylamine	6,600	ND
N-nitrosodi-n-propylamine	6,600	ND
N-nitrosodiphenylamine	6,600	ND
phenanthrene	6,600	BDL
pyrene	6,600	ND
1,2,4-trichlorobenzene	6,600	ND

ADDITIONAL SAMPLE INFORMATION

Sample Date	9/4/85
Extraction Date	9/24/85
Analysis Date	10/8/85
Internal Standard - Level	1,000 µg/kg
deuterated phenanthrene - Recovery	128%
Surrogate Standard (SS3) - Level	5,000 µg/kg
decafluorobiphenyl - Recovery	57%
Surrogate Standard (SS4) - Level	5,000 µg/kg
2-fluorobiphenyl - Recovery	100%

FOR RECRA ENVIRONMENTAL LABORATORIES John J. Inguaggiato

DATE 10/23/85

I.D. #85-1077

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/18/85

ACID/PHENOLICS

COMPOUND	DETECTION LIMIT (µg/kg Wet)	SAMPLE IDENTIFICATION R-985-059-03
2-chlorophenol	15,000	ND
2,4-dichlorophenol	15,000	ND
2,4-dimethylphenol	15,000	ND
4,6-dinitro-o-cresol	72,000	ND
2,4-dinitrophenol	72,000	ND
2-nitrophenol	15,000	ND
4-nitrophenol	72,000	ND
p-chloro-m-cresol	15,000	ND
pentachlorophenol	72,000	ND
phenol	15,000	ND
2,4,6-trichlorophenol	15,000	ND

ADDITIONAL SAMPLE INFORMATION

Sample Date	9/4/85
Extraction Date	9/24/85
Analysis Date	10/8/85
Internal Standard (IS) - Level	1,000 µg/kg
deuterated phenanthrene - Recovery	128%
Surrogate Standard (SS1) - Level	5,000 µg/kg
2-fluorophenol - Recovery	210%*
Surrogate Standard (SS2) - Level	5,000 µg/kg
pentafluorophenol - Recovery	-*

*Recovery values could not be accurately determined due to the matrix of the sample.

FOR RECRA ENVIRONMENTAL LABORATORIES _____

DATE 10/18/85

I.D. #85-1076

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/18/85

BASE/NEUTRALS

COMPOUND	DETECTION LIMIT (µg/kg Wet)	SAMPLE IDENTIFICATION R-985-059-03
acenaphthene	15,000	ND
acenaphthylene	15,000	ND
anthracene	15,000	ND
benzidine	72,000	ND
benzo(a)anthracene	15,000	ND
benzo(a)pyrene	15,000	ND
benzo(b)fluoranthene	15,000	ND
benzo(g,h,i)perylene	15,000	ND
benzo(k)fluoranthene	15,000	ND
bis(2-chloroethoxy)methane	15,000	ND
bis(2-chloroethyl)ether	15,000	ND
bis(2-chloroisopropyl)ether	15,000	ND
bis(2-ethylhexyl)phthalate	15,000	ND
4-bromophenylphenylether	15,000	ND
butylbenzylphthalate	15,000	ND
2-chloronaphthalene	15,000	ND
4-chlorophenylphenylether	15,000	ND
chrysene	15,000	ND
dibenzo(a,h)anthracene	15,000	ND
1,2-dichlorobenzene	15,000	ND
1,3-dichlorobenzene	15,000	ND
1,4-dichlorobenzene	15,000	ND
3,3'-dichlorobenzidine	15,000	ND
diethylphthalate	15,000	ND
dimethylphthalate	15,000	ND
di-n-butylphthalate	15,000	ND
2,6-dinitrotoluene	15,000	ND
2,4-dinitrotoluene	15,000	ND
di-n-octylphthalate	15,000	ND
1,2-diphenylhydrazine	15,000	ND
fluoranthene	15,000	ND
fluorene	15,000	ND

(Continued)

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/18/85

BASE/NEUTRALS

COMPOUND	DETECTION LIMIT (µg/kg Wet)	SAMPLE IDENTIFICATION R-985-059-03
hexachlorobenzene	15,000	ND
hexachlorobutadiene	15,000	ND
hexachlorocyclopentadiene	15,000	ND
hexachloroethane	15,000	ND
indeno(1,2,3-cd)pyrene	15,000	ND
isophorone	15,000	ND
naphthalene	15,000	ND
nitrobenzene	15,000	ND
N-nitrosodimethylamine	15,000	ND
N-nitrosodi-n-propylamine	15,000	ND
N-nitrosodiphenylamine	15,000	ND
phenanthrene	15,000	ND
pyrene	15,000	ND
1,2,4-trichlorobenzene	15,000	ND

ADDITIONAL SAMPLE INFORMATION

Sample Date	9/4/85
Extraction Date	9/24/85
Analysis Date	10/8/85
Internal Standard - Level	1,000 µg/kg
deuterated phenanthrene - Recovery	128%
Surrogate Standard (SS3) - Level	5,000 µg/kg
decafluorobiphenyl - Recovery	55%
Surrogate Standard (SS4) - Level	5,000 µg/kg
2-fluorobiphenyl - Recovery	87%

FOR RECRA ENVIRONMENTAL LABORATORIES _____

DATE 10/18/85

I.D. #85-1076

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/18/85

PESTICIDES/PCB'S

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION R-985-059-03
aldrin	µg/g	<0.7
alpha-BHC	µg/g	<0.7
beta-BHC	µg/g	<0.7
delta-BHC	µg/g	<0.7
gamma-BHC	µg/g	<0.7
chlordane	µg/g	<4
4,4'-DDD	µg/g	2.0
4,4'-DDE	µg/g	6.1
4,4'-DDT	µg/g	2.6
dieldrin	µg/g	<0.7
alpha-endosulfan	µg/g	<0.7
beta-endosulfan	µg/g	2.0
endosulfan sulfate	µg/g	<0.7
endrin	µg/g	2.4
endrin aldehyde	µg/g	<0.7
heptachlor	µg/g	<0.7
heptachlor epoxide	µg/g	0.87
PCB-1016	µg/g	<7
PCB-1221	µg/g	<10
PCB-1232	µg/g	<10
PCB-1242	µg/g	<7
PCB-1248	µg/g	<7
PCB-1254	µg/g	<7
PCB-1260	µg/g	<7
toxaphene	µg/g	<20

ADDITIONAL SAMPLE INFORMATION

Sample Date	9/4/85
Extraction Date	9/26/85
Analysis Date	10/10/85

FOR RECRA ENVIRONMENTAL LABORATORIES _____

DATE 10/18/85

I.D. #85-1076

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY
QUALITY CONTROL

Report Date: 10/18/85

REPLICATE ANALYSIS OF
SAMPLE R-985-059-03

COMPOUND IDENTIFICATION	UNITS OF MEASURE	VALUE 1	VALUE 2	MEAN	STANDARD DEVIATION	PERCENT COEFFICIENT OF VARIATION
4,4'-DDD/ beta-endosulfan	µg/l	2.2	1.7	2.0	0.35	18
4,4'-DDE	µg/l	6.5	5.6	6.1	0.64	11
4,4'-DDT	µg/l	2.9	2.3	2.6	0.42	16
endrin	µg/l	2.6	2.2	2.4	0.28	12
heptachlor epoxide	µg/l	0.90	0.83	0.87	0.049	5.7

RECOVERY ANALYSIS OF
METHOD BLANK SPIKE

COMPOUND IDENTIFICATION	ng OF SPIKE	ng RECOVERED	% RECOVERY
aldrin	0.02	0.025	125
gamma-BHC	0.02	0.0196	98
4,4'-DDE	0.026	0.044	169
beta-endosulfan	0.026	0.022	85
endrin	0.0195	0.022	113

FOR RECRA ENVIRONMENTAL LABORATORIES _____

DATE 10/15/85

I.D. #85-1076

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
PRIORITY POLLUTANT ANALYSES

Report Date: 10/7/85

INTRODUCTION:

On September 6, 1985 samples were received at Recra Environmental Laboratories. A request was made by New York State Department of Environmental Conservation to have the samples analyzed for selected fractions of the Environmental Protection Agency decreed priority pollutants.

This report will address the results of those analyses.

METHODS:

Priority pollutant analyses were conducted according to Environmental Protection Agency (EPA) methodologies.

Organic priority pollutants were analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).

RESULTS AND DISCUSSION:

A volatile field blank was not received with the samples.

Compounds reported as ND are "not detected". Compounds reported as BDL are confirmed as being present in the sample at a level "below detection limit", and are not subject to reliable quantitation.

Respectfully Submitted,

RECRA ENVIRONMENTAL LABORATORIES

John J. Jugovich
Organic Coordinator

JJJ/jhs

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/7/85

VOLATILES

COMPOUND	DETECTION LIMIT (µg/g Wet)	SAMPLE IDENTIFICATION		
		R-985-059-04	R-985-059-05	R-985-059-06
acrolein	400	ND	ND	ND
acrylonitrile	400	ND	ND	ND
benzene	4.4	ND	ND	ND
bromodichloromethane	2.2	4.5 µg/g wet	ND	ND
bromoform	4.7	ND	ND	ND
bromomethane	10	ND	ND	ND
carbon tetrachloride	2.8	ND	ND	ND
chlorobenzene	6.0	ND	ND	ND
chloroethane	10	ND	ND	ND
2-chloroethylvinyl ether	10	ND	ND	ND
chloroform	1.6	BDL	BDL	ND
chloromethane	10	ND	ND	ND
dibromochloromethane	3.1	ND	ND	ND
1,2-dichlorobenzene	2.2	ND	ND	ND
1,3-dichlorobenzene	2.1	ND	ND	ND
1,4-dichlorobenzene	2.5	ND	ND	ND
1,1-dichloroethane	4.7	BDL	BDL	ND
1,2-dichloroethane	2.8	ND	ND	ND
1,1-dichloroethylene	2.8	5.6 µg/g wet	BDL	ND
trans-1,2-dichloroethylene	1.6	ND	ND	ND
1,2-dichloropropane	6.0	ND	ND	ND
cis-1,3-dichloropropene	5.0	ND	ND	ND
trans-1,3-dichloropropene	5.0	ND	ND	ND
ethylbenzene	7.2	BDL	BDL	ND
methylene chloride	2.8	ND	ND	ND
1,1,2,2-tetrachloroethane	6.9	ND	ND	ND
tetrachloroethylene	4.1	ND	ND	ND

(Continued)

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 10/7/85

VOLATILES

COMPOUND	DETECTION LIMIT (µg/g Wet)	SAMPLE IDENTIFICATION R-985-059-04	R-985-059-05	R-985-059-06
toluene	6.0	ND	ND	ND
1,1,1-trichloroethane	3.8	880 µg/g wet	110 µg/g wet	ND
1,1,2-trichloroethane	5.0	ND	ND	ND
trichloroethylene	1.9	BDL	ND	ND
trichlorofluoromethane	2.8	ND	ND	ND
vinyl chloride	10	ND	ND	ND

ADDITIONAL SAMPLE INFORMATION

Sample Date	9/4/85	9/4/85	9/4/85
Analysis Date	9/28/85	9/28/85	9/30/85
Internal Standard - Level	20 µg/g	20 µg/g	20 µg/g
bromochloromethane - Recovery	90%	88%	86%
Internal Standard - Level	20 µg/g	20 µg/g	20 µg/g
2-bromo-1-chloropropane - Recovery	89%	84%	93%
Internal Standard - Level	20 µg/g	20 µg/g	20 µg/g
1,4-dichlorobutane - Recovery	82%	86%	79%

FOR RECRA ENVIRONMENTAL LABORATORIES _____

DATE _____

ANALYTICAL RESULTS

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF HAZARDOUS WASTE
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
QUALITY CONTROL

Report Date: 10/7/85

VOLATILE RECOVERY ANALYSIS*

COMPOUND IDENTIFICATION	ng OF SPIKE	ng RECOVERED	% RECOVERY
carbon tetrachloride	200	214	107
chlorobenzene	200	240	120
chloroform	200	224	112
dibromochloromethane	200	176	88
1,1-dichloroethane	200	236	118
1,1-dichloroethylene	200	258	129
1,2-dichloropropane	200	230	115
methylene chloride	200	176	88
tetrachloroethylene	200	240	120
1,1,2-trichloroethane	200	222	111
trichloroethylene	200	212	106

ADDITIONAL SAMPLE INFORMATION

Analysis Date	9/30/85
Internal Standard - Level	20 µg/g
bromochloromethane - Recovery	119%
Internal Standard - Level	20 µg/g
2-bromo-1-chloropropane - Recovery	107%
Internal Standard - Level	20 µg/g
1,4-dichlorobutane - Recovery	113%

*Quality control results were generated from a sample of similar matrix at the time of sample analysis, and are not results of the actual sample submitted.

FOR RECRA ENVIRONMENTAL LABORATORIES _____

DATE _____

I.D. #85-1075

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 2/4/86

VOLATILES

COMPOUND	DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION			
		HOUSE WELL	BARN WELL	CABIN WELL	W-1
toluene	6.0	ND	BDL	BDL	BDL
1,1,1-trichloroethane	3.8	ND	ND	ND	ND
1,1,2-trichloroethane	5.0	ND	ND	ND	ND
trichloroethylene	1.9	ND	ND	ND	ND
trichlorofluoromethane	2.8	ND	ND	ND	ND
vinyl chloride	10	ND	ND	ND	ND
ADDITIONAL SAMPLE INFORMATION					
Sample Date		2/1/86	2/1/86	2/1/86	2/1/86
Analysis Date		2/3/86	2/3/86	2/4/86	2/4/86
Internal Standard - Level		50 ug/l	50 ug/l	50 ug/l	50 ug/l
bromochloromethane - Recovery		112%	96%	94%	88%
Internal Standard - Level		50 ug/l	50 ug/l	50 ug/l	50 ug/l
1,4-difluorobenzene - Recovery		103%	102%	103%	86%
Internal Standard - Level		50 ug/l	50 ug/l	50 ug/l	50 ug/l
chlorobenzene D5 - Recovery		108%	99%	98%	90%

FOR RECRA ENVIRONMENTAL LABORATORIES _____

DATE 2/4/86

I.D. #86-131

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
QUALITY CONTROL

Report Date: 2/4/86

VOLATILE RECOVERY ANALYSIS OF
SAMPLE CABIN WELL

COMPOUND IDENTIFICATION	ng OF SPIKE	ng RECOVERED	% RECOVERY
carbon tetrachloride	200	204	102
chlorobenzene	200	180	90
chloroform	200	206	103
dibromochloromethane	200	166	83
1,1-dichloroethane	200	186	93
1,1-dichloroethylene	200	236	118
1,2-dichloropropane	200	182	91
methylene chloride	200	120	60
tetrachloroethylene	200	194	97
1,1,2-trichloroethane	200	174	87
trichloroethylene	200	172	86

ADDITIONAL SAMPLE INFORMATION	
Sample Date	2/1/86
Analysis Date	2/4/86
Internal Standard - Level	50 ug/l
bromochloromethane - Recovery	86%
Internal Standard - Level	50 ug/l
1,4-difluorobenzene - Recovery	91%
Internal Standard - Level	50 ug/l
chlorobenzene D_5 - Recovery	91%

FOR RECRA ENVIRONMENTAL LABORATORIES John J. Augustine

DATE 2/4/86

I.D. #86-131

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
GAS CHROMATOGRAPHY
QUALITY CONTROL

Report Date: 2/3/86

RECOVERY ANALYSIS OF
SAMPLE HOUSE WELL

PARAMETER	ng OF SPIKE	ng RECOVERED	% RECOVERY
Organic Scan - (FID) Decane	20.8	11.24	56

RECOVERY ANALYSIS OF
METHOD BLANK SPIKE

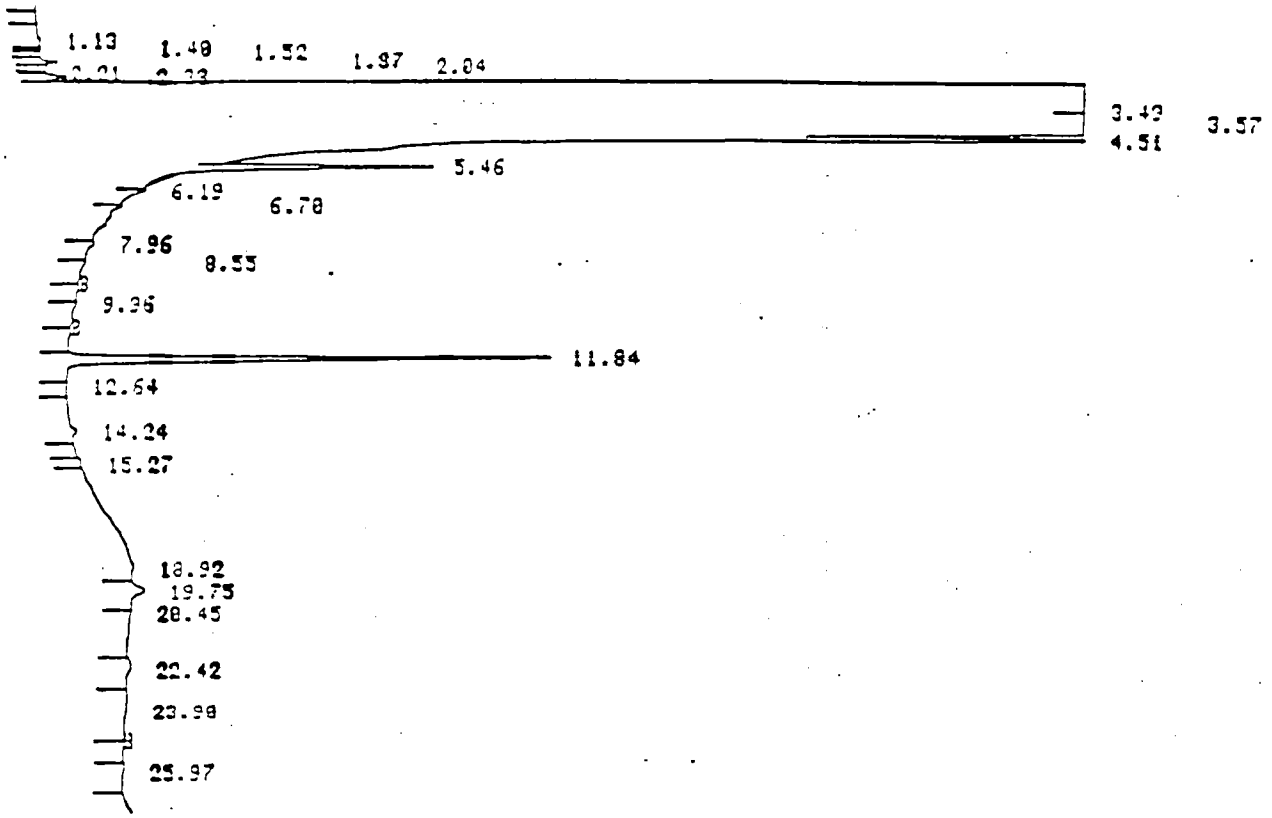
PARAMETER	ng OF SPIKE	ng RECOVERED	% RECOVERY
Organic Scan - (FID) Decane	20.08	12.85	64

FOR RECRA ENVIRONMENTAL LABORATORIES Frederick Bogale

DATE 2/3/86

FILE 251 0110-1 STARTED 01:36.4 86/02/02 OS-FID - W19516 Method Blank spike
% METHOD 24 OS-FID LAST EDITED 20:33.0 86/02/01

W_6 A_32 C_5 0_18



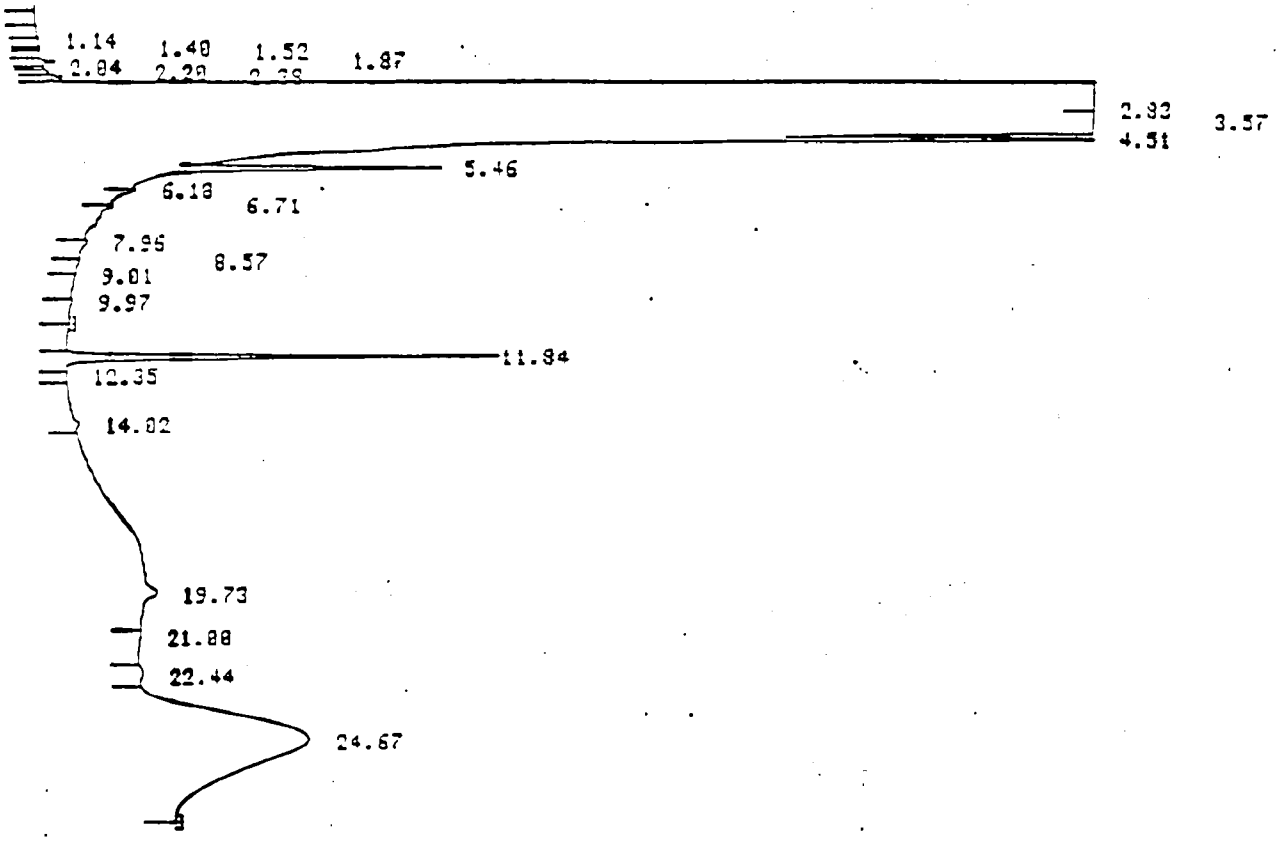
FILE 251 0110-1 STARTED 01:36.4 86/02/02 OS-FID - W19516
% METHOD 24 OS-FID LAST EDITED 20:33.0 86/02/01

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
1.13	5397	0.9596	T	0.0006	0.0036
1.40	2803	0.7552	T	0.0003	0.0023
1.52	1675	0.3977	V	0.0002	0.0015
1.87	22213	4.6351	T	0.0024	0.0173
2.04	10691	2.0231	T	0.0012	0.0076
2.21	4735	0.9142	T	0.0005	0.0034
2.38	48837	6.5115	T	0.0053	0.0243
3.49	6890657 92	12950.9170	T	66.0986	48.4257
3.57	2987202 56	13187.5605	T	32.3704	49.8114
4.51	6601975	336.9514	T	0.7154	1.2599
5.46	2105033	103.9430	T	0.2291	0.3887
6.19	609429	23.6465	T	0.0661	0.0884
6.78	794346	16.3353	T	0.0861	0.0611
7.96	184716	6.7058	T	0.0200	0.0251
8.55	86465	3.2527		0.0094	0.0122
9.96	22051	0.7400		0.0002	0.0028
11.84	1264980	134.4063	V	0.1371	0.5026
12.64	1671	0.1549	V	0.0002	0.0006
14.24		1.6259	V		0.0061
15.27	4846	0.9244	T	0.0005	0.0035
18.92	1370174	10.8769	T	0.1485	0.0407
19.75	690410	12.9293	T	0.0748	0.0483
20.45	659595	8.1648	T	0.0715	0.0305
22.42	296008	5.5480	T	0.0321	0.0207
23.98	261829	2.5687		0.0284	0.0097
25.97	18668	0.4217	V	0.0012	0.0016

25 PEAKS > AREA REJECT 9229817821 TOTAL AREA
26 PEAKS > HEIGHT REJECT 2.6743895+04 TOTAL HEIGHT

FILE 258 Q117-1 STARTED 05:23.6 86/02/02 OS-FID - W19515 House well spike
% METHOD 24 OS-FID LAST EDITED 20:33.8 86/02/01

..H_6 A_32 C_5 D_10



FILE 258 Q117-1 STARTED 05:23.6 86/02/02 OS-FID - W19515
% METHOD 24 OS-FID LAST EDITED 20:33.8 86/02/01

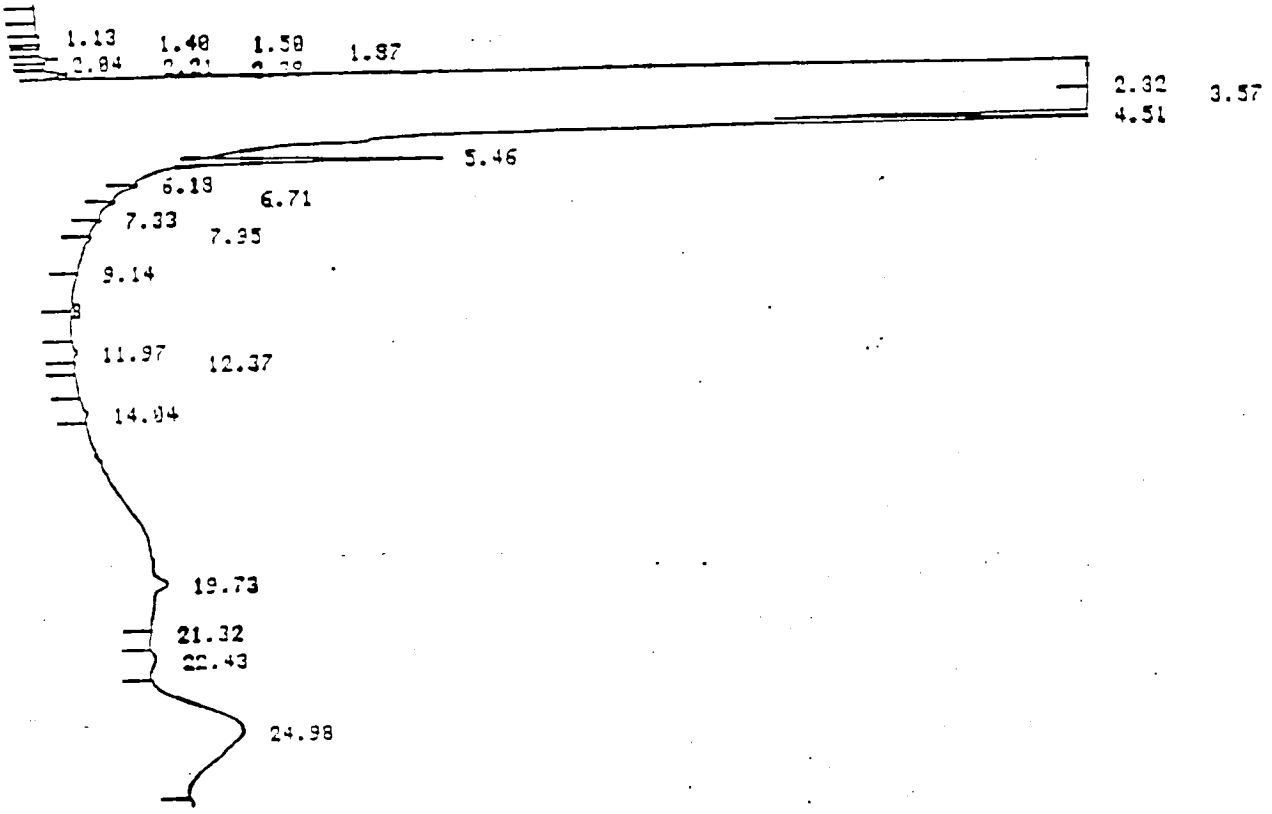
RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
1.14	4666	0.6192	T	0.0005	0.0023
1.40	3233	0.7935	T	0.0003	0.0030
1.52	2167	0.4587	T	0.0002	0.0017
1.87	22268	4.3498	T	0.0024	0.0162
2.04	6317	1.5124	T	0.0009	0.0056
2.28	15519	2.6194	T	0.0017	0.0099
2.38	46909	6.1062	T	0.0051	0.0227
2.83	605037056	13013.3305	T	65.3805	48.5044
3.57	300565440	13111.1621	T	32.4792	48.8478
4.51	6552435	347.6543	T	0.7081	1.2952
5.46	2024996	106.8300	T	0.2188	0.3980
6.18	620734	23.3665	T	0.0671	0.0871
6.71	833152	16.2951	T	0.0900	0.0607
7.96	245092	8.2708	T	0.0265	0.0309
8.57	149582	5.5358	T	0.0162	0.0206
9.01	151823	3.9957	T	0.0163	0.0149
9.97	55208	2.2651		0.0060	0.0084
11.84	1108765	117.7372	V	0.1198	0.4386
12.35	2975	0.3297	V	0.0003	0.0012
14.02		1.5478	V		0.0058
19.73	2205460	11.5277	T	0.2383	0.0429
21.88	242509	4.3093	T	0.0262	0.0161
22.44	69250	2.0404	T	0.0075	0.0076
24.67	5442485	42.5138		0.5881	0.1584

23 PEAKS > AREA REJECT 925409373 TOTAL AREA
24 PEAKS > HEIGHT REJECT 2.6840826+04 TOTAL HEIGHT

W-1

FILE 257 Q116-1 STARTED 04:51.2 86/02/02 OS-FID - W19514
% METHOD 24 OS-FID LAST EDITED 20:33.8 86/02/01

A_6 A_32 C_5 O_18

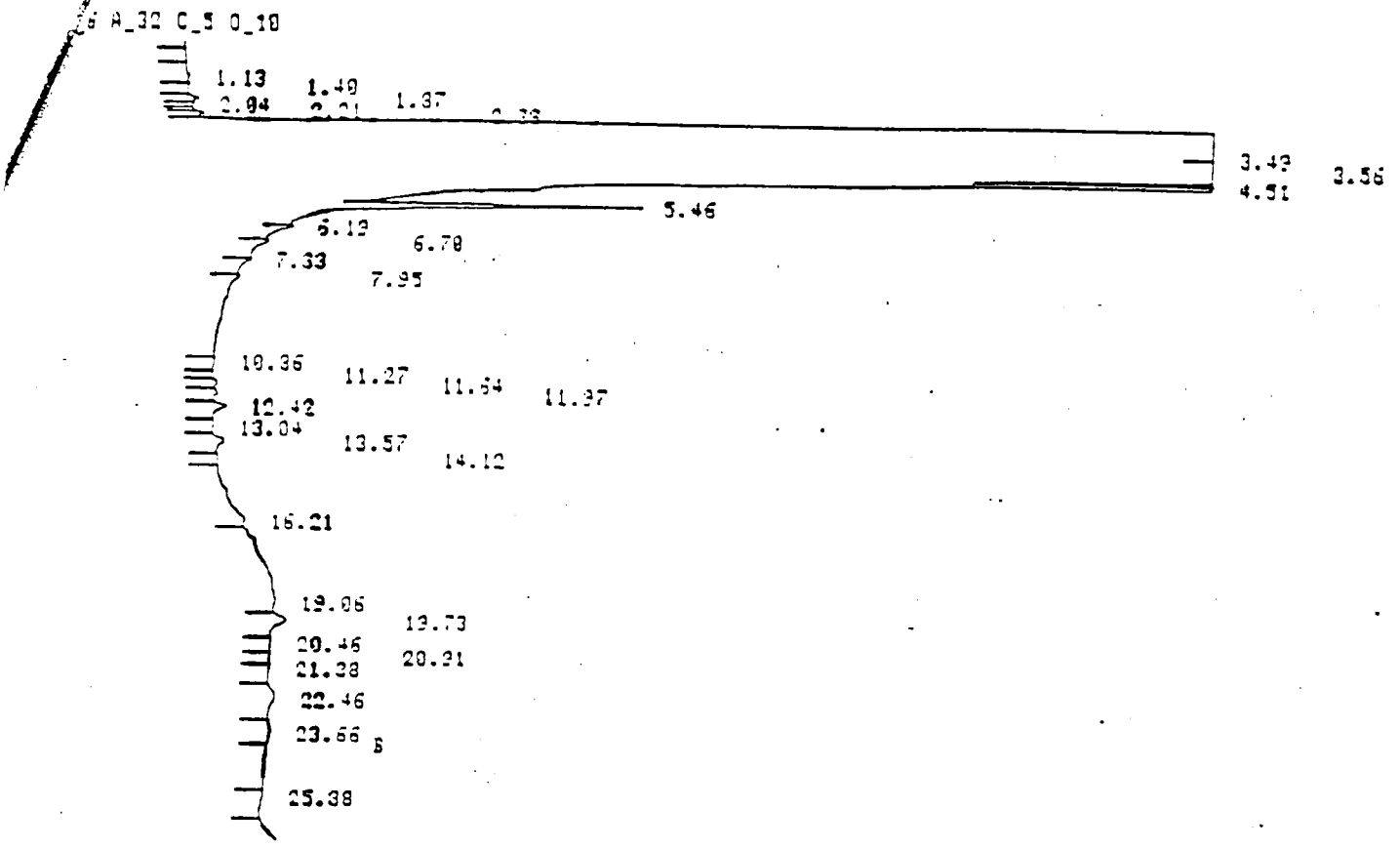


FILE 257 Q116-1 STARTED 04:51.2 86/02/02 OS-FID - W19514
% METHOD 24 OS-FID LAST EDITED 20:33.8 86/02/01

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
1.13	4567	0.6619	T	0.0005	0.0025
1.40	3303	0.9815	T	0.0004	0.0032
1.50	1813	0.4431	U	0.0002	0.0017
1.87	26448	5.2622	T	0.0029	0.0197
2.84	10815	1.9326	T	0.0012	0.0072
2.21	5954	1.0375	T	0.0006	0.0039
2.39	55970	7.2465	T	0.0060	0.0271
2.32	612627209	13020.8340	T	66.0736	48.7331
3.57	299021406	13123.6074	T	32.2528	49.1228
4.51	6402506	341.0862	T	0.6906	1.2767
5.46	2043517	108.3429	T	0.2204	0.4055
6.13	553301-	22.9929	T	0.0622	0.0861
6.71	510664-	16.2284	T	0.0551	0.0608
7.33	322958-	11.3884	T	0.0348	0.0426
7.95	388801	8.1837	T	0.0419	0.0306
9.14	134737	3.2363		0.0145	0.0121
11.97	17104	1.3874	U	0.0018	0.0052
12.37	3764	0.4007	U	0.0004	0.0015
14.04	18077-	1.3217	T	0.0019	0.0049
19.73	2265578	11.9111	T	0.2444	0.0446
21.32	117201	3.8628	T	0.0126	0.0145
22.43	148331	2.9419	U	0.0160	0.0110
24.98	2484890	20.7524	T	0.2594	0.0777

23 PEAKS > AREA REJECT 927113345 TOTAL AREA
23 PEAKS > HEIGHT REJECT 2.671594E+04 TOTAL HEIGHT

LE 253 0112-1 STARTED 02:41.3 86/02/02 OS-FID - W19511 Barnwell
METHOD 24 OS-FID LAST EDITED 20:33.0 86/02/01



FILE 253 0112-1 STARTED 02:41.3 86/02/02 OS-FID - W19511
% METHOD 24 OS-FID LAST EDITED 20:33.0 86/02/01

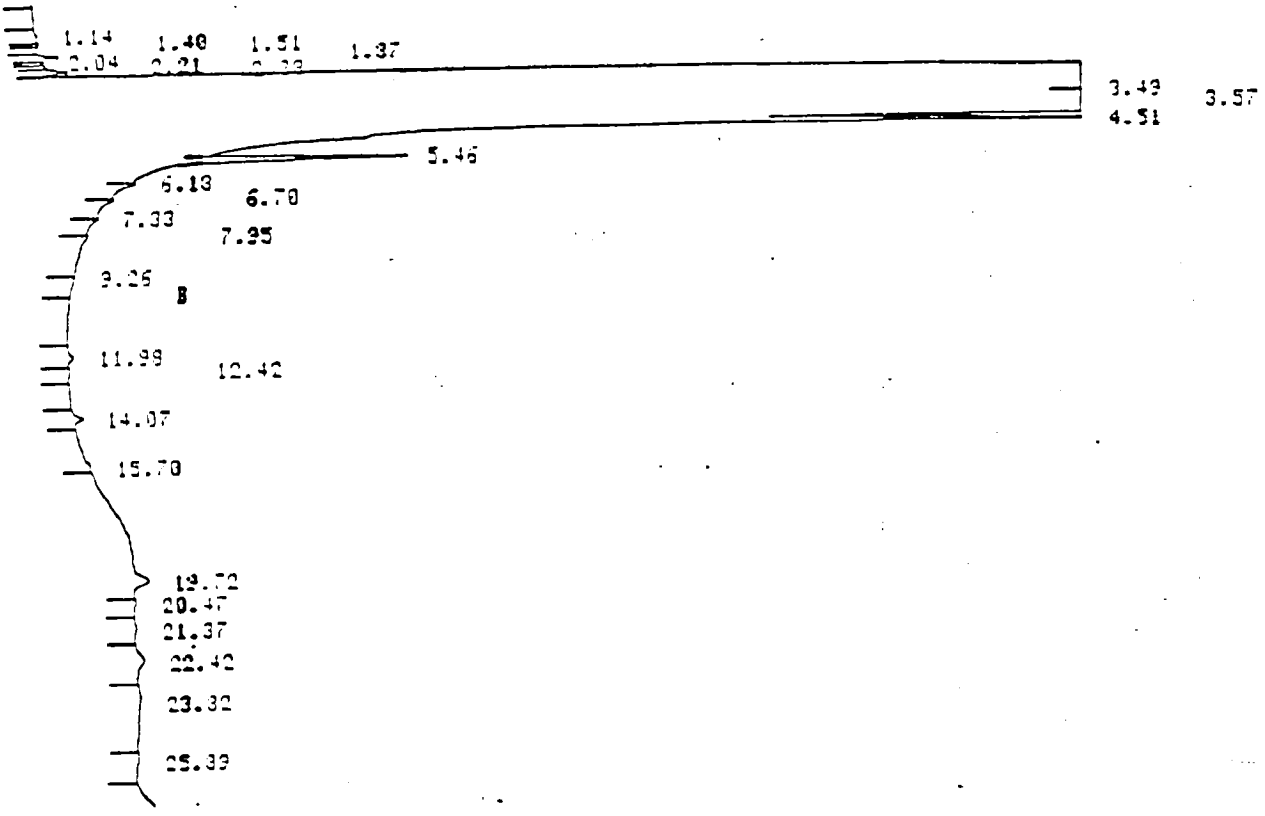
RT	AREA	HEIGHT	SC	AREA PERCENT	HEIGHT PERCENT
1.13	5213	0.7639	T	0.0006	0.0022
1.40	3689	0.4582	T	0.0004	0.0017
1.87	15591	2.7434	T	0.0017	0.0103
2.04	9936	1.6033	T	0.0011	0.0061
2.21	8324	1.2366	T	0.0009	0.0043
2.38	34595	4.0644	T	0.0038	0.0152
3.49	538459136	12975.8079	T	64.5407	48.4485
3.56	307540160	13103.9049	T	33.7302	48.9933
4.51	7269103	403.9794	T	0.7973	1.5107
5.46	2296823	126.6323	T	0.2529	0.4735
6.19	718107*	27.2526	T	0.0788	0.1020
6.78	636452*	19.9739	T	0.0698	0.0747
7.33	419308*	14.6252	T	0.0460	0.0548
7.95	944910.	11.0562	T	0.1036	0.0413
10.86	57256	2.2147	T	0.0063	0.0083
11.27	20069	1.2556	T	0.0022	0.0047
11.64	34754	2.4787	T	0.0038	0.0093
11.97	34056	2.2767	T	0.0037	0.0085
12.42	62678*	4.4481	T	0.0069	0.0166
13.04	8975	0.4201	V	0.0010	0.0016
13.57	46548*	3.3099	T	0.0051	0.0124
14.12	9963	0.7984	V	0.0010	0.0030
16.21	219308*	5.2139	T	0.0241	0.0195
19.06	1474563	9.7874	T	0.1617	0.0366
19.73	471718	11.8769	T	0.0517	0.0444
20.46	190906	6.5857	T	0.0209	0.0246
20.91	125332	5.6461	T	0.0137	0.0211
21.38	175775	4.3166	T	0.0193	0.0130
22.46	282506	4.6098	T	0.0310	0.0173
23.66	79023**	1.7053		0.0087	0.0064
25.38	11211	0.4529	V	0.0012	0.0017

31 PEAKS > AREA REJECT 911764926 TOTAL AREA
31 PEAKS > HEIGHT REJECT 2.6741495E+04 TOTAL HEIGHT

Cabin well

FILE 254 Q113-1 STARTED 03:13.8 86/02/02 OS-FID - W19512
% METHOD 24 OS-FID LAST EDITED 20:33.0 86/02/01

_6 A_32 C_5 0_10



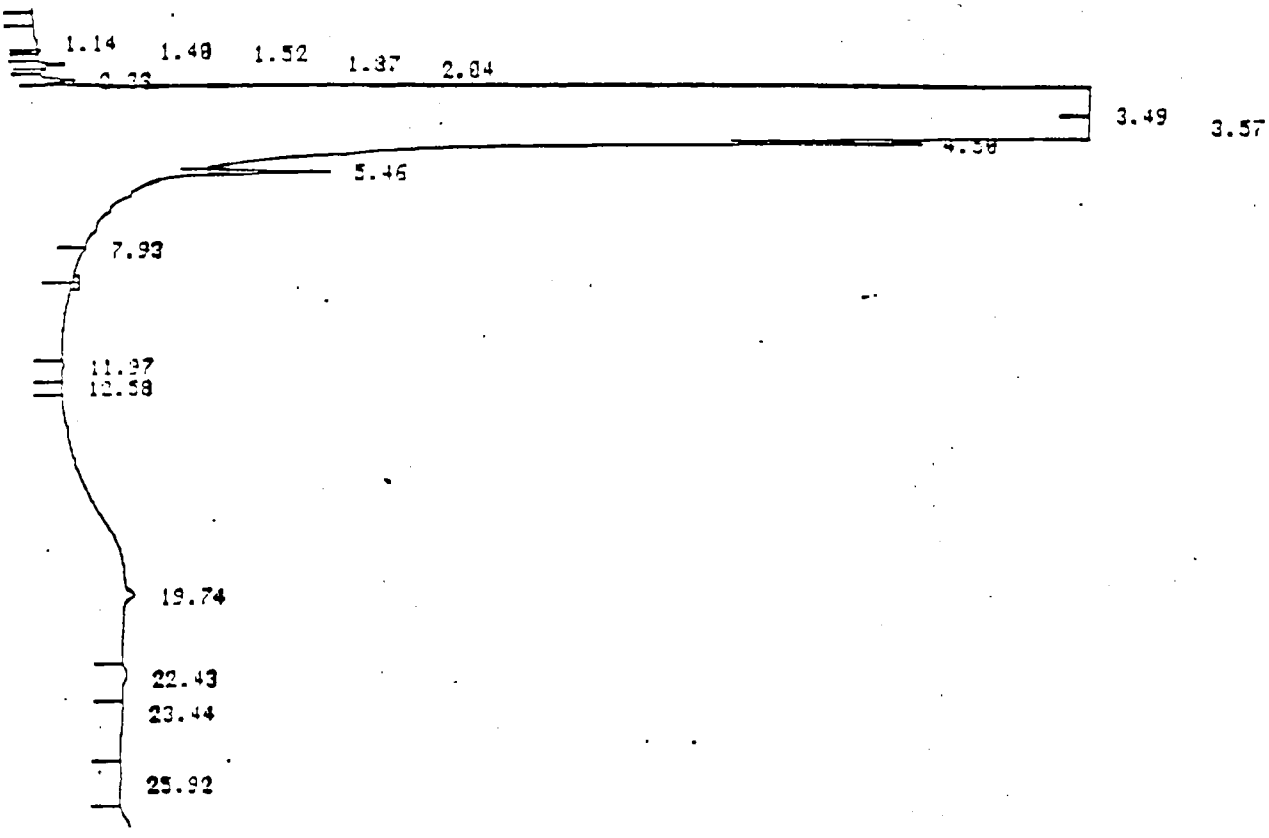
FILE 254 Q113-1 STARTED 03:13.8 86/02/02 OS-FID - W19512
% METHOD 24 OS-FID LAST EDITED 20:33.0 86/02/01

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
1.14	4899	0.7128	T	0.0005	0.0027
1.40	3942	1.0122	T	0.0004	0.0038
1.51	2396	0.5469	U	0.0002	0.0021
1.87	23110	5.7779	T	0.0031	0.0217
2.04	10752	1.9477	T	0.0012	0.0073
2.21	13551	2.3102	T	0.0015	0.0087
2.38	61870	7.9999	T	0.0067	0.0301
3.49	616370400	12259.3193	T	66.4448	46.7937
3.57	297429024	13115.4951	T	32.0369	49.2996
4.51	6082440	302.3875	T	0.6552	1.1393
5.46	1995956	99.8092	T	0.2150	0.3719
6.13	590546	22.3431	T	0.0636	0.0862
6.70	512049	16.1739	T	0.0552	0.0608
7.33	304937	11.0955	T	0.0329	0.0417
7.95	371750	7.6573	T	0.0400	0.0288
9.26	63539	2.3197		0.0068	0.0087
11.99	22138	1.6873	T	0.0024	0.0063
12.42	7739	0.6372	U	0.0008	0.0024
14.07	26175	2.3483	T	0.0028	0.0107
15.70	77714	2.5303	T	0.0084	0.0097
19.72	20527746	13.2982	T	2.2211	0.0500
20.47	275072	8.5408	T	0.0296	0.0321
21.37	412256	7.3775	T	0.0445	0.0277
22.42	523525	7.9797	T	0.0563	0.0300
23.32	567103	4.9936	T	0.0611	0.0187
25.39	77229	1.5542	U	0.0083	0.0058

26 PEAKS > AREA REJECT 928394852 TOTAL AREA
26 PEAKS > HEIGHT REJECT 2.660350E+04 TOTAL HEIGHT

FILE 252 Q111-1 STARTED 02:08.9 86/02/02 OS-FID - W19517 method Blank
% METHOD 24 OS-FID LAST EDITED 20:33.8 86/02/01

W_5 A_32 C_5 0_18



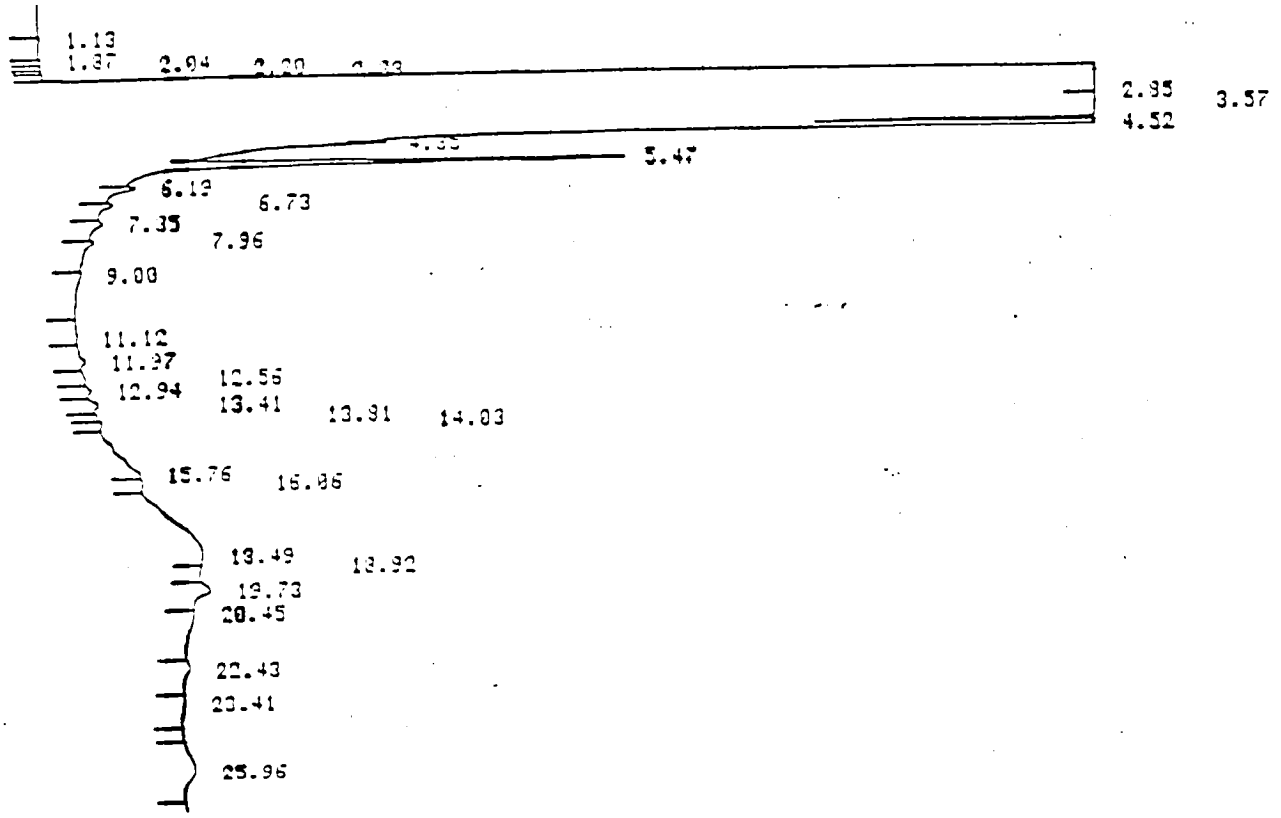
FILE 252 Q111-1 STARTED 02:08.9 86/02/02 OS-FID - W19517
% METHOD 24 OS-FID LAST EDITED 20:33.8 86/02/01

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
1.14	4005	0.7892	T	0.0004	0.0030
1.40	4842	1.3110	T	0.0005	0.0050
1.52	2615	0.6298	V	0.0003	0.0024
1.87	35102	7.1933	T	0.0038	0.0272
2.84	11835	2.2523	T	0.0013	0.0085
2.38	73709	9.3124	T	0.0079	0.0371
3.49	625256968	12955.3594	T	67.2049	48.9924
3.57	293042948	13120.1904	T	31.4470	49.6153
4.50	5347861	237.6552	T	0.5739	0.8957
5.46	2935994	75.5819	T	0.3151	0.2858
7.93	199264	5.6603		0.0213	0.0215
11.97	10320	0.7295	V	0.0011	0.0028
12.58	2166	0.1850	V	0.0002	0.0007
19.74	2857936	12.5528	T	0.3067	0.0475
22.43	491556	7.2032	T	0.0527	0.0272
23.44	454759	4.9697	T	0.0488	0.0188
25.92	138557	1.4985	V	0.0140	0.0056

17 PEAKS > AREA REJECT 931861325 TOTAL AREA
17 PEAKS > HEIGHT REJECT 2.644359E+04 TOTAL HEIGHT

FILE 250 Q101-1 STARTED 10:03.8 86/02/03 OS-FID - W19513 House Well
METHOD 24 OS-FID LAST EDITED 20:33.8 86/02/01

A_32 C_5 0_10



FILE 250 Q101-1 STARTED 10:03.8 86/02/03 OS-FID - W19513
% METHOD 24 OS-FID LAST EDITED 20:33.8 86/02/01

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
1.13	5978	0.6992	V	0.0007	0.0026
1.87	4204	0.3153	T	0.0005	0.0030
2.04	4003	0.7193	T	0.0004	0.0027
2.20	4445	0.7655	T	0.0005	0.0029
2.38	8850	1.1931	V	0.0010	0.0044
2.85	368677695	12958.6737	T	43.4342	48.1664
3.57	309516640	13052.4414	T	34.5368	46.5074
4.52	5430333	459.3983	T	0.6057	1.7091
4.95	1874503	93.5528	T	0.2091	0.3477
5.47	2352682	157.1714	T	0.2624	0.5841
6.19	573455	23.0307	T	0.0640	0.0856
6.73	422688	15.9090	T	0.0471	0.0591
7.35	414227	12.3700	T	0.0462	0.0460
7.96	370139	8.9189	T	0.0413	0.0331
9.00	280682	4.1191	T	0.0224	0.0153
11.12	25478	0.4554	T	0.0023	0.0017
11.97	26799	1.9894	V	0.0030	0.0070
12.56	10774	0.7725	T	0.0012	0.0029
12.94	18522	1.6919	V	0.0021	0.0063
13.41	38645	2.8533	T	0.0043	0.0106
13.81	21312	1.7513	T	0.0024	0.0065
14.03	33275	2.4992	T	0.0037	0.0093
15.76	452942	9.1113	T	0.0505	0.0339
16.06	230992	9.1533	T	0.0258	0.0340
18.49	2292065	20.1727	T	0.2557	0.0750
18.92	580170	18.3861	T	0.0647	0.0792
19.73	953152	19.4564	T	0.1063	0.0723
20.45	1052372	13.1524	T	0.1175	0.0489
22.43	426958	7.2296	T	0.0476	0.0273
23.41	179130	3.4333	T	0.0200	0.0128
25.96	180166	3.2602	V	0.0201	0.0121

31 PEAKS > AREA REJECT 896493013 TOTAL AREA
31 PEAKS > HEIGHT REJECT 2.690814E+04 TOTAL HEIGHT

(86-131) Sed 4P

RECRA RESEARCH, INC.

CHAIN OF CUSTODY RECORD

PROJECT NO.:

SITE NAME: MACHIAS, N.Y.

SAMPLERS (SIGNATURE): Robert P. Bowen

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	Number of Containers						REMARKS
							1 Liter	40 ml VOA					
House Well	2/1	1130		X		5	3	2					
Barn Well		1145		X		5	3	2					
Cabin Well		1200		X		5	3	2					
W-1		1230		X	VERY Rd.	5	3	2					
Field Blank		1000		X		1		X					

2600 PM

RELINQUISHED BY (SIGNATURE):	DATE/TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE/TIME:	RECEIVED BY (SIGNATURE):
Robert P. Bowen	2/1/86 1400				
RELINQUISHED BY (SIGNATURE):	DATE/TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE/TIME	RECEIVED BY (SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE/TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE/TIME:	REMARKS:	

Distribution: Original accompanies shipment; copy to coordinator field files

RECRA ENVIRONMENTAL LABORATORIES
A Division of Recra Research, Inc.

February 3, 1986

Mr. Michael Christopher
Satterthwaite Associates
11 North Five Point Road
Westchester, PA 19380

Re: Analytical Results

Dear Mr. Christopher:

Please find enclosed results of the analyses of the samples received at our laboratories on February 1, 1986.

The information contained in this report has been reviewed for completeness and accuracy by the individuals whose signature appears on this cover letter.

If you have any questions concerning these data, do not hesitate to contact our Customer Service Representative at (716) 692-7620.

Sincerely,

RECRA ENVIRONMENTAL LABORATORIES

James A. Ploscyca
Laboratory Director

John J. Jugovich
Organic Coordinator

FB/JAP/mdc
Enclosure

I.D. #86-131
#5A713282

4248 Ridge Lea Road, Amherst, New York 14226
Telephone Sales (716) 838-6200
Laboratory (716) 692-7620

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
PRIORITY POLLUTANT ANALYSES

Report Date: 2/4/86

INTRODUCTION:

On February 1, 1986 samples were received at Recra Environmental Laboratories. A request was made by Satterthwaite Associates to have the samples analyzed for selected fractions of the Environmental Protection Agency decreed priority pollutants.

This report will address the results of those analyses.

METHODS:

Priority pollutant analyses were conducted according to Environmental Protection Agency (EPA) methodologies.

Organic priority pollutants were analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).

RESULTS AND DISCUSSION:

Analysis of the volatile field blank indicated that the compounds of interest were not detected.

Compounds reported as ND are "not detected". Compounds reported as BDL are confirmed as being present in the sample at a level "below detection limit", and are not subject to reliable quantitation.

Respectfully Submitted,

RECRA ENVIRONMENTAL LABORATORIES

John J. Jugovich

John J. Jugovich
Organic Coordinator

JJJ/jhs

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
GAS CHROMATOGRAPHY

Report Date: 2/3/86

SAMPLE IDENTIFICATION	SAMPLE DATE	ANALYSIS DATE	PARAMETER (UNITS OF MEASURE) ORGANIC SCAN - (FID) (ug/l AS CARBON; DECANE STANDARD)
Barn Well	2/1/86	2/2/86	<20
Cabin Well	2/1/86	2/2/86	<20
House Well	2/1/86	2/2/86	<20
W-1	2/1/86	2/2/86	<20

COMMENTS: Values reported as "less than" (<) indicate the working detection limit for the particular sample and/or parameter.

Organic Scan (FID) results are used for screening purposes only and are not designed for qualification or quantification of specific organic compound. Results are calculated based upon the carbon content and response factor of decane, but do not imply either the presence or absence of the decane itself.

FOR RECRA ENVIRONMENTAL LABORATORIES Frederick Boyle

DATE 2/3/86

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 2/4/86

VOLATILES

COMPOUND	DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION			
		HOUSE WELL	BARN WELL	CABIN WELL	W-1
acrolein	400	ND	ND	ND	ND
acrylonitrile	400	ND	ND	ND	ND
benzene	.4.4	ND	ND	ND	ND
bromodichloromethane	2.2	ND	ND	ND	ND
bromoform	4.7	ND	ND	ND	ND
bromomethane	10	ND	ND	ND	ND
carbon tetrachloride	2.8	ND	ND	ND	ND
chlorobenzene	6.0	ND	ND	ND	ND
chloroethane	10	ND	ND	ND	ND
2-chloroethylvinyl ether	10	ND	ND	ND	ND
chloroform	1.6	5.8 ug/l	ND	ND	ND
chloromethane	10	ND	ND	ND	ND
dibromochloromethane	3.1	ND	ND	ND	ND
1,2-dichlorobenzene	2.2	ND	ND	ND	ND
1,3-dichlorobenzene	2.1	ND	ND	ND	ND
1,4-dichlorobenzene	2.5	ND	ND	ND	ND
1,1-dichloroethane	4.7	ND	ND	ND	ND
1,2-dichloroethane	2.8	ND	BDL	ND	ND
1,1-dichloroethylene	2.8	ND	ND	ND	ND
trans-1,2-dichloroethylene	1.6	ND	ND	ND	ND
1,2-dichloropropane	6.0	ND	ND	ND	ND
cis-1,3-dichloropropene	5.0	ND	ND	ND	ND
trans-1,3-dichloropropene	5.0	ND	ND	ND	ND
ethylbenzene	7.2	ND	ND	ND	ND
methylene chloride	2.8	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	6.9	ND	ND	ND	ND
tetrachloroethylene	4.1	ND	ND	ND	ND

(Continued)

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPO

SAMPLE ID: 61010 SAMPLE RECEIVED: 86/03/ CHARGE:
PROGRAM: TOX BUREAU OF TOXIC SUBSTANCES ASSESSMENT
SOURCE ID: DRAINAGE BASIN: 02 GAZETTEER CODE: 0469
POLITICAL SUBDIVISION: MACHIAS COUNTY: CATTARAUGUS
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: JUDD COLE VERY RD MACHIAS NY
DESCRIPTION: SHOP TAP - UNTREATED
REPORTING LAB: TOX LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: 611 PURGEABLE HALOCARBONS
SAMPLE TYPE: 110 PRIVATE WATER SUPPLY - DRILLED WELL
TIME OF SAMPLING: 86/03/19 12:00 DATE PRINTED: 86/04/1

ANALYSIS 601 PURGEABLE HALOCARBONS - FR METHOD 601 (DES 310-18)

	PARAMETER	RESULT
T62009	CHLOROMETHANE	< 1. MCG/L
T61809	BROMOMETHANE	< 1. MCG/L
T41009	VINYL CHLORIDE	< 1 MCG/L
T70209	DICHLORODIFLUOROMETHANE	< 1. MCG/L
T61909	CHLOROETHANE	< 1. MCG/L
T61709	TRICHLOROFLUOROMETHANE	< 1. MCG/L
T23809	METHYLENE CHLORIDE (DICHLOROMETHANE)	< 1. MCG/L
T50909	1,1-DICHLOROETHENE	< 1 MCG/L
T51909	1,1-DICHLOROETHANE	< 1. MCG/L
T61209	TRANS-1,2-DICHLOROETHENE	< 1. MCG/L
T59009	CHLOROFORM	4. MCG/L
T60809	1,2-DICHLOROETHANE	< 1 MCG/L
T23609	1,1,1-TRICHLOROETHANE	< 1 MCG/L
T23909	CARBON TETRACHLORIDE	< 1 MCG/L
T32509	BROMODICHLOROMETHANE	< 1 MCG/L
T61309	1,2-DICHLOROPROPANE	< 1 MCG/L
T61309	TRANS-1,3-DICHLOROPROPENE	< 1. MCG/L
T41109	TRICHLOROETHENE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T61409	CIS-1,3-DICHLOROPROPENE	< 1 MCG/L
T61109	1,1,2-TRICHLOROETHANE	< 1 MCG/L
T61109	2-CHLOROETHYL VINYL ETHER	< 1 MCG/L
T32109	BROMOFORM	< 1 MCG/L
T61809	1,1,2,2-TETRACHLOROETHANE	< 1 MCG/L
T41209	TETRACHLOROETHENE	< 1 MCG/L
T40909	CHLOROBENZENE	< 1. MCG/L
T49709	1,3-DICHLOROBENZENE	< 1. MCG/L
T44109	1,2-DICHLOROBENZENE	< 1. MCG/L
T44209	1,4-DICHLOROBENZENE	< 1 MCG/L

**** END OF REPORT ****

COPIES SENT TO: CC PC(2) LPHE(2) TEL INFO-P(0) INFO-L(0)

INTER-OFFICE MAIL
BUREAU OF TOXIC SUBSTANCES MANAGEMENT
ROOM 570 TOWER BUILDING
ALBANY NEW YORK

SUBMITTED BY: REISNER

Cindy Tse

0419 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 61011 SAMPLE RECEIVED B: 03/24 CHARGE: 7.00
PROGRAM: 106 BUREAU OF TOXIC SUBSTANCES ASSESSMENT
SOURCE ID: DRAINAGE BASIN: 04 GAZETTEER CODE: 0467
POLITICAL SUBDIVISION: MACHIAS COUNTY: CATTARAUGUS
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: FIELD BLANK - COLE RES
DESCRIPTION: WITH SAMPLE #61010
REPORTING LAB: TO: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: 601: PURGEABLE HALOCARBONS
SAMPLE TYPE: 297: FIELD BLANK
TIME OF SAMPLING: 86/03/13 DATE PRINTED: 86/04/11

ANALYSIS: 601 PURGEABLE HALOCARBONS BY METHOD 601 (DES 310-18)

	PARAMETER	RESULT	
T62008	CHLOROMETHANE	< 1.	MCG/L
T61808	BROMOMETHANE	< 1.	MCG/L
T41008	VINYL CHLORIDE	< 1.	MCG/L
T70208	DICHLORODIFLUOROMETHANE	< 1.	MCG/L
T61908	CHLOROETHANE	< 1.	MCG/L
T61708	TRICHLOROFLUOROMETHANE	< 1.	MCG/L
T23808	METHYLENE CHLORIDE (DICHLOROMETHANE)	< 1.	MCG/L
T50808	1,1-DICHLOROETHENE	< 1.	MCG/L
T51508	1,1-DICHLOROETHANE	< 1.	MCG/L
T61308	TRANS-1,2-DICHLOROETHENE	< 1.	MCG/L
T39008	CHLOROFORM	< 1.	MCG/L
T50808	1,2-DICHLOROETHANE	< 1.	MCG/L
T23608	1,1,1-TRICHLOROETHANE	< 1.	MCG/L
T32208	CARBON TETRACHLORIDE	< 1.	MCG/L
T30808	BROMODICHLOROMETHANE	< 1.	MCG/L
T61208	1,2-DICHLOROPROPANE	< 1.	MCG/L
T61508	TRANS-1,3-DICHLOROPROPENE	< 1.	MCG/L
T41108	TRICHLOROETHENE	< 1.	MCG/L
T44908	DIBROMOCHLOROMETHANE	< 1.	MCG/L
T61408	CIS-1,3-DICHLOROPROPENE	< 1.	MCG/L
T51708	1,1,2-TRICHLOROETHANE	< 1	MCG/L
T61108	2-CHLOROETHYL VINYL ETHER	< 1	MCG/L
T32108	BROMOFORM	< 1	MCG/L
T51808	1,1,2,2-TETRACHLOROETHANE	< 1.	MCG/L
T41208	TETRACHLOROETHENE	< 1.	MCG/L
T40308	CHLOROBENZENE	< 1.	MCG/L
T49708	1,3-DICHLOROBENZENE	< 1.	MCG/L
T44108	1,2-DICHLOROBENZENE	< 1.	MCG/L
T44208	1,4-DICHLOROBENZENE	< 1.	MCG/L

**** END OF REPORT ****

COPIES SENT TO COLE, RO(2), LPHE(1), FE, O, INFO-P(0), INFO-L(0)

INTEROFFICE MAIL
BUREAU OF TOXIC SUBSTANCES MANAGEMENT
ROOM 378, TOWER BUILDING
ALBANY, ALBANY
EMPIRE STATE PLAZA

SUBMITTED BY: REISNER

1971

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 65276 SAMPLE RECEIVED:86/10/07 CHARGE: 8.00
PROGRAM: 120:HOUSEHOLD WATER SUPPLIES
SOURCE ID: DRAINAGE BASIN:02 GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: JUDD COLE,VERY ROAD,MACHIAS
DESCRIPTION:BEFORE FILTER
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VHG5021:VOLATILE HALOGENATED INDICATORS
SAMPLE TYPE: 120:PRIVATE WATER SUPPLY - DRILLED WELL
TIME OF SAMPLING: 86/10/06 10:14 DATE PRINTED:86/10/22

ANALYSIS: VHG5021 VOLATILE HALOGENATED INDICATORS-EPA METHOD 502.1

	PARAMETER	RESULT
T62009	CHLOROMETHANE	< 1. MCG/L
T61809	BROMOMETHANE	< 1. MCG/L
T41009	VINYL CHLORIDE	< 1. MCG/L
T70209	DICHLORODIFLUOROMETHANE	< 1. MCG/L
T61909	CHLOROETHANE	< 1. MCG/L
T23809	METHYLENE CHLORIDE (DICHLOROMETHANE)	< 1. MCG/L
T61709	TRICHLOROFLUOROMETHANE	< 1. MCG/L
T50909	1,1-DICHLOROETHENE	< 1. MCG/L
T61904	1,1-DICHLOROETHANE	< 1. MCG/L
T61209	TRANS-1,2-DICHLOROETHENE	< 1. MCG/L
T87609	CIS-1,2-DICHLOROETHENE	< 1. MCG/L
T39009	CHLOROFORM	2. MCG/L
T50809	1,2-DICHLOROETHANE	< 1. MCG/L
T88709	DIBROMOMETHANE	< 1. MCG/L
T23609	1,1,1-TRICHLOROETHANE	< 1. MCG/L
T36009	CARBON TETRACHLORIDE	< 1. MCG/L
T38909	BROMODICHLOROMETHANE	< 1. MCG/L
T18009	2,3-DICHLOROPROPENE	< 1. MCG/L
T61309	1,2-DICHLOROPROPANE	< 1. MCG/L
T61509	TRANS-1,3-DICHLOROPROPENE	< 1. MCG/L
T41109	TRICHLOROETHENE	< 1. MCG/L
T11209	1,3-DICHLOROPROPANE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T61409	CIS-1,3-DICHLOROPROPENE	< 1. MCG/L
T51709	1,1,2-TRICHLOROETHANE	< 1. MCG/L
T80409	1,2-DIBROMOETHANE	< 1. MCG/L
T61109	2-CHLOROETHYLVINYL ETHER	< 1. MCG/L
T42109	BROMOFORM	< 1. MCG/L
T21009	1,1,1,2-TETRACHLOROETHANE	< 1. MCG/L
T31009	1,2,3-TRICHLOROPROPANE	< 1. MCG/L
T51609	1,1,2,2-TETRACHLOROETHANE	< 1. MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(1), RO(1), DPH&(2), FED( ), INFO-P( ), INFO-O( )

DIRECTOR OF ENVIRONMENTAL HEALTH
CATTARAUGUS COUNTY HEALTH DEPT.
302 LINCOLN ST.
OLEAN, N.Y. 14760

SUBMITTED BY:JORDAN

SAMPLE ID: 65276 SAMPLE RECEIVED:86/10/07/ CHARGE: 8.00
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LOCATION: JUDY COLE,VERY ROAD,MACHIAS
TIME OF SAMPLING: 86/10/06 10:14 DATE PRINTED:86/10/22

	PARAMETER	RESULT
T41209	TETRACHLOROETHENE	< 1. MCG/L
T40009	PENTACHLOROETHANE	< 1. MCG/L
T85209	1-CHLOROCYCLOHEXENE-1	< 1. MCG/L
T40909	CHLOROBENZENE	< 1. MCG/L
T63909	BIS(2-CHLOROETHYL)ETHER	< 1. MCG/L
T38209	1,2-DIBROMO-3-CHLOROPROPANE	< 1. MCG/L
T51209	BROMOBENZENE	< 1. MCG/L
T50409	P-CHLOROTOLUENE	< 1. MCG/L
T68109	BIS(2-CHLOROISOPROPYL)ETHER	< 1. MCG/L
T49709	1,3-DICHLOROBENZENE	< 1. MCG/L
T44109	1,2-DICHLOROBENZENE	< 1. MCG/L
T44209	1,4-DICHLOROBENZENE	< 1. MCG/L

**** END OF REPORT ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 65277 SAMPLE RECEIVED:86/10/07/ CHARGE: 8.00
PROGRAM: 120:HOUSEHOLD WATER SUPPLIES
SOURCE ID: DRAINAGE BASIN:02 GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: JUDD COLE,VERY-ROAD,MACHIAS
DESCRIPTION:AFTER FILTER
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VH0502I:VOLATILE HALOGENATED INDICATORS
SAMPLE TYPE: 120:PRIVATE WATER SUPPLY - DRILLED WELL
TIME OF SAMPLING: 86/10/06 10:25 DATE PRINTED:86/10/22

ANALYSIS: VH0502I VOLATILE HALOGENATED INDICATORS-EPA METHOD 502.1

	PARAMETER	RESULT
T02009	CHLOROMETHANE	< 1. MCG/L
T01009	BROMOMETHANE	< 1. MCG/L
T11009	VINYL CHLORIDE	< 1. MCG/L
T70209	DICHLORODIFLUOROMETHANE	< 1. MCG/L
T01909	CHLOROETHANE	< 1. MCG/L
T23809	METHYLENE CHLORIDE (DICHLOROMETHANE)	< 1. MCG/L
T01709	TRICHLOROFLUOROMETHANE	< 1. MCG/L
T30909	1,1-DICHLOROETHENE	< 1. MCG/L
T51909	1,1-DICHLOROETHANE	< 1. MCG/L
T01209	TRANS-1,2-DICHLOROETHENE	< 1. MCG/L
T07609	CIS-1,2-DICHLOROETHENE	< 1. MCG/L
T32009	CHLOROFORM	< 1. MCG/L
T50609	1,2-DICHLOROETHANE	< 1. MCG/L
T08709	DIBROMOMETHANE	< 1. MCG/L
T23609	1,1,1-TRICHLOROETHANE	< 1. MCG/L
T36009	CARBON TETRACHLORIDE	< 1. MCG/L
T38909	BROMODICHLOROMETHANE	< 1. MCG/L
T19009	2,3-DICHLOROPROPENE	< 1. MCG/L
T01309	1,2-DICHLOROPROPANE	< 1. MCG/L
T01509	TRANS-1,3-DICHLOROPROPENE	< 1. MCG/L
T41109	TRICHLOROETHENE	< 1. MCG/L
T11209	1,3-DICHLOROPROPANE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T01409	CIS-1,3-DICHLOROPROPENE	< 1. MCG/L
T51709	1,1,2-TRICHLOROETHANE	< 1. MCG/L
T00409	1,2-DIBROMOETHANE	< 1. MCG/L
T01109	2-CHLOROETHYLVINYL ETHER	< 1. MCG/L
T42109	BROMOFORM	< 1. MCG/L
T21009	1,1,1,2-TETRACHLOROETHANE	< 1. MCG/L
T31009	1,2,3-TRICHLOROPROPANE	< 1. MCG/L
T51609	1,1,2,2-TETRACHLOROETHANE	< 1. MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(1), RO(1), LEHE(2), FED( ), INFO-P( ), INFO-D( )

DIRECTOR OF ENVIRONMENTAL HEALTH
CATTARAUGUS COUNTY HEALTH DEPT.
302 LAURENS ST.
OLEAN, N.Y. 14760

SUBMITTED BY:JORDAN

1076 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 2 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: -65277 SAMPLE RECEIVED:86/10/07/ CHARGE: 8.00
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LOCATION: WOOD COLE,VERY ROAD,MACHIAS
TIME OF SAMPLING: 86/10/06 10:25 DATE PRINTED:86/10/22

	PARAMETER	RESULT
T41209	TETRACHLOROETHENE	< 1. MCG/L
T40009	PENTACHLOROETHANE	< 1. MCG/L
T85209	1-CHLOROCYCLOHEXENE-1	< 1. MCG/L
T40909	CHLOROBENZENE	< 1. MCG/L
T63909	BIS(2-CHLOROETHYL)ETHER	< 1. MCG/L
T38209	1,2-DIBROMO-3-CHLOROPROPANE	< 1. MCG/L
T51209	BROMOBENZENE	< 1. MCG/L
T50409	2-CHLOROTOLUENE	< 1. MCG/L
T68109	BIS(2-CHLOROISOPROPYL)ETHER	< 1. MCG/L
T49709	1,3-DICHLOROBENZENE	< 1. MCG/L
T44109	1,2-DICHLOROBENZENE	< 1. MCG/L
T44209	1,4-DICHLOROBENZENE	< 1. MCG/L

**** END OF REPORT ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 65278 SAMPLE RECEIVED:86/10/07/ CHARGE: 8.00
PROGRAM: 120:HOUSEHOLD WATER SUPPLIES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: FIELD BLANK-JUDD CODE R&S.,DATE PREPARED 4/03/86
DESCRIPTION:WITH SAMPLE #65270 TO 65277
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VHG5021:VOLATILE HALOGENATED INDICATORS
SAMPLE TYPE: 297:FIELD BLANK / TRIP BLANK
TIME OF SAMPLING: 86/10/00 : DATE PRINTED:86/10/22

ANALYSIS: VHG5021 VOLATILE HALOGENATED INDICATORS-EPA METHOD 502.1

	PARAMETER	RESULT
T02009	CHLOROMETHANE	< 1. MCG/L
T01609	BROMOMETHANE	< 1. MCG/L
T41009	VINYL CHLORIDE	< 1. MCG/L
T70209	DICHLORODIFLUOROMETHANE	< 1. MCG/L
T01909	CHLOROETHANE	< 1. MCG/L
T23609	METHYLENE CHLORIDE (DICHLOROMETHANE)	< 1. MCG/L
T01709	TRICHLOROFLUOROMETHANE	< 1. MCG/L
T50909	1,1-DICHLOROETHENE	< 1. MCG/L
T51909	1,1-DICHLOROETHANE	< 1. MCG/L
T01209	TRANS-1,2-DICHLOROETHENE	< 1. MCG/L
T87609	CIS-1,2-DICHLOROETHENE	< 1. MCG/L
T39009	CHLOROFORM	< 1. MCG/L
T50609	1,2-DICHLOROETHANE	< 1. MCG/L
T08709	DIBROMOMETHANE	< 1. MCG/L
T23609	1,1,1-TRICHLOROETHANE	< 1. MCG/L
T36609	CARBON TETRACHLORIDE	< 1. MCG/L
T39909	BROMODICHLOROMETHANE	< 1. MCG/L
T18009	2,3-DICHLOROPROPENE	< 1. MCG/L
T01309	1,2-DICHLOROPROPANE	< 1. MCG/L
T01509	TRANS-1,3-DICHLOROPROPENE	< 1. MCG/L
T41109	TRICHLOROETHENE	< 1. MCG/L
T11209	1,3-DICHLOROPROPANE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T01409	CIS-1,3-DICHLOROPROPENE	< 1. MCG/L
T51709	1,1,2-TRICHLOROETHANE	< 1. MCG/L
T00409	1,2-DIBROMOETHANE	< 1. MCG/L
T01109	2-CHLOROETHYLVINYL ETHER	< 1. MCG/L
T42109	BROMOFORM	< 1. MCG/L
T21009	1,1,1,2-TETRACHLOROETHANE	< 1. MCG/L
T31009	1,2,3-TRICHLOROPROPANE	< 1. MCG/L
T51809	1,1,2,2-TETRACHLOROETHANE	< 1. MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(1), RO(1), DPRE(2), FED( ), INFO-P( ), INFO-L( )

DIRECTOR OF ENVIRONMENTAL HEALTH
CATTARAUGUS COUNTY HEALTH DEPT.
302 MAPLE ST.
OLEAN, N.Y. 14760

SUBMITTED BY:JORDAN

1080 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 2 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 65278 SAMPLE RECEIVED:86/10/07/ CHARGE: 8.00
POLITICAL SUBDIVISION:VACHERAS COUNTY:CATTARAUGUS
LOCATION: FIELD BLANK-1080 CODE FOS.,DATE PREPARED 4/03/86
TIME OF SAMPLING: 86/10/06 : DATE PRINTED:86/10/22

	PARAMETER	RESULT
T41209	TETRACHLOROETHENE	< 1. MCG/L
T40009	PENTACHLOROETHANE	< 1. MCG/L
T85209	1-CHLOROCYCLOHEXENE-1	< 1. MCG/L
T40909	CHLOROBENZENE	< 1. MCG/L
T63909	BIS(2-CHLOROETHYL)ETHER	< 1. MCG/L
T38209	1,2-DIBROMO-3-CHLOROPROPANE	< 1. MCG/L
T51209	BROMOBENZENE	< 1. MCG/L
T50409	ORTHO-CHLOROTOLUENE	< 1. MCG/L
T68109	BIS(2-CHLOROISOPROPYL)ETHER	< 1. MCG/L
T49709	1,3-DICHLOROBENZENE	< 1. MCG/L
T44109	1,2-DICHLOROBENZENE	< 1. MCG/L
T44209	1,4-DICHLOROBENZENE	< 1. MCG/L

**** END OF REPORT ****

Machias Gravel P.W.

0787

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 871805 SAMPLE RECEIVED:87/05/12/ CHARGE: 8.00
PROGRAM: 106:BUREAU OF TOXIC SUBSTANCES ASSESSMENT
SOURCE ID: DRAINAGE BASIN:02 GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: JUDD COLF RES.
DESCRIPTION:BEFORE FILTER
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VHO5021:VOLATILE HALOGENATED INDICATORS
SAMPLE TYPE: 120:PRIVATE WATER SUPPLY - DRILLED WELL
TIME OF SAMPLING: 87/05/11 09:40 DATE PRINTED:87/05/26

ANALYSIS: VHO5021 VOLATILE HALOGENATED INDICATORS-EPA METHOD 502.1

	PARAMETER	RESULT
T62009	CHLOROMETHANE	< 1. MCG/L
T61809	BROMOMETHANE	< 1. MCG/L
T41009	VINYL CHLORIDE	< 1. MCG/L
T70209	DICHLORODIFLUOROMETHANE	< 1. MCG/L
T61909	CHLOROETHANE	< 1. MCG/L
T23809	METHYLENE CHLORIDE (DICHLOROMETHANE)	< 1. MCG/L
T61709	TRICHLOROFLUOROMETHANE	< 1. MCG/L
T50909	1,1-DICHLOROETHENE	< 1. MCG/L
T51909	1,1-DICHLOROETHANE	< 1. MCG/L
T61209	TRANS-1,2-DICHLOROETHENE	< 1. MCG/L
T87609	CIS-1,2-DICHLOROETHENE	< 1. MCG/L
T39009	CHLOROFORM	1. MCG/L
T50809	1,2-DICHLOROETHANE	< 1. MCG/L
T88709	DIBROMO METHANE	< 1. MCG/L
T23609	1,1,1-TRICHLOROETHANE	< 1. MCG/L
T36609	CARBON TETRACHLORIDE	< 1. MCG/L
T38909	BROMODICHLOROMETHANE	< 1. MCG/L
T18009	2,3-DICHLOROPROPENE	< 1. MCG/L
T61309	1,2-DICHLOROPROPANE	< 1. MCG/L
T61509	TRANS-1,3-DICHLOROPROPENE	< 1. MCG/L
T41109	TRICHLOROETHENE	< 1. MCG/L
T11209	1,3-DICHLOROPROPANE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T61409	CIS-1,3-DICHLOROPROPENE	< 1. MCG/L
T51709	1,1,2-TRICHLOROETHANE	< 1. MCG/L
T60409	1,2-DIBROMOETHANE	< 1. MCG/L
T61109	2-CHLOROETHYLVINYL ETHER	< 1. MCG/L
T42109	BROMOFORM	< 1. MCG/L
T21009	1,1,1,2-TETRACHLOROETHANE	< 1. MCG/L
T31009	1,2,3-TRICHLOROPROPANE	< 1. MCG/L
T51809	1,1,2,2-TETRACHLOROETHANE	< 1. MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(1), LPHE(2), FED( ), INFO-P( ), INFO-L( )

RON TRAMONTANO
BUREAU OF TOXIC SUBSTANCES ASSESSMENT
NY STATE DEP'T OF HEALTH
TOWER BUILDING ROOM 359
ALBANY NY 12201

SUBMITTED BY:JORDAN

0788

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 871805 SAMPLE RECEIVED:87/05/12/ CHARGE: 8.00
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LOCATION: JUDD GOLF RES.
TIME OF SAMPLING: 87/05/11 09:40 DATE PRINTED:87/05/26

	PARAMETER	RESULT
T41209	TETRACHLOROETHENE	< 1. MCG/L
T40009	PENTACHLOROETHANE	< 1. MCG/L
T85209	1-CHLOROCYCLOHEXENE-1	< 1. MCG/L
T40909	CHLOROBENZENE	< 1. MCG/L
T63909	BIS(2-CHLOROETHYL)ETHER	< 1. MCG/L
T38209	1,2-DIBROMO-3-CHLOROPROPANE	< 1. MCG/L
T51209	BROMOBENZENE	< 1. MCG/L
T50409	ORTHO-CHLOROTOLUENE	< 1. MCG/L
T68109	BIS(2-CHLOROISOPROPYL)ETHER	< 1. MCG/L
T49709	1,3-DICHLOROBENZENE	< 1. MCG/L
T44109	1,2-DICHLOROBENZENE	< 1. MCG/L
T44209	1,4-DICHLOROBENZENE	< 1. MCG/L

**** END OF REPORT ****

0791

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 871806 SAMPLE RECEIVED:87/05/12/ CHARGE: 8.00
PROGRAM: 106:BUREAU OF TOXIC SUBSTANCES ASSESSMENT
SOURCE ID: DRAINAGE BASIN:02 GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: JUDD GOLF RES.
DESCRIPTION:AFTER FILTER
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VHO5021:VOLATILE HALOGENATED INDICATORS
SAMPLE TYPE: 120:PRIVATE WATER SUPPLY - DRILLED WELL
TIME OF SAMPLING: 87/05/11 09:35 DATE PRINTED:87/05/26

ANALYSIS: VHO5021 VOLATILE HALOGENATED INDICATORS-EPA METHOD 502.1

	PARAMETER	RESULT
T62009	CHLOROMETHANE	< 1. MCG/L
T61809	BROMOMETHANE	< 1. MCG/L
T41009	VINYL CHLORIDE	< 1. MCG/L
T70209	DICHLORODIFLUOROMETHANE	< 1. MCG/L
T61909	CHLOROETHANE	< 1. MCG/L
T23809	METHYLENE CHLORIDE (DICHLOROMETHANE)	< 1. MCG/L
T61709	TRICHLOROFLUOROMETHANE	< 1. MCG/L
T50909	1,1-DICHLOROETHENE	< 1. MCG/L
T51909	1,1-DICHLOROETHANE	< 1. MCG/L
T61209	TRANS-1,2-DICHLOROETHENE	< 1. MCG/L
T87609	CIS-1,2-DICHLOROETHENE	< 1. MCG/L
T39009	CHLOROFORM	< 1. MCG/L
T50809	1,2-DICHLOROETHANE	< 1. MCG/L
T88709	DIBROMO METHANE	< 1. MCG/L
T23609	1,1,1-TRICHLOROETHANE	< 1. MCG/L
T36609	CARBON TETRACHLORIDE	< 1. MCG/L
T38909	BROMODICHLOROMETHANE	< 1. MCG/L
T18009	2,3-DICHLOROPROPENE	< 1. MCG/L
T61309	1,2-DICHLOROPROPANE	< 1. MCG/L
T61509	TRANS-1,3-DICHLOROPROPENE	< 1. MCG/L
T41109	TRICHLOROETHENE	< 1. MCG/L
T11209	1,3-DICHLOROPROPANE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T61409	CIS-1,3-DICHLOROPROPENE	< 1. MCG/L
T51709	1,1,2-TRICHLOROETHANE	< 1. MCG/L
T60409	1,2-DIBROMOETHANE	< 1. MCG/L
T61109	2-CHLOROETHYLVINYL ETHER	< 1. MCG/L
T42109	BROMOFORM	< 1. MCG/L
T21009	1,1,1,2-TETRACHLOROETHANE	< 1. MCG/L
T31009	1,2,3-TRICHLOROPROPANE	< 1. MCG/L
T51809	1,1,2,2-TETRACHLOROETHANE	< 1. MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(1), LPHE(2), FED( ), INFO-P( ), INFO-L( )

RON TRAMONTANO
BUREAU OF TOXIC SUBSTANCES ASSESSMENT
NY STATE DEP'T OF HEALTH
TOWER BUILDING ROOM 359
ALBANY NY 12201

SUBMITTED BY:JORDAN

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 871806 SAMPLE RECEIVED:87/05/12/ CHARGE: 8.00
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LOCATION: JUDD COLF RES.
TIME OF SAMPLING: 87/05/11 09:35 DATE PRINTED:87/05/26

	PARAMETER	RESULT
T41209	TETRACHLOROETHENE	< 1. MCG/L
T40009	PENTACHLOROETHANE	< 1. MCG/L
T85209	1-CHLOROCYCLOHEXENE-1	< 1. MCG/L
T40909	CHLOROBENZENE	< 1. MCG/L
T63909	BIS(2-CHLOROETHYL)ETHER	< 1. MCG/L
T38209	1,2-DIBROMO-3-CHLOROPROPANE	< 1. MCG/L
T51209	BROMOBENZENE	< 1. MCG/L
T50409	ORTHO-CHLOROTOLUENE	< 1. MCG/L
T68109	BIS(2-CHLOROISOPROPYL)ETHER	< 1. MCG/L
T49709	1,3-DICHLOROBENZENE	< 1. MCG/L
T44109	1,2-DICHLOROBENZENE	< 1. MCG/L
T44209	1,4-DICHLOROBENZENE	< 1. MCG/L

**** END OF REPORT ****

Machias Gorge WA
905013

0793

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 871807 SAMPLE RECEIVED:87/05/12/ CHARGE: 8.00
PROGRAM: 106:BUREAU OF TOXIC SUBSTANCES ASSESSMENT
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: FIELD BLANK-COLE RES.
DESCRIPTION:WITH SAMPLE #871805 TO 871806 DATE PREPARED 04/28/87
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VHO5021:VOLATILE HALOGENATED INDICATORS
SAMPLE TYPE: 297:FIELD BLANK / TRIP BLANK
TIME OF SAMPLING: 87/05/11 : DATE PRINTED:87/05/26

ANALYSIS: VHO5021 VOLATILE HALOGENATED INDICATORS-EPA METHOD 502.1

	PARAMETER	RESULT
T62009	CHLOROMETHANE	< 1. MCG/L
T61809	BROMOMETHANE	< 1. MCG/L
T41009	VINYL CHLORIDE	< 1. MCG/L
T70209	DICHLORODIFLUOROMETHANE	< 1. MCG/L
T61909	CHLOROETHANE	< 1. MCG/L
T23809	METHYLENE CHLORIDE (DICHLOROMETHANE)	< 1. MCG/L
T61709	TRICHLOROFLUOROMETHANE	< 1. MCG/L
T50909	1,1-DICHLOROETHENE	< 1. MCG/L
T51909	1,1-DICHLOROETHANE	< 1. MCG/L
T61209	TRANS-1,2-DICHLOROETHENE	< 1. MCG/L
T87609	CIS-1,2-DICHLOROETHENE	< 1. MCG/L
T39009	CHLOROFORM	< 1. MCG/L
T50809	1,2-DICHLOROETHANE	< 1. MCG/L
T88709	DIBROMO METHANE	< 1. MCG/L
T23609	1,1,1-TRICHLOROETHANE	< 1. MCG/L
T36609	CARBON TETRACHLORIDE	< 1. MCG/L
T38909	BROMODICHLOROMETHANE	< 1. MCG/L
T18009	2,3-DICHLOROPROPENE	< 1. MCG/L
T61309	1,2-DICHLOROPROPANE	< 1. MCG/L
T61509	TRANS-1,3-DICHLOROPROPENE	< 1. MCG/L
T41109	TRICHLOROETHENE	< 1. MCG/L
T11209	1,3-DICHLOROPROPANE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T61409	CIS-1,3-DICHLOROPROPENE	< 1. MCG/L
T51709	1,1,2-TRICHLOROETHANE	< 1. MCG/L
T60409	1,2-DIBROMOETHANE	< 1. MCG/L
T61109	2-CHLOROETHYLVINYL ETHER	< 1. MCG/L
T42109	BROMOFORM	< 1. MCG/L
T21009	1,1,1,2-TETRACHLOROETHANE	< 1. MCG/L
T31009	1,2,3-TRICHLOROPROPANE	< 1. MCG/L
T51809	1,1,2,2-TETRACHLOROETHANE	< 1. MCG/L

502.1 N

RECEIVED
SEP 0 1988
BUREAU OF SPILL CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(1), LPHE(2), FED( ), INFO-P( ), INFO-L( )

RON TRAMONTANO
BUREAU OF TOXIC SUBSTANCES ASSESSMENT
NY STATE DEP'T OF HEALTH
TOWER BUILDING ROOM 359
ALBANY NY 12201

SUBMITTED BY:JORDAN

0794

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 2 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 871807 SAMPLE RECEIVED:87/05/12/ CHARGE: 0.00
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LOCATION: FIELD BLANK-COLE RES.
TIME OF SAMPLING: 87/05/11 : DATE PRINTED:87/05/26

	PARAMETER	RESULT
T41209	TETRACHLOROETHENE	< 1. MCG/L
T40009	PENTACHLOROETHANE	< 1. MCG/L
T85209	1-CHLOROCYCLOHEXENE-1	< 1. MCG/L
T40909	CHLOROBENZENE	< 1. MCG/L
T63909	BIS(2-CHLOROETHYL)ETHER	< 1. MCG/L
T38209	1,2-DIBROMO-3-CHLOROPROPANE	< 1. MCG/L
T51209	BROMOBENZENE	< 1. MCG/L
T50409	ORTHO-CHLOROTOLUENE	< 1. MCG/L
T68109	BIS(2-CHLOROISOPROPYL)ETHER	< 1. MCG/L
T49709	1,3-DICHLOROBENZENE	< 1. MCG/L
T44109	1,2-DICHLOROBENZENE	< 1. MCG/L
T44209	1,4-DICHLOROBENZENE	< 1. MCG/L

**** END OF REPORT ****

088

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 883231 SAMPLE RECEIVED:88/09/07/ CHARGE: 8.00
PROGRAM: 106:BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION
SOURCE ID: DRAINAGE BASIN:02 GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: . LONGITUDE: . % DIRECTION:
LOCATION: JUDD COLE
DESCRIPTION:BEFORE FILTER
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VH05021:VOLATILE HALOGENATED ORGANICS
SAMPLE TYPE: 120:PRIVATE WATER SUPPLY - DRILLED WELL
TIME OF SAMPLING: 88/09/06 10:15 DATE PRINTED:88/10/04

ANALYSIS: VH05021 VOLATILE HALOGENATED ORGANICS - EPA 502.1
DATE PRINTED: 88/10/04 FINAL REPORT

PARAMETER	RESULT
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	1. MCG/L
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE	< 0.5 MCG/L
2-CHLOROETHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(1), LPHE(2), FED( ), INFO-P( ), INFO-L( )

DIRECTOR OF ENVIRONMENTAL HEALTH
CATTARAUGUS COUNTY HEALTH DEPT.
302 LAURENS ST.
OLEAN,N.Y. 14760

SUBMITTED BY:JORDAN

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 883231 SAMPLE RECEIVED:88/09/07/ CHARGE: 8.00
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LOCATION: JUDD COLE
TIME OF SAMPLING: 88/09/06 10:15 DATE PRINTED:88/10/04

PARAMETER	RESULT
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
ORTHO-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

**** END OF REPORT ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 883230 SAMPLE RECEIVED:88/09/07/ CHARGE: 8.00
PROGRAM: 106:BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION
SOURCE ID: DRAINAGE BASIN:02 GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: JUD COLE
DESCRIPTION:AFTER FILTER
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VH05021:VOLATILE HALOGENATED ORGANICS
SAMPLE TYPE: 120:PRIVATE WATER SUPPLY - DRILLED WELL
TIME OF SAMPLING: 88/09/06 10:08 DATE PRINTED:88/10/04

ANALYSIS: VH05021 VOLATILE HALOGENATED ORGANICS - EPA 502.1
DATE PRINTED: 88/10/04 FINAL REPORT

PARAMETER	RESULT
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	1. MCG/L
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE	< 0.5 MCG/L
2-CHLOROETHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(1), LPHE(2), FED( ), INFO-P( ), INFO-L( )

DIRECTOR OF ENVIRONMENTAL HEALTH
CATTARAUGUS COUNTY HEALTH DEPT.
302 LAURENS ST.
OLEAN,N.Y. 14760

SUBMITTED BY:JORDAN

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION — FINAL REPORT

SAMPLE ID: 883230 SAMPLE RECEIVED:88/09/07/ CHARGE: 8.00
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LOCATION: JUD COLE
TIME OF SAMPLING: 88/09/06 10:08
DATE PRINTED:88/10/04

PARAMETER	RESULT
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
ORTHO-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

**** END OF REPORT ****

WaterTest℠ CORPORATION

33 S. Commercial Street, Manchester, N.H. 03101

REPORT

DEC 28 1988

Customer
COLE BETTE

9450 VERY RD
MACHIAS
NY 14101

Water source
KITCHEN
WATER FILTER
9450 VERY RD
MACHIAS
NY 14101

Date sampled : 1 DEC 88

Sample Number: 337008/ 9

Analyte	Measured Conc. (mg/L)	MCL (mg/L)
Benzene	ND	0.005
Bromobenzene	ND	0.0
Bromochloromethane	ND	0.0
Bromomethane	ND	0.0
n-Butylbenzene	ND	0.0
s-Butylbenzene	ND	0.0
t-Butylbenzene	ND	0.0
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.488
Chloroethane	ND	0.0
Chloromethane	ND	0.0
2-Chlorotoluene	ND	0.0
4-Chlorotoluene	ND	0.0
1,2-Dibromo-3-chloropropane	ND	0.0
1,2-Dibromoethane	ND	0.0
Dibromomethane	ND	0.0
1,2-Dichlorobenzene	ND	0.062
1,3-Dichlorobenzene	ND	0.075
1,4-Dichlorobenzene	ND	0.075
Dichlorodifluoromethane	ND	0.0
1,1-Dichloroethane	ND	0.0
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethylene	ND	0.007
cis-1,2-Dichloroethylene	ND	0.0
trans-1,2-Dichloroethylene	ND	0.0
1,2-Dichloropropane	ND	0.006
1,3-Dichloropropane	ND	0.0
2,2-Dichloropropane	ND	0.0
1,1-Dichloropropane	ND	0.0

The detection limits are 0.001 mg/L unless specified otherwise for specific analytes. MCL means maximum contaminant level as set by the Safe Drinking Water Act, or as recommended by the US EPA, or as the prefered levels for health purposes. 'ND' means Not Detected.

1988 WATERTEST CORPORATION

WaterTest SM CORPORATION

33 S. Commercial Street, Manchester, N.H. 03101

REPORT

Customer	Water source
COLE BETTE	KITCHEN
9450 VERY RD	9450 VERY RD
MACHIAS	MACHIAS
NY 14101	NY 14101

Date sampled : 1 DEC 88 Sample number: 337009

Analyte	Measured Conc. (mg/L)	MCL (mg/L)
Ethylbenzene	ND	0.068
Hexachlorobutadiene	ND	0.0
Isopropylbenzene	ND	0.0
p-Isopropyltoluene	ND	0.0
Methylene chloride	ND	0.0
Napthalene	ND	0.0
n-Propylbenzene	ND	0.0
Styrene	ND	0.0
1,1,1,2-Tetrachloroethane	ND	0.0
1,1,2,2-Tetrachloroethane	ND	0.0
Tetrachloroethylene	ND	0.0
Toluene	ND	2.00
1,2,3-Trichlorobenzene	ND	0.0
1,2,4-Trichlorobenzene	ND	0.0
1,1,1-Trichloroethane	ND	0.20
1,1,2-Trichloroethane	ND	0.0
Trichloroethylene	ND	0.005
Trichlorofluoromethane	ND	0.0
1,2,3-Trichloropropane	ND	0.0
1,2,4-Trimethylbenzene	ND	0.0
1,3,5-Trimethylbenzene	ND	0.0
Vinyl chloride	ND	0.002
O-Xylene	ND	0.0
m,p-Xylene	ND	0.0
Chloroform	0.021	0.1**
Bromoform	ND	0.1**
Chlorodibromomethane	0.003	0.1**
Dichlorobromomethane	0.005	0.1**
** Total Trihalomethanes **	0.029	0.10

Chloroform, Bromoform, Chlorodibromomethane, Dichlorobromomethane are all Trihalomethanes. The MCL for any one of these compounds is 0.100 mg/L only if none of the others are detected. The sum of the concentrations, of these chemicals are reported as Total Trihalomethanes.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 65756 SAMPLE RECEIVED:86/11/05/ CHARGE: 2.00
PROGRAM: 106:BUREAU OF TOXIC SUBSTANCES ASSESSMENT
SOURCE ID: DRAINAGE BASIN:02 GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: MACHIAS (T)
DESCRIPTION:VERY ROAD,LYE CREEK
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: THM:TRIHALOMETHANES
SAMPLE TYPE: 210:SURFACE WATER
TIME OF SAMPLING: 86/11/04 : DATE PRINTED:86/11/10

ANALYSTS: THM TRIHALOMETHANES, EPA METHOD 501.2 (DES 310-5)

	PARAMETER	RESULT
T39009	CHLOROFORM	< 1. MCG/L
T38909	BROMODICHLOROMETHANE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T42109	BROMOFORM	< 1. MCG/L

**** END OF REPORT ****

COPIES SENT TO: CO(2), RO(1), LPHE(2), FED( ), INFO-P( ), INFO-L( )

RON TRAMONTANO
BUREAU OF TOXIC SUBSTANCES ASSESSMENT
NY STATE DEP'T OF HEALTH SUBMITTED BY:JORDAN
TOWER BUILDING ROOM 359
ALBANY NY 12201

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 65757 SAMPLE RECEIVED:86/11/05/ CHARGE: 2.00
PROGRAM: 106:BUREAU OF TOXIC SUBSTANCES ASSESSMENT
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:0469
POLITICAL SUBDIVISION:MACHIAS COUNTY:CATTARAUGUS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: FIELD BLANK-LYE CREEK.DATE PREPARED 2/21/86
DESCRIPTION:WITH SAMPLE #65756
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: THM:TRIHALOMETHANES
SAMPLE TYPE: 297:FIELD BLANK / TRIP BLANK
TIME OF SAMPLING: 86/11/04: : DATE PRINTED:86/11/10

ANALYSIS: THM TRIHALOMETHANES, EPA METHOD 501.2 (DES 310-5)

	PARAMETER	RESULT
T39009	CHLOROFORM	< 1. MCG/L
T38909	BROMODICHLOROMETHANE	< 1. MCG/L
T44909	DIBROMOCHLOROMETHANE	< 1. MCG/L
T42109	BROMOFORM	< 1. MCG/L

**** END OF REPORT ****

COPIES SENT TO: CO(2), RO(1), LPHE(2), FED( ), INFO-P( ), INFO-L( )

RON TRAMONTANO
BUREAU OF TOXIC SUBSTANCES ASSESSMENT
NY STATE DEP'T OF HEALTH
TOWER BUILDING ROOM 359
ALBANY NY 12201

SUBMITTED BY:JORDAN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259530

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059530A12

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column: (pack/cap) CAP 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	2	BJ
67-64-1	Acetone	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259530

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059530A12

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column (pack/cap) CAP 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.

FIELDBLNK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258883

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058883C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column: (pack/cap) CAP 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	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FIELDBLNK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258883

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058883C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column (pack/cap) CAP 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.

GWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258875

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058875C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column: (pack/cap) CAP 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	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258875

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058875C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column (pack/cap) CAP 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.

GWR-2

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258882

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058882C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column: (pack/cap) CAP 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	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GWR-2

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258882

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058882C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column (pack/cap) CAP 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.

GWR-2MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258856

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058856C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column: (pack/cap) CAP 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	10	U
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	Total Xylenes	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-2MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258857

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR058857C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column: (pack/cap) CAP 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	1	J
67-64-1	Acetone	10	U
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	Total Xylenes	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-3

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259180

Sample wt/vol: 1.5 (g/mL) ML Lab File ID: CR059180C12

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	33	U
74-83-9	Bromomethane	33	U
75-01-4	Vinyl Chloride	33	U
75-00-3	Chloroethane	33	U
75-09-2	Methylene Chloride	17	U
67-64-1	Acetone	33	U
75-15-0	Carbon Disulfide	17	U
75-35-4	1,1-Dichloroethene	11	J
75-34-3	1,1-Dichloroethane	17	U
540-59-0	1,2-Dichloroethene (total)	17	U
67-66-3	Chloroform	17	U
107-06-2	1,2-Dichloroethane	17	U
78-93-3	2-Butanone	33	U
71-55-6	1,1,1-Trichloroethane	440	
56-23-5	Carbon Tetrachloride	17	U
108-05-4	Vinyl Acetate	33	U
75-27-4	Bromodichloromethane	17	U
78-87-5	1,2-Dichloropropane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
79-01-6	Trichloroethene	62	
124-48-1	Dibromochloromethane	17	U
79-00-5	1,1,2-Trichloroethane	17	U
71-43-2	Benzene	17	U
10061-02-6	Trans-1,3-Dichloropropene	17	U
75-25-2	Bromoform	17	U
108-10-1	4-Methyl-2-Pentanone	33	U
591-78-6	2-Hexanone	33	U
127-18-4	Tetrachloroethene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
108-88-3	Toluene	17	U
108-90-7	Chlorobenzene	17	U
100-41-4	Ethylbenzene	17	U
100-42-5	Styrene	17	U
1330-20-7	Total Xylenes	17	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: GWR-3

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259180

Sample wt/vol: 1.5 (g/mL) ML Lab File ID: CR059180C12

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	ETHANE,1,1,2-TRICHLORO-1,2,2	3.80	190	J

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-4

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259181

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR059181C12

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column: (pack/cap) CAP 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	1	BJ
67-64-1	Acetone	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GWR-4

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259181

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR059181C12

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column (pack/cap) CAP 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.

HW-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259531

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059531A12

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column: (pack/cap) CAP 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	2	BJ
67-64-1	Acetone	5	J
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HW-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259531

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059531A12

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column (pack/cap) CAP 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.

LAB-PURE

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259179

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059179B12

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column: (pack/cap) CAP 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	1	J
67-64-1	Acetone	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LAB-PURE

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259179

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059179B12

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column (pack/cap) CAP 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.

LAB-PURE

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259533

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059533B12

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column: (pack/cap) CAP 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	1	J
67-64-1	Acetone	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LAB-PURE

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259533

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059533B12

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column (pack/cap) CAP 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.

LAB-WATER

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258854

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058854C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column: (pack/cap) CAP 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	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LAB-WATER

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258854

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN058854C14

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ Date Analyzed: 05/01/89

Column (pack/cap) CAP 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

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259532

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059532A12

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column: (pack/cap) CAP 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	1	BJ
67-64-1	Acetone	10	U
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	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259532

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN059532A12

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ Date Analyzed: 05/02/89

Column (pack/cap) CAP 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.

CWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259530

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH059530B15

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/89

GPC Cleanup: (Y/N) N pH: _____ 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.

CWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259530

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH059530B15

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/89

GPC Cleanup: (Y/N) N pH: _____ 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
100-01-6	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	10	U
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	10	U
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	Dibenzo(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.

CWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259530

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH059530B15

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/89

GPC Cleanup: (Y/N) N pH: _____ 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.

FIELDBLNK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH058883B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/28/89

GPC Cleanup: (Y/N) N pH: _____ 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.

FIELDBLNK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH058883B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/28/89

GPC Cleanup: (Y/N) N pH: _____ 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
100-01-6	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	10	U
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	10	U
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	Dibenzo(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.

FIELDBLNK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH058883B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/28/89

GPC Cleanup: (Y/N) N pH: _____ 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.

GWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258875

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH058875B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/28/89

GPC Cleanup: (Y/N) N pH: _____ 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.

GWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258875

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH058875B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/28/89

GPC Cleanup: (Y/N) N pH: _____ 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
100-01-6	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	10	U
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	4	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	Dibenzo(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.

GWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258875

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH058875B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/28/89

GPC Cleanup: (Y/N) N pH: _____ 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.	85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	18.60	74	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-1MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258876

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH058876B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/28/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	20	U
111-44-4	bis(2-Chloroethyl)Ether	20	U
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
100-51-6	Benzyl Alcohol	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
39638-32-9	bis(2-Chloroisopropyl)Ether	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-Di-n-Propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	20	U
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
65-85-0	Benzoic Acid	100	U
111-91-1	bis(2-Chloroethoxy)Methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
91-20-3	Naphthalene	20	U
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-Methylphenol	20	U
91-57-6	2-Methylnaphthalene	20	U
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	100	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	100	U
131-11-3	Dimethyl Phthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	20	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-1MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258876

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH058876B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/28/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	100	U
83-32-9	Acenaphthene	20	U
51-28-5	2,4-Dinitrophenol	100	U
100-02-7	4-Nitrophenol	100	U
132-64-9	Dibenzofuran	20	U
121-14-2	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl-phenylether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	100	U
534-52-1	4,6-Dinitro-2-Methylphenol	100	U
86-30-6	N-Nitrosodiphenylamine (1)	20	U
101-55-3	4-Bromophenyl-phenylether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	100	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
84-74-2	Di-n-Butylphthalate	20	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	U
85-68-7	Butylbenzylphthalate	20	U
91-94-1	3,3'-Dichlorobenzidine	40	U
56-55-3	Benzo(a)Anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	bis(2-Ethylhexyl)Phthalate	9	J
117-84-0	Di-n-Octyl Phthalate	20	U
205-99-2	Benzo(b)Fluoranthene	20	U
207-08-9	Benzo(k)Fluoranthene	20	U
50-32-8	Benzo(a)Pyrene	20	U
193-39-5	Indeno(1,2,3-cd)Pyrene	20	U
53-70-3	Dibenzo(a,h)Anthracene	20	U
191-24-2	Benzo(g,h,i)Perylene	20	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-1MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258877

Sample wt/vol: 500 (g/mL) ML Lab File ID: G4J58877A06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/01/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	20	U
111-44-4	bis(2-Chloroethyl)Ether	20	U
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
100-51-6	Benzyl Alcohol	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
39638-32-9	bis(2-Chloroisopropyl)Ether	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-Di-n-Propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	20	U
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
65-85-0	Benzoic Acid	100	U
111-91-1	bis(2-Chloroethoxy)Methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
91-20-3	Naphthalene	20	U
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-Methylphenol	20	U
91-57-6	2-Methylnaphthalene	20	U
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	100	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	100	U
131-11-3	Dimethyl Phthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	20	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-1MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258877

Sample wt/vol: 500 (g/mL) ML Lab File ID: G4J58877A06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/01/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	100	U
83-32-9	Acenaphthene	20	U
51-28-5	2,4-Dinitrophenol	100	U
100-02-7	4-Nitrophenol	100	U
132-64-9	Dibenzofuran	20	U
121-14-2	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl-phenylether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	100	U
534-52-1	4,6-Dinitro-2-Methylphenol	100	U
86-30-6	N-Nitrosodiphenylamine (1)	20	U
101-55-3	4-Bromophenyl-phenylether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	100	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
84-74-2	Di-n-Butylphthalate	20	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	U
85-68-7	Butylbenzylphthalate	20	U
91-94-1	3,3'-Dichlorobenzidine	40	U
56-55-3	Benzo(a)Anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	bis(2-Ethylhexyl)Phthalate	23	
117-84-0	Di-n-Octyl Phthalate	20	U
205-99-2	Benzo(b)Fluoranthene	20	U
207-08-9	Benzo(k)Fluoranthene	20	U
50-32-8	Benzo(a)Pyrene	20	U
193-39-5	Indeno(1,2,3-cd)Pyrene	20	U
53-70-3	Dibenzo(a,h)Anthracene	20	U
191-24-2	Benzo(g,h,i)Perylene	20	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-2

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258882

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ058882B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/01/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	3	J
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.

GWR-2

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258882

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ058882B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/01/89

GPC Cleanup: (Y/N) N pH: _____ 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
100-01-6	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	10	U
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	10	U
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	Dibenzo(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.

GWR-2

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 258882

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ058882B06

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/01/89

GPC Cleanup: (Y/N) N pH: _____ 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.	872-50-4	2-PYRROLIDINONE, 1-METHYL-	7.98	48	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-3

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259180

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJR59180C15

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	7	J
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.

GWR-3

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259180

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJR59180C15

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ 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
100-01-6	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	10	U
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	10	U
117-84-0	Di-n-Octyl Phthalate	7	J
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	Dibenzo(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

EPA SAMPLE NO.

GWR-3

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259180

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJR59180C15

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ 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	7.22	88	J
2.		UNKNOWN CARBOXYLIC ACID	7.78	16	J
3.	85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	17.24	20	J
4.	1330-96-7	1,2-BENZENEDICARBOXYLIC ACID	18.64	8.0	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-4

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259181

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ059181A06

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/29/89

GPC Cleanup: (Y/N) N pH: _____ 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.

GWR-4

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259181

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ059181A06

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/29/89

GPC Cleanup: (Y/N) N pH: _____ 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
100-01-6	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	10	U
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	10	U
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	Dibenzo(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.

GWR-4

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259181

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ059181A06

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/29/89

GPC Cleanup: (Y/N) N pH: _____ 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.	85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	19.12	46	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HW-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259531

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ059531A02

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ 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.

HW-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259531

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ059531A02

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ 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
100-01-6	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	10	U
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	10	U
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	Dibenzo(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.

HW-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259531

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ059531A02

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ 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.

PWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259532

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH059532C15

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ 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.

PWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259532

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH059532C15

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ 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
100-01-6	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	10	U
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	10	U
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	Dibenzo(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.

PWR-1

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 259532

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH059532C15

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: _____ 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. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	17.07	12	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CWR-1

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 259530

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

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.

FIELDBLNK

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 258883

Sample wt/vol: 850 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/08/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.059	U
319-85-7	beta-BHC	0.059	U
319-86-8	delta-BHC	0.059	U
58-89-9	gamma-BHC (Lindane)	0.059	U
76-44-8	Heptachlor	0.059	U
309-00-2	Aldrin	0.059	U
1024-57-3	Heptachlor epoxide	0.059	U
959-98-8	Endosulfan I	0.059	U
60-57-1	Dieldrin	0.12	U
72-55-9	4,4'-DDE	0.12	U
72-20-8	Endrin	0.12	U
33213-65-9	Endosulfan II	0.12	U
72-54-8	4,4'-DDD	0.12	U
1031-07-8	Endosulfan sulfate	0.12	U
50-29-3	4,4'-DDT	0.12	U
72-43-5	Methoxychlor	0.59	U
53494-70-5	Endrin ketone	0.12	U
5103-71-9	alpha-Chlordane	0.59	U
5103-74-2	gamma-Chlordane	0.59	U
8001-35-2	Toxaphene	1.2	U
12674-11-2	Aroclor-1016	0.59	U
11104-28-2	Aroclor-1221	0.59	U
11141-16-5	Aroclor-1232	0.59	U
53469-21-9	Aroclor-1242	0.59	U
12672-29-6	Aroclor-1248	0.59	U
11097-69-1	Aroclor-1254	1.2	U
11096-82-5	Aroclor-1260	1.2	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-1

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 258875

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/08/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

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.

GWR-2

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 258882

Sample wt/vol: 900 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/08/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.056	U
319-85-7	beta-BHC	0.056	U
319-86-8	delta-BHC	0.056	U
58-89-9	gamma-BHC (Lindane)	0.056	U
76-44-8	Heptachlor	0.056	U
309-00-2	Aldrin	0.056	U
1024-57-3	Heptachlor epoxide	0.056	U
959-98-8	Endosulfan I	0.056	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.56	U
53494-70-5	Endrin ketone	0.11	U
5103-71-9	alpha-Chlordane	0.56	U
5103-74-2	gamma-Chlordane	0.56	U
8001-35-2	Toxaphene	1.1	U
12674-11-2	Aroclor-1016	0.56	U
11104-28-2	Aroclor-1221	0.56	U
11141-16-5	Aroclor-1232	0.56	U
53469-21-9	Aroclor-1242	0.56	U
12672-29-6	Aroclor-1248	0.56	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWR-2MS

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 258879

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/08/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 0.50

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.

GWR-2MSD

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 258880

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/27/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/28/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/08/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

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.

GWR-3

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 259180

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 04/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

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.

GWR-4

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 259181

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/28/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 04/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

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.

HW-1

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 259531

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

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.

PWR-1

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 16656 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 259532

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 05/01/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 05/02/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

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

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CWR-1

Lab Name: COMPUCHEM LABORATORIES Contract: 7/87

Lab Code: COMPU Case No.: 27380 SAS No.: _____ SDG No.: 16656C

Matrix (soil/water): WATER Lab Sample ID: 259534

Level (low/med): LOW Date Received: 05/01/89

% 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	21.4	U		P
7440-36-0	Antimony	31.5	U		P
7440-38-2	Arsenic	1.2	U		F
7440-39-3	Barium	375			P
7440-41-7	Beryllium	.50	U		P
7440-43-9	Cadmium	4.2	U		P
7440-70-2	Calcium	60700			P
7440-47-3	Chromium	3.8	U		P
7440-48-4	Cobalt	3.3	U		P
7440-50-8	Copper	7.3	U		P
7439-89-6	Iron	1050			P
7439-92-1	Lead	.90	U		F
7439-95-4	Magnesium	9230		E	P
7439-96-5	Manganese	101			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	18.6	U		P
7440-09-7	Potassium	1740	U		P
7782-49-2	Selenium	5.0	U	WN	F
7440-22-4	Silver	4.9	U		P
7440-23-5	Sodium	3170	B		P
7440-28-0	Thallium	1.1	U	WN	F
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	5.3	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

FORM 1 - PAGE 1

FORM I - IN 7/87

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

FIELDBLNK

Lab Name: COMPUCHEM LABORATORIES Contract: 7/87

Lab Code: COMPU Case No.: 12738 SAS No.: _____ SDG No.: 16656A

Matrix (soil/water): WATER Lab Sample ID: 258895

Level (low/med): LOW Date Received: 04/27/89

% 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	31.8	B		P
7440-36-0	Antimony	31.5	U		P
7440-38-2	Arsenic	1.2	U	W	F
7440-39-3	Barium	.80	U		P
7440-41-7	Beryllium	.50	U		P
7440-43-9	Cadmium	4.2	U		P
7440-70-2	Calcium	88.5	B		P
7440-47-3	Chromium	3.8	U		P
7440-48-4	Cobalt	3.3	U		P
7440-50-8	Copper	7.3	U		P
7439-89-6	Iron	12.3	B		P
7439-92-1	Lead	.90	U		F
7439-95-4	Magnesium	68.5	U		P
7439-96-5	Manganese	1.6	B		P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	18.6	U		P
7440-09-7	Potassium	1740	U		P
7782-49-2	Selenium	1.0	U	N	F
7440-22-4	Silver	4.9	U		P
7440-23-5	Sodium	1560	U		P
7440-28-0	Thallium	1.1	U	N	F
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	18.2	B		P
	Cyanide	20.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

FORM 1 - PAGE 3

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GWR-1

Lab Name: COMPUCHEM LABORATORIES Contract: 7/87

Lab Code: COMPU Case No.: 12738 SAS No.: _____ SDG No.: 16656A

Matrix (soil/water): WATER Lab Sample ID: 258887

Level (low/med): LOW Date Received: 04/27/89

% 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	30200			P
7440-36-0	Antimony	33.1	B		P
7440-38-2	Arsenic	15.8	B	W	F
7440-39-3	Barium	373			P
7440-41-7	Beryllium	1.7	B		P
7440-43-9	Cadmium	4.2	U		P
7440-70-2	Calcium	227000			P
7440-47-3	Chromium	96.2			P
7440-48-4	Cobalt	36.4	B		P
7440-50-8	Copper	195			P
7439-89-6	Iron	88600			P
7439-92-1	Lead	57.3			F
7439-95-4	Magnesium	55800			P
7439-96-5	Manganese	2060			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	94.5			P
7440-09-7	Potassium	14700			P
7782-49-2	Selenium	10.0	U	EN	F
7440-22-4	Silver	4.9	U		P
7440-23-5	Sodium	8430			P
7440-28-0	Thallium	1.1	U	WN	F
7440-62-2	Vanadium	55.3			P
7440-66-6	Zinc	542			P
	Cyanide	20.0	U		AS

Color Before: BROWN Clarity Before: CLOUDY Texture: _____

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:

FORM 1 - PAGE 1

THE FOLLOWING FURNACE ANALYTES ARE ESTIMATED DUE TO INTERFERENCE:

SELENIUM

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GWR-2

Lab Name: COMPUCHEM LABORATORIES Contract: 7/87

Lab Code: COMPU Case No.: 12738 SAS No.: _____ SDG No.: 16656A

Matrix (soil/water): WATER Lab Sample ID: 258894

Level (low/med): LOW Date Received: 04/27/89

% 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	4380			P
7440-36-0	Antimony	31.5	U		P
7440-38-2	Arsenic	4.4	B	W	F
7440-39-3	Barium	186	B		P
7440-41-7	Beryllium	.50	U		P
7440-43-9	Cadmium	4.2	U		P
7440-70-2	Calcium	75100			P
7440-47-3	Chromium	29.3			P
7440-48-4	Cobalt	9.9	B		P
7440-50-8	Copper	120			P
7439-89-6	Iron	11700			P
7439-92-1	Lead	14.0			F
7439-95-4	Magnesium	17600			P
7439-96-5	Manganese	1630			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	42.4			P
7440-09-7	Potassium	4760	B		P
7782-49-2	Selenium	5.0	U	WN	F
7440-22-4	Silver	4.9	U		P
7440-23-5	Sodium	22700			P
7440-28-0	Thallium	1.1	U	WN	F
7440-62-2	Vanadium	9.8	B		P
7440-66-6	Zinc	209			P
	Cyanide	20.0	U		AS

Color Before: BROWN Clarity Before: CLOUDY Texture: _____

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:

FORM 1 - PAGE 2

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GWR-3

Lab Name: COMPUCHEM LABORATORIES Contract: 7/87

Lab Code: COMPU Case No.: 12738 SAS No.: _____ SDG No.: 16656A

Matrix (soil/water): WATER Lab Sample ID: 259185

Level (low/med): LOW Date Received: 04/28/89

% 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	8970			P
7440-36-0	Antimony	31.5	U		P
7440-38-2	Arsenic	6.8	B		F
7440-39-3	Barium	150	B		P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	4.8	B		P
7440-70-2	Calcium	146000			P
7440-47-3	Chromium	14.9			P
7440-48-4	Cobalt	11.7	B		P
7440-50-8	Copper	89.9			P
7439-89-6	Iron	24200			P
7439-92-1	Lead	23.3			F
7439-95-4	Magnesium	33400			P
7439-96-5	Manganese	595			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	29.1	B		P
7440-09-7	Potassium	2480	B		P
7782-49-2	Selenium	5.0	U	EN	F
7440-22-4	Silver	4.9	U		P
7440-23-5	Sodium	6130			P
7440-28-0	Thallium	1.1	U	N	F
7440-62-2	Vanadium	17.5	B		P
7440-66-6	Zinc	268			P
	Cyanide	20.0	U		AS

Color Before: BROWN Clarity Before: CLOUDY Texture: _____

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:

FORM 1 - PAGE 4

THE FOLLOWING FURNACE ANALYTES ARE ESTIMATED DUE TO INTERFERENCE:

SELENIUM

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GWR-4

Lab Name: COMPUCHEM LABORATORIES Contract: 7/87

Lab Code: COMPU Case No.: J2738 SAS No.: _____ SDG No.: 16656A

Matrix (soil/water): WATER Lab Sample ID: 259186

Level (low/med): LOW Date Received: 04/28/89

% 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	8960			P
7440-36-0	Antimony	31.5	U		P
7440-38-2	Arsenic	6.9	B	W	F
7440-39-3	Barium	101	B		P
7440-41-7	Beryllium	1.5	B		P
7440-43-9	Cadmium	4.2	U		P
7440-70-2	Calcium	100000			P
7440-47-3	Chromium	20.2			P
7440-48-4	Cobalt	10.9	B		P
7440-50-8	Copper	38.2			P
7439-89-6	Iron	21300			P
7439-92-1	Lead	10.4			F
7439-95-4	Magnesium	18500			P
7439-96-5	Manganese	524			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	32.8	B		P
7440-09-7	Potassium	3300	B		P
7782-49-2	Selenium	5.0	U	EN	F
7440-22-4	Silver	4.9	U		P
7440-23-5	Sodium	16400			P
7440-28-0	Thallium	1.1	U	WN	F
7440-62-2	Vanadium	15.4	B		P
7440-66-6	Zinc	134			P
	Cyanide	20.0	U		AS

Color Before: BROWN Clarity Before: CLOUDY Texture: _____

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:

FORM 1 - PAGE 5

THE FOLLOWING FURNACE ANALYTES ARE ESTIMATED DUE TO INTERFERENCE:

SELENIUM

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

HW-1

Lab Name: COMPUCHEM LABORATORIES Contract: 7/87

Lab Code: COMPU Case No.: 27380 SAS No.: _____ SDG No.: 16656C

Matrix (soil/water): WATER Lab Sample ID: 259535

Level (low/med): LOW Date Received: 05/01/89

% 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	21.4	U		P
7440-36-0	Antimony	31.5	U		P
7440-38-2	Arsenic	1.2	U		F
7440-39-3	Barium	140	B		P
7440-41-7	Beryllium	.50	U		P
7440-43-9	Cadmium	4.2	U		P
7440-70-2	Calcium	100000			P
7440-47-3	Chromium	3.8	U		P
7440-48-4	Cobalt	3.3	U		P
7440-50-8	Copper	7.3	U		P
7439-89-6	Iron	9.9	B		P
7439-92-1	Lead	1.3	B		F
7439-95-4	Magnesium	20300		E	P
7439-96-5	Manganese	.80	U		P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	18.6	U		P
7440-09-7	Potassium	1740	U		P
7782-49-2	Selenium	5.0	U	WN	F
7440-22-4	Silver	4.9	U		P
7440-23-5	Sodium	15000			P
7440-28-0	Thallium	1.1	U	WN	F
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	7.0	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

FORM 1 - PAGE 2

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

PWR-1

Lab Name: COMPUCHEM LABORATORIES Contract: 7/87

Lab Code: COMPU Case No.: 27380 SAS No.: _____ SDG No.: 16656C

Matrix (soil/water): WATER Lab Sample ID: 259536

Level (low/med): LOW Date Received: 05/01/89

% 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	218			P
7440-36-0	Antimony	31.5	U		P
7440-38-2	Arsenic	1.2	U		F
7440-39-3	Barium	89.2	B		P
7440-41-7	Beryllium	.50	U		P
7440-43-9	Cadmium	4.2	U		P
7440-70-2	Calcium	28900			P
7440-47-3	Chromium	3.8	U		P
7440-48-4	Cobalt	3.3	U		P
7440-50-8	Copper	7.3	U		P
7439-89-6	Iron	7770			P
7439-92-1	Lead	1.4	B		F
7439-95-4	Magnesium	5630		E	P
7439-96-5	Manganese	308			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	18.6	U		P
7440-09-7	Potassium	1740	U		P
7782-49-2	Selenium	1.0	U	WN	F
7440-22-4	Silver	4.9	U		P
7440-23-5	Sodium	11100			P
7440-28-0	Thallium	1.1	U	WN	F
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	520			P
	Cyanide	10.0	U		AS

Color Before: GREY Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

FORM 1 - PAGE 3

MACHIAS GRAVEL PIT 905013
BARREL SAMPLING - SEPT. 4, 1985

Sample No R985-059	Description	ACID / PHENOLICS	BASE / NEUTRALS	VOLATILES	PESTICIDES / PCB
001	Soil-Sediment spill in front of drum pile	None Detected	Phenanthrene 11,000 ug/kg wet (8300 Detect. Limit)	1,1,1-Trichloroethane 160 ug/kg (3.8 Detect. Limit) wet Trichloroethylene 3.6 ug/kg (1.9 Det. Limit) wet	heptachlor epoxide -6.2 ug/g GAMMA BHC - 0.80 ug/g
002	Soil-Sediment Bloch - rear of drums	None Detected	di-n-octylphthalate 98,000 ug/kg wet (6600 Det. Limit)	Methylene Chloride 36 ug/kg (Det. Limit - 2.8) wet 1,1,1-Trichloroethane 390 ug/kg (Det. Limit 3.8) wet	gamma BHC - [illegible] None detected
003	Drum	None Detected	None Detected	OMITTED BY DEC ERROR	4,4'-DDD 2.0 ug/g 4,4'-DDE 6.1 ug/g 4,4-DDT 2.6 ug/g endrin 2.4 beta endosulfan 2.0 heptachlor epoxide 0.82
004	Drum	NOT REQUESTED	NOT REQUESTED	1,1 Dichloroethylene 5.6 ug/g bromodichloromethane 4.5 ug/g 1,1,1 Trichloroethane 880 ug/g wet	NOT REQUESTED
005	Drum	NOT REQ	NOT REQ	1,1,1 Trichloroethane 110 ug/g wet	NOT REQUESTED
006	Drum	NOT REQ	NOT REQ	None Detected	NOT REQUESTED

TABLE I-1

COLE WELL SAMPLING HISTORY

12-10-85 - WBSAI samples Cole wells
organic scan with FID indicates no sign of contamination.

2-1-86 - WBSAI samples Cole wells.
House well shows 5.8 ug/l chloroform.

3-19-86 - NYSDOH samples Cole well.
"untreated" sample shows 4 ug/l chloroform.

10-6-86 - NYSDOH samples Cole well.
"before filter" - 2 ug/l
"after filter" - <1 ug/l

5-11-87 - NYSDOH samples Cole well.
"before filter" - 1 ug/l
"after filter" - <1 ug/l

9-6-88 - NYSDOH samples Cole well.
"before filter" - 1 ug/l
"after filter" - 1 ug/l

12-1-88 - Water Test (NH) analyzes Cole sample.
"after filter" - 29 ug/l total trihalomethanes

G

DEC 8-10

RECRA ENVIRONMENTAL LABORATORIES

Division of Recra Research, Inc.

January 23, 1986

Mr. Lawrence G. Clare
New York State Department of
Environmental Conservation
600 Delaware Avenue
Buffalo, NY 14202

Re: Analytical Results

Dear Mr. Clare:

Please find enclosed results of the analyses of the samples received at our laboratories on December 10, 1985.

Mr. Michael Christopher, of Satterthwaite Associates, requested on January 23, 1986 that a copy of the report be sent to you directly.

The information contained in this report has been reviewed for completeness and accuracy by the individuals whose signature appears on this cover letter.

If you have any questions concerning these data, do not hesitate to contact our Customer Service Representative at (716) 692-7620.

Sincerely,

RECRA ENVIRONMENTAL LABORATORIES

James A. Ploscyca
Laboratory Director

John J. Jugovich
Organic Coordinator

JJJ/JAP/mdc
Enclosure

I.D. #85-1518
#5A713282

4248 Ridge Lea Road, Amherst, New York 14226
Telephone Sales (716) 833-6200
Laboratory (716) 692-7620

RECRA ENVIRONMENTAL LABORATORIES
Division of Recra Research, Inc.

January 7, 1986

Mr. Michael Christopher
Satterthwaite Associates
11 North Five Point Road
Westchester, PA 19380

Re: Analytical Results

Dear Mr. Christopher:

Please find enclosed results of the analyses of the samples received at our laboratories on December 10, 1985.

Verbal results have been previously reported to you on January 6, 1986.

The information contained in this report has been reviewed for completeness and accuracy by the individuals whose signature appears on this cover letter.

If you have any questions concerning these data, do not hesitate to contact our Customer Service Representative at (716) 692-7620.

Sincerely,

RECRA ENVIRONMENTAL LABORATORIES

James A. Ploscyca
Laboratory Director

John J. Jugovich
Organic Coordinator

FB/JAP/mdc
Enclosure

I.D. #85-1518
5A713282

4248 Ridge Lea Road, Amherst, New York 14226
Telephone Sales (716) 836-6200
Laboratory (716) 692-7620

ANALYTICAL METHOD

OS/FID: ORGANIC SCAN (FLAME IONIZATION DETECTOR)
WATER MATRIX

Report Date: 1/7/86

I. GENERAL INFORMATION

A. SCOPE AND APPLICATION

1. This method covers the procedure for the extraction and subsequent analysis of various organic compounds by Gas Chromatography (GC) using a flame ionization detector (FID).

2. This method is applicable in the determination of Aliphatic hydrocarbons.

3. This method is applicable to the determination of these compounds in municipal and industrial discharges.

B. SUMMARY OF METHOD

A one-liter sample of wastewater is extracted with methylene chloride using separatory funnel techniques. The resulting extract is evaporated and concentrated down to a final volume of 10 mls or less. Chromatographic conditions allow for the accurate measurement of total compounds in the extract.

II. QUANTITATIVE DETERMINATION

Quantification is based upon the summation of the area counts of all chromatographic peaks, after the solvent peak (hexane) and subtracting out any interferring peaks encountered in the method blank. This total number of area counts is placed on a decane standard curve to determine the concentration of the sample.

FOR RECRA ENVIRONMENTAL LABORATORIES Frederick Boyle

DATE 1/7/86

RECRA ENVIRONMENTAL LABORATORIES

T D 405 1510

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES

Report Date: 1/7/86

SAMPLE IDENTIFICATION	SAMPLE DATE	ANALYSIS DATE	PARAMETER (UNITS OF MEASURE) ORGANIC SCAN - FID (µg/l AS CARBON; DECANE STANDARD)
House Well	12/3/85	12/30/85	<50
Cabin Well	12/3/85	12/30/85	<30
Barn Well	12/3/85	12/30/85	<30

COMMENTS:

Values reported as "less than" (<) indicate the working detection limit for the particular sample and/or parameter.

Organic Scan (FID) results are used for screening purposes only and are not for qualification or quantification of any specific organic compound. Results are calculated based upon the carbon content and response factor of decane but does not imply either the presence or absence of decane itself.

FOR RECRA ENVIRONMENTAL LABORATORIES Frederick Boyle

DATE 1/7/86

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
QUALITY CONTROL

Report Date: 1/7/86

ORGANIC SCAN (FID)
RECOVERY ANALYSIS OF DECANE

SAMPLE	ng OF SPIKE	ng RECOVERED	% RECOVERY
Method Blank	71	12	17
Solvent	71	67	94

FOR RECRA ENVIRONMENTAL LABORATORIES Frederick Bozek

DATE 1/7/86

RECRA ENVIRONMENTAL LABORATORIES

Division of Recra Research, Inc.

7

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
PRIORITY POLLUTANT ANALYSES

Prepared For:

Satterthwaite Associates
11 North Five Point Road
Westchester, PA 19380

Prepared By:

Recra Environmental Laboratories
4248 Ridge Lea Road
Amherst, NY 14226

Report Date: February 4, 1986

DEC Albany
8-17-88

4248 Ridge Lea Road, Amherst, New York 14226

Telephone Sales (716) 838-6200
Laboratory (716) 692-7620

RECRA ENVIRONMENTAL LABORATORIES
Division of Recra Research, Inc.

February 3, 1986

Mr. Michael Christopher
Satterthwaite Associates
11 North Five Point Road
Westchester, PA 19380

Re: Analytical Results

Dear Mr. Christopher:

Please find enclosed results of the analyses of the samples received at our laboratories on February 1, 1986.

The information contained in this report has been reviewed for completeness and accuracy by the individuals whose signature appears on this cover letter.

If you have any questions concerning these data, do not hesitate to contact our Customer Service Representative at (716) 692-7620.

Sincerely,

RECRA ENVIRONMENTAL LABORATORIES

John J Jugovich for JAP.

James A. Ploscyca
Laboratory Director

John J. Jugovich

John J. Jugovich
Organic Coordinator

FB/JAP/mdc
Enclosure

I.D. #86-131
#5A713282

4248 Ridge Lea Road, Amherst, New York 14226
Telephone Sales (716) 838-6200
Laboratory (716) 692-7620

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
PRIORITY POLLUTANT ANALYSES

Report Date: 2/4/86

INTRODUCTION:

On February 1, 1986 samples were received at Recra Environmental Laboratories. A request was made by Satterthwaite Associates to have the samples analyzed for selected fractions of the Environmental Protection Agency decreed priority pollutants.

This report will address the results of those analyses.

METHODS:

Priority pollutant analyses were conducted according to Environmental Protection Agency (EPA) methodologies.

Organic priority pollutants were analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).

RESULTS AND DISCUSSION:

Analysis of the volatile field blank indicated that the compounds of interest were not detected.

Compounds reported as ND are "not detected". Compounds reported as BDL are confirmed as being present in the sample at a level "below detection limit", and are not subject to reliable quantitation.

Respectfully Submitted,

RECRA ENVIRONMENTAL LABORATORIES

John J. Jugovich

John J. Jugovich
Organic Coordinator

JJJ/jhs

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
GAS CHROMATOGRAPHY

Report Date: 2/3/86

SAMPLE IDENTIFICATION	SAMPLE DATE	ANALYSIS DATE	PARAMETER (UNITS OF MEASURE)
			ORGANIC SCAN - (FID) (ug/l AS CARBON; DECANE STANDARD)
Barn Well	2/1/86	2/2/86	<20
Cabin Well	2/1/86	2/2/86	<20
House Well	2/1/86	2/2/86	<20
W-1	2/1/86	2/2/86	<20

COMMENTS: Values reported as "less than" (<) indicate the working detection limit for the particular sample and/or parameter.

Organic Scan (FID) results are used for screening purposes only and are not designed for qualification or quantification of specific organic compound. Results are calculated based upon the carbon content and response factor of decane, but do not imply either the presence or absence of the decane itself.

FOR RECRA ENVIRONMENTAL LABORATORIES Frederick Boyle

DATE 2/3/86

ANALYTICAL RESULTS

SATTERTHWAITE ASSOCIATES
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 2/4/86

VOLATILES

COMPOUND	DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION			
		HOUSE WELL	BARN WELL	CABIN WELL	W-1
acrolein	400	ND	ND	ND	ND
acrylonitrile	400	ND	ND	ND	ND
benzene	4.4	ND	ND	ND	ND
bromodichloromethane	2.2	ND	ND	ND	ND
bromoform	4.7	ND	ND	ND	ND
bromomethane	10	ND	ND	ND	ND
carbon tetrachloride	2.8	ND	ND	ND	ND
chlorobenzene	6.0	ND	ND	ND	ND
chloroethane	10	ND	ND	ND	ND
2-chloroethylvinyl ether	10	ND	ND	ND	ND
chloroform	1.6	5.8 µg/l	ND	ND	ND
chloromethane	10	ND	ND	ND	ND
dibromochloromethane	3.1	ND	ND	ND	ND
1,2-dichlorobenzene	2.2	ND	ND	ND	ND
1,3-dichlorobenzene	2.1	ND	ND	ND	ND
1,4-dichlorobenzene	2.5	ND	ND	ND	ND
1,1-dichloroethane	4.7	ND	ND	ND	ND
1,2-dichloroethane	2.8	ND	BDL	ND	ND
1,1-dichloroethylene	2.8	ND	ND	ND	ND
trans-1,2-dichloroethylene	1.6	ND	ND	ND	ND
1,2-dichloropropane	6.0	ND	ND	ND	ND
cis-1,3-dichloropropene	5.0	ND	ND	ND	ND
trans-1,3-dichloropropene	5.0	ND	ND	ND	ND
ethylbenzene	7.2	ND	ND	ND	ND
methylene chloride	2.8	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	6.9	ND	ND	ND	ND
tetrachloroethylene	4.1	ND	ND	ND	ND

(Continued)