

BBL

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Transmitted Via Federal Express

July 1, 1998

Mr. Roy P. Hart
730 Worcester Street
Springfield, Massachusetts 01151

Re: Former Gas Holder Area- Tier Classification
Project #: 0102 10258

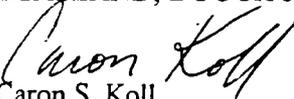
Dear Roy:

Attached is the original Tier Classification documentation for the Former Gas Holder Area, Indian Orchard Plant, Springfield, Massachusetts for your signature and submittal to Mr. David Slowick of the MADEP. Signatures are need on pages 3 and 4 of Attachment A. Also attached is a copy of the original for your files. Upon your signature, please forward a copy of the signed pages for to include in the copies to be submitted to USEPA.

Within seven days of this tier classification submittal to the MADEP, the required notifications will be prepared per the 310 CMR 40.1403(6) of the MCP. Notifications will include a legal notice to the local newspaper. A copy of the legal notice will be submitted to the chief municipal officer, board of health and the MADEP.

If you have any questions please contact me at (315) 446-2570 extension 148.

Sincerely
BLASLAND, BOUCK & LEE, INC.


Caron S. Koll
Senior Project Geologist

CSK/csk
Attachments
COVER.WPD

cc: Mr. Andrew N. Johnson, Blasland, Bouck & Lee, Inc.

CSK

BBL

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Transmitted Via U.S. Postal Service

June 30, 1998

Mr. David Slowick
Massachusetts Department of Environmental Protection
436 Dwight Street
Springfield, MA 01103

Re: Tier II Classification of RTN 1-0011901 Former Gas Holder Area, Solutia Inc.
Indian Orchard Plant, Springfield, Massachusetts
Project Numbers: 0102.10258 #2

Dear Mr. Slowick:

On behalf of Solutia Inc. (Solutia), Blasland, Bouck & Lee, Inc. (BBL) is submitting a Tier II Classification (Attachment A) for Massachusetts Department of Environmental Protection (MADEP) Release Tracking Number (RTN) 1-0011901, assigned to the Former Gas Holder Area at the Indian Orchard Plant, in accordance with 310 Code of Massachusetts Regulation (CMR) 40.0500 of the Massachusetts Contingency Plan (MCP). Per the MADEP Notice of Responsibility letter to Solutia dated July 7, 1997, the submittal due date for RTN 1-0011901 is one year from the receipt of the 120-day notification which is July 2, 1998.

The former Gas Holder Area is subject to the MCP 120-day notification obligations based on the presence of vinyl chloride (CAS No. 00075-01-4) detected in soil and ground water above the MCP reportable concentrations for RCS-2 soil category and RCGW-2 ground-water category. The constituents 1,2-dichloroethane (CAS No. 00107-06-2), and trichloroethene (CAS No. 00079-01-6) were also detected in soil above reportable concentrations for RCS-2 soil category. The Former Gas Holder Area encompasses approximately 1 acre of the southeastern portion of the Indian Orchard Plant.

The Former Gas Holder Area is located in an area that is currently used as a tank truck unloading pad within a manufacturing area of the Indian Orchard Plant. Approximately 40 feet north of the Former Gas Holder Area is the Nova Chemicals, Inc. (NOVA) property within which approximately 40 feet further north is an MADEP-regulated disposal site (due to a release of styrene/ethylbenzene in 1995 from a tank farm) RTN 1-10869 that is currently being addressed by NOVA as an MCP Immediate Response Action. A separate RTN (RTN 1-11694) has been established for an ethylbenzene-only ground-water plume that commingles with vinyl chloride in the Former Gas Holder Area. The source of the ethylbenzene in the ground water is unknown but may be related to styrene/ethylbenzene releases from the tank farm, north of the Former Gas Holder Area.

The presence of vinyl chloride at the Former Gas Holder Area was discovered following the installation of a ground-water monitoring well (MW-83S) on Solutia property.

This letter presents the tier classification support documentation in the following three sections:

- Tier Classification process requirements as specified in 310 CMR 40.0500;
- Summary of the Numerical Ranking System (NRS) scoring results; and
- Summary of the resultant Tier Classification for RTN 1-0011901.

Tier Classification Process Requirements

In support of a Tier Classification, the MCP (Subpart E) identifies several prerequisite activities needed to support a Tier Classification. Each of these, and a description of the activities that achieve these requirements, are presented below.

1. *Complete a Phase I Report in accordance with 310 CMR 40.0480.*

Two separate investigations were conducted to evaluate the extent of vinyl chloride in the soil and ground water at the Former Gas Holder Area. The results of the first investigation were presented in a letter to you on June 30, 1997. The results of the second investigation were presented in a letter to Solutia dated February 26, 1998, and is provided herein as Attachment B - Supplemental Soil Assessment. In addition, several other environmental investigations have been completed at the Indian Orchard Plant that satisfy the requirements of a Phase I Report. Below is a summary of the additional reports that directly and/or indirectly relate to the Indian Orchard Plant property that were previously submitted to the MADEP as part of the MCP program:

- History of On-Site Disposal Operations at Monsanto Company - Springfield and Bircham Bend Plant 1938, Monsanto Plastics & Resins Co., December 1982;
- Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment (CSA) Work Plan, prepared by BBL for Monsanto Company, May 1994;
- Phase I Initial Site Investigation Report, prepared by BBL for Nova Chemicals Inc., March 1996;
- Phase I Initial Site Investigation and Tier Classification Draft Report, prepared by Tighe & Bond for Nova Chemicals Inc., March 1996;
- Supplemental RCRA Facility Investigation/MCP Phase II CSA Report, prepared by BBL for Monsanto Company, April 1996; and
- Draft Notice of Activity and Use Limitation/Non-Residential Future Land Use Assumption Support Documentation, October 22, 1997.

Information obtained from the investigation reports described above was used during the Tier Classification process for RTN 1-0011901.

Other documentation included with this letter to support the Tier Classification per MCP 310 CMR 40.0510 (3)(d) are the Phase I Completion Statement for the Indian Orchard Plant, dated September 24, 1996 (Attachment C), and the Tier II Transfer Transmittal Forms from Monsanto Company to Queeny Chemical Company, dated June 27, 1997 (Attachment D) and from Queeny Chemical Company to Solutia Inc., dated August 26, 1997 (Attachment E).

2. *Complete a Numerical Ranking System Scoresheet in accordance with 310 CMR 40.1500.*

Attachment F contains the NRS scoresheets developed for RTN 1-0011901, following the process described in the draft NRS Guidance Manual 310 CMR 40.1500, September 4, 1997. Site information required to complete the NRS scoresheets was obtained from one or more of the previous reports summarized above, and from site data contained in the Supplemental Soil Assessment (Attachment B). A more detailed description of the NRS scoresheet completion process for the subject areas is provided later in this document.

3. *Compare conditions at a disposal site with the Tier I Inclusionary Criteria set forth in 310 CMR 40.0520(2).*

The Tier I Inclusionary Criteria specified in 310 CMR Section 40.0520(2) that automatically classify a disposal site as Tier I include the following:

- Any MCP-regulated site where there is evidence of ground-water contamination at concentrations exceeding the applicable reportable concentrations for Class RCGW-1, set in 310 CMR 40.0360 and any such ground water located within an Interim Wellhead Protection Area or Zone II; and
- Any MCP-regulated site where an MCP-defined "Imminent Hazard" is present at the time of Tier Classification per 310 CMR Section 40.0320.

The ground water at RTN 1-0011901 is not designated RCGW-1 category (drinking water). The Former Gas Holder Area is not located with an Interim Wellhead Protection Area or Zone II (see Attachment G). Based on comparison of MCP criteria for evaluating a potential for an Imminent Hazard for the purpose for fulfilling the two hour notification according to 310 CMR 40.0320, an Imminent Hazard has not been identified.

The MADEP may also deem a site to be Tier I if:

- Required documentation, including Response Action Outcome (RAO) and Tier Classification, are not submitted within the MCP deadlines;
- The response actions are in noncompliance with Massachusetts General Law (MGL) c. 21E, 310 CMR 40.0000; or
- Any applicable requirement fails to come into compliance with the regulations within the MADEP's due date.

The attached Tier Classification forms have been prepared per MCP requirements/guidance and are being submitted within the MCP deadline.

4. *Prepare and file with the MADEP a Tier I or II Classification Submittal in accordance with 310 CMR 40.0510(2).*

Attachment A provides the Tier II Classification Submittal for RTN 1-0011901 Former Gas Holder Area of the Indian Orchard Plant, in accordance with 310 CMR Section 40.0510(2).

NRS Scoring for RTN 1-0011901

The Former Gas Holder Area was tier classified using data obtained from previous investigation reports, and from the Supplemental Soil Assessment (Attachment B). The NRS score sheets used to classify this area is provided in Attachment F.

Much of the physical and analytical data used to complete the NRS score sheets for the Former Gas Holder Area were obtained during the Supplemental Soil Assessment (Attachment B). The data obtained from the Supplemental Soil Assessment for use in the NRS score sheets includes the following:

- Analytical results used in Section II, Exposure Pathways (A through E), Section III, Disposal Site Characteristics (A, B, and C), and Section V, Ecological Population (B) of the NRS Score sheets are summarized in Tables 1, 4, and 5 of the Supplemental Soil Assessment (Attachment B);
- The soil boring logs that were used in Section III (D) of the NRS score sheets are provided in Attachment 1 of the Supplemental Soil Assessment (Attachment B);
- The in-situ hydraulic conductivity result (3.6E-03 centimeters per second) for monitoring well MW-87S located near the Former Gas Holder Area as used in Section III (D) of the NRS score sheets was obtained from Attachment 3 of the Supplemental Soil Assessment (Attachment B);
- Section IV, Human Population and Land Uses (A, B, and C), of the NRS score sheets was completed using information obtained from the draft Notice of Activity and Use Limitation/Non-Residential Future Land Use Assumption Support Documentation prepared for the Indian Orchard Plant by BBL in May 1996 and submitted in draft to the MADEP on October 22, 1997; and
- The MADEP Bureau of Waste Site Cleanup Site Scoring Map, provided as Attachment G, was also used to complete Section IV of the NRS scoresheets.

Tier Classification of RTN 1-0011901

Attachment A contains the completed Tier Classification Forms and Attachment F contains the completed NRS scoresheets for the Former Gas Holder Area. The Former Gas Holder Area received a Disposal Site Score of 265 from the NRS scoresheet. This NRS score is less than 350, and qualifies the site to be classified as Tier II in accordance with 310 CMR Section 40.0520(3).

If you have any questions following your review of these Tier II Classification Forms and the associated support material, please contact either Mr. Roy P. Hart of Solutia at (413) 730-2682 or me at (315) 446-2570, extension 148.

Sincerely,

BLASLAND, BOUCK & LEE, INC.



Caron S. Koll
Senior Project Geologist

DWL/jlc
Enclosures

04981126.H

cc: Mr. Alan Weinberg, MADEP
Mr. Raphael J. Cody, USEPA
Mr. Roy P. Hart, Solutia Inc.
Mr. Kelvin S. Kwong, Solutia Inc.
Mr. Michael L. House, Solutia Inc.
Mr. Robert K. Goldman, P.E., L.S.P., Blasland, Bouck & Lee, Inc.
Mr. Andrew N. Johnson, P.E., Blasland, Bouck & Lee, Inc.

Attachment A
Tier Classification Forms

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

1 - 0011901

A. DISPOSAL SITE LOCATION:

Disposal Site Name: Solutia Inc.
Street: 730 Worcester Street Location Aid: Former Gas Holder Area
City/Town: Springfield ZIP Code: 01151
Related Release Tracking Numbers That This Submittal Will Address: 1-0011901

B. THIS FORM IS BEING USED TO: (check all that apply)

- Submit a new or revised Tier Classification Submittal for a Tier I Site, including a Numerical Ranking Scoresheet (complete Sections A, B, C, I, J, K and L).
- Submit a new or revised Tier Classification Submittal for a Tier II Site, including a Numerical Ranking Scoresheet (complete Sections A, B, C, F, G, I, J, K and L).
- Submit a Notice that an additional Release Tracking Number(s) is (are) being linked to this Tier Classified Site and rescoring is not required at this time (complete Sections A, B, J, K and L). If this submittal is for a Tier I Site, you must also submit a Minor Permit Modification Transmittal Form (BWSC-109).
List Additional Release Tracking Number(s): _____
- Submit a Phase I Completion Statement supporting a Tier Classification Submittal (complete Sections A, B, I, J, K and L).
- Submit a Tier II Extension Submittal for Response Actions at a Tier II Site (complete Sections A, B, D, F, G, I, J, K and L).
- Submit a Tier II Extension Submittal for Response Actions taken after expiration of a Waiver, pursuant to 310 CMR 40.0630(4) (complete Sections A, B, D, F, J, K and L, and also complete Sections G and I or Section H).*
- Submit a Tier II Transfer Submittal for a change in person(s) undertaking Response Actions at a Tier II Site (complete Sections A, B, E, F, G, I, J, K, L, M, N and O).
- Submit a Tier II Transfer Submittal for a change in person(s) undertaking Response Actions at a Waiver Site, pursuant to 310 CMR 40.0630(6) (complete Sections A, B, E, F, J, K, L, M, N and O, and also complete Sections G and I or Section H).*

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

*NOTE: The Waiver expires on the effective date of this submittal and all further Response Actions must be taken as a Tier II Site.

C. TIER CLASSIFICATION SUBMITTAL:

Numerical Ranking Score for Disposal Site: (from Numerical Ranking Scoresheet) 265

Proposed Tier Classification of Disposal Site: (check one) Tier IA Tier IB Tier IC Tier II

Check which, if any, of the Tier I inclusionary criteria are met by the Disposal Site, pursuant to 310 CMR 40.0520:

- Groundwater is located within an Interim Wellhead Protection Area or a Zone II, and there is evidence of groundwater contamination by an Oil or Hazardous Material at the time of Tier Classification at concentrations equal to or exceeding the applicable RCGW-1 Reportable Concentration set forth in 310 CMR 40.0360.
- An Imminent Hazard is present at the time of Tier Classification.
- Check here if this Tier Classification revises a previous submittal for this Disposal Site. You must include a revised Numerical Ranking Scoresheet with this submittal. If a Tier I Permit has been issued, you may also need to submit a Major Permit Modification Application (BWSC 10).
If incorporating additional Release(s) into the Disposal Site, list Release Tracking Number(s): _____

D. TIER II EXTENSION SUBMITTAL REQUIREMENTS:

State the expiration date of the Tier II Classification or Waiver for the Disposal Site, whichever is applicable: _____

Attach a statement summarizing why a Permanent or Temporary Solution has not been achieved at the Disposal Site. A Tier II Extension is effective for a period of one year beyond the current expiration date of the Tier II Classification or Waiver.

E. TIER II TRANSFER SUBMITTAL REQUIREMENTS:

State the proposed effective date of the change in person(s) undertaking Response Actions at the Disposal Site: _____

Attach a statement summarizing the reasons for the proposed change in person(s) undertaking the Response Actions. All Response Actions must be completed by the deadline applicable to the person who first filed either a Tier Classification Submittal for the Disposal Site or received a Waiver of Approvals.



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

1 - 0011901

F. DISPOSAL SITE COMPLIANCE HISTORY SUMMARY:

- > If providing either a Tier Classification Submittal for a Tier II Site or a Tier II Extension Submittal for a Waiver Site, the person named in Section J must provide a Compliance History.
- > If providing a Tier II Extension Submittal for a Tier II Site, the person named in Section J must update their Compliance History since the effective date of the Tier II Classification.
- > If providing a Tier II Transfer Submittal for a Tier II or Waiver Site, the person named in Section M must provide a Compliance History.

Compliance History for (provide only one name per History): See Attached, Tables 1 and 2

Check here if there has been no change to the Compliance History of the person named above (Extension Submittal for a Tier II Site ONLY).

List all permits or licenses that have been issued by the Department that are relevant to this Disposal Site:

PROGRAM:	PERMIT NUMBER:	PERMIT CATEGORY:	FACILITY ID:
Air Quality	_____	_____	_____
Hazardous Waste (M.G.L. c. 21C)	_____	_____	_____
Solid Waste	_____	_____	_____
Industrial Wastewater Management	_____	_____	_____
Water Supply	_____	_____	_____
Water Pollution Control/Surface Water	_____	_____	_____
Water Pollution Control/Groundwater	_____	_____	_____
Water Pollution Control/Sewer Connection	_____	_____	_____
Wetland & Waterways	_____	_____	_____

List all other Federal, state or local permits, licenses, certifications, registrations, variances, or approvals that are relevant to this Disposal Site:

ISSUING AUTHORITY OR PROGRAM, OR DOCUMENTATION TYPE:	IDENTIFICATION NUMBER:	DATE ISSUED:
_____	_____	_____
_____	_____	_____
_____	_____	_____

If needed, attach to this Transmittal Form a statement further describing the Compliance History of this Disposal Site. This statement must describe the compliance history of the person named above with the following:

- (1) DEP regulations; and
- (2) other laws for the protection of health, safety, public welfare and the environment administered or enforced by any other government agency.

Such a statement should identify information such as:

- (1) actions relevant to the Disposal Site taken by the Department to enforce its requirements including, but not limited to, a Notice of Noncompliance (NON), Notice of Intent to Assess Civil Administrative Penalty (PAN), Notice of Intent to Take Response Action (NORA), and an administrative enforcement order;
- (2) administrative consent orders;
- (3) judicial consent judgements;
- (4) similar administrative actions taken by other Federal, state or local agencies;
- (5) civil or criminal actions relevant to the Disposal Site brought on behalf of the DEP or other Federal, state, or local agencies; and
- (6) any additional relevant information.

For each action identified, provide the following information:

- (1) name of the issuing authority, type of action, identification number and date issued;
- (2) description of noncompliance cited;
- (3) current status of the matter; and
- (4) final disposition, if any.



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

1 - 0011901

G. CERTIFICATION OF ABILITY AND WILLINGNESS:

- > If providing either a Tier II Classification Submittal or a Tier II Extension Submittal, the person who signs this certification **MUST** be the person named in Section J, or that person's agent.
- > If providing a Tier II Transfer Submittal, the person who signs this certification **MUST** be the person named in Section M, or that person's agent.

I attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the/those Licensed Site Professional(s) employed or engaged to render Professional Services for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person(s)' or entity's(ies)' understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

By: Roy P Hart Title: Supervisor, Environmental Protection
(signature)

For: Roy P. Hart Date: 7/2/98
(print name of person or entity recorded in Section J or M, as appropriate)

If you are submitting either a Tier II Extension Submittal for a Waiver Site or a Tier II Transfer Submittal for a Waiver Site, you may choose to sign the alternative Ability and Willingness Certification found in Section H in place of providing the certification in Section G and the LSP Opinion in Section I.

H. ALTERNATIVE CERTIFICATION OF ABILITY AND WILLINGNESS:

- > If providing a Tier II Extension Submittal for a Waiver Site, the person who signs this certification **MUST** be the person named in Section J, or that person's agent
- > If providing a Tier II Transfer Submittal for a Waiver Site, the person who signs this certification **MUST** be the person named in Section M, or that person's agent.

I attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the Consultant-of-Record for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person(s)' or entity's(ies)' understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

By: _____ Title: _____
(signature)

For: _____ Date: _____
(print name of person or entity recorded in Section J or M, as appropriate)

I. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> if Section B of this form indicates that a Tier I or Tier II Classification Submittal which relies upon a previously submitted Phase I Completion Statement is being submitted, this Tier Classification Submittal has been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> if Section B of this form indicates that a Phase I Completion Statement or a Tier I or Tier II Classification Submittal which does not rely upon a previously submitted Phase I Completion Statement is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

SECTION I IS CONTINUED ON THE NEXT PAGE



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

1 - 0011901

I. LSP OPINION: (continued)

> if Section B of this form indicates that a Tier II Extension Submittal or a Tier II Transfer Submittal is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable order(s) and approval(s) thereof.

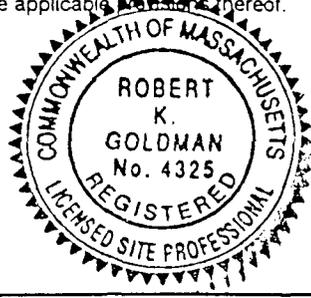
LSP Name: Robert K. Goldman, P.E. LSP #: 4325 Stamp:

Telephone: (315) 446-9120 Ext.: 228

FAX: (optional) (315) 446-9161

Signature: [Handwritten Signature]

Date: 7/1/98



J. PERSON MAKING SUBMITTAL:

Name of Organization: Solutia Inc.

Name of Contact: Roy P. Hart Title: Supervisor-Environmental Protection

Street: 730 Worcester Street

City/Town: Springfield State: MA ZIP Code: 01151

Telephone: (413) 730 2682 Ext.: _____ FAX: (optional) (413) 730 3299

K. RELATIONSHIP TO DISPOSAL SITE OF PERSON MAKING SUBMITTAL: (check one)

RP or PRP Specify: Owner Operator Generator Transporter Other RP or PRP: _____

Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

Any Other Person Making Submittal Specify Relationship: _____

L. CERTIFICATION OF PERSON MAKING SUBMITTAL:

I, Roy P. Hart, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: [Handwritten Signature] Title: Supervisor-Environmental Protection

For: Roy P. Hart Date: 7/2/98
(print name of person or entity recorded in Section J)

Enter address of the person providing certification(s), including Ability and Willingness Certification where applicable, if different from address recorded in Section J:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.

TABLE 1
 CHRONOLOGY OF PREVIOUS INVESTIGATIONS
 SOLUTIA INC.
 INDIAN ORCHARD PLANT

Date	Author	Title
April 1979	Monsanto Research Corp.	Eckhardt Committee Survey Report
October 1980	Monsanto Research Corp.	Chicopee River Surface Water Analyses
June 10 1981	Monsanto Research Corp.	Analysis of Springfield Surface Water Sample for Priority and Select Non-Pollutants
September 1982*	O'Brien & Gere Engineers, Inc.	Ground-Water Investigation Program Plan
December 1982*	Monsanto Plastics & Resins Co.	History of On-Site Waste Disposal Operations at Monsanto Company - Springfield and Bircham Bend Plant 1938.
February 1983*	O'Brien & Gere Engineers, Inc.	Field Investigation Report
March 10, 1983*	Monsanto Research Corp.	Assessment of Hydrogeology and Impact on Water Quality from Past Disposal Practices at the Monsanto Indian Orchard Plant Site
July 27, 1983*	Monsanto Research Corp.	Analysis of Indian Orchard Water Sampled
September 29, 1983	Monsanto Research Corp.	Analytical Results for Water Samples from Indian Orchard Plant
February 1984*	Blasland & Bouck Engineers	Remedial Investigation Plan
August 1984*	Blasland & Bouck Engineers	Phase I Report - Remedial Investigation Plan
October 1984*	Blasland & Bouck Engineers	Site Specific Compound Evaluation
December 1984*	Blasland & Bouck Engineers	Phase II Report - Remedial Investigation Plan
December 13, 1984*	A.S. Alsup & Associates	Earth Penetrating Radar Study - Indian Orchard Plant
February 1985*	Blasland & Bouck Engineers	Phase II Report - Remedial Investigation Plan Addendum
September 1986*	Blasland & Bouck Engineers	Magnetometer and Test Pit Program in Waste Disposal Areas
January 1987	Blasland & Bouck Engineers	Hazardous Waste Storage Area Investigation, letter report

TABLE 1 (Cont'd)

CHRONOLOGY OF PREVIOUS INVESTIGATIONS
SOLUTIA, INC.
INDIAN ORCHARD PLANT

Date	Author	Title
March 1987*	Blasland & Bouck Engineers	Comprehensive Site Assessment Report
September 20, 1988	Blasland & Bouck Engineers	Waste Water Equalization Facility Tank Foundation Assessment, letter report
October 1988	Blasland & Bouck Engineers	Polysar UST Area Hydrogeologic Investigation Report
November 1988	Blasland & Bouck Engineers	Drum Spill Cleanup Record
October 1989	Blasland & Bouck Engineers	Former Building 44 Hydrogeologic Investigation
August 20, 1992	Blasland & Bouck Engineers	Environmental Sampling Analytical Results, letter report
November 1992	Monsanto Chemical Company/Empire Soils	Geotechnical Investigation Proposed Tanks and Pipe Bridge, Monsanto Indian Orchard Plant
January 5, 1993	Blasland & Bouck Engineers	Monitoring Well Replacement, letter report
1985 to 1992*	Blasland & Bouck Engineers	Annual Site-Wide Ground-Water Monitoring
December 30, 1993	Envirox Company	SWMU/RCRA Closures of Two Underground Accumulation Tanks

Notes:

* Investigations were conducted to address the April 12, 1984 Administrative Consent Order with the United States Environmental Protection Agency (USEPA) Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Memorandum of Understanding between the USEPA and the Massachusetts Department of Environmental Quality Engineering (DEQE).

The Indian Orchard Plant is currently regulated under USEPA Voluntary Corrective Action as of February 29, 1996, and Massachusetts Department of Environmental Protection (MADEP) Massachusetts Contingency Plan (MCP) as of Waiver Approval date November 13, 1991.

TABLE 2

CHRONOLOGY OF MCP SUBMITTALS
SOLUTIA INC./NOVA CHEMICALS, INC.
INDIAN ORCHARD PLANT
WAIVER NUMBER 1-0184

Date	Author	Title
July 10, 1991	Blasland, Bouck & Lee, Inc.	MCP Waiver Application.
November 13, 1991	MADEP	Waiver of Approvals (effective date).
February 2, 1993	Monsanto Company	First Annual MCP Waiver Status Report.
January 17, 1994	Blasland, Bouck & Lee, Inc.	Second Annual MCP Waiver Status Report.
May 1994	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment Work Plan, Volumes I, II and III.
May 1994	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment Quality Assurance Project Plan.
May 1994	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment Health & Safety Plan.
February 22, 1995	Monsanto Company	Third Annual MCP Waiver Status Report.
July 1995	Tighe & Bond Consulting Engineers	Immediate Response Action Initial Site Status Report
March 1996	Blasland, Bouck & Lee, Inc.	Phase I - Initial Site Investigation Report
March 1996	Tighe & Bond Consulting Engineers	Phase I - Initial Site Investigation and Tier Classification
April 1996	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment Report, Volume I and II.
April 17, 1996	Monsanto Company	Fourth Annual MCP Waiver Status Report.
August 1996	Tighe & Bond Consulting Engineers	IRA Site Status Report
September 1996	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation Risk Assessment/MCP Phase II Comprehensive Site Assessment Risk Characterization.
September 25, 1996	Blasland, Bouck & Lee, Inc.	Fifth Annual MCP Waiver Program and First Annual Voluntary RCRA Corrective Action Program Status Report.

Attachment B
Supplemental Soil Assessment
February 26, 1998 - BBL

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Transmitted Via Federal Express

February 26, 1998

Mr. Kelvin S. Kwong
Specialist - Environmental Protection
Solutia Inc.
730 Worcester Street
Springfield, MA 01151

Re: Former Gas Holder Area - Supplemental Soil Assessment
Project #: 10258

Dear Kelvin:

This letter presents the results of Supplemental Soil Assessment for the Former Gas Holder Area at the Solutia Inc. (Solutia) Indian Orchard Plant in Springfield, Massachusetts per our Scope of Work letter dated July 16, 1997. The Supplemental Soil Assessment was needed to further define the extent of impacted soils and ground water above Massachusetts Contingency Plan (MCP) Reportable Concentrations (RCs) and to evaluate the appropriate response actions as required per the MCP 310 CMR 40.0000 in response to the Notice of Responsibility Letter dated July 7, 1997, from the Massachusetts Department of Environmental Protection (MADEP). This Supplemental Soil Assessment supplements the Preliminary Assessment data collected in April 1997 and submitted to Mr. David Slowick of the MADEP for the 120-Day Release Notification on June 30, 1997. The data from the April 1997 Preliminary Assessment was incorporated into this data transmittal. The results of the Supplemental Soil Assessment is presented in the following four sections:

- Summary of Supplemental Soil Assessment Scope of Work;
- Geologic and Hydrogeologic Characterizations;
- Constituents Detected in Soil and Ground Water; and
- Recommendations.

The Supplemental Soil Assessment Scope of Work section summarizes the work scope performed for this assessment. The Geologic and Hydrogeologic Characterizations section presents an evaluation of the geology and hydrogeology of the area, based on data collected for the Former Gas Holder Area and relevant data from previous investigations. The Constituents Detected in Soil and Ground Water section provides a summary of the constituents detected above MCP standards and presents a discussion of the extent in soil and ground water. The last section presents our recommendations, based on the results of the Supplemental Soil Assessment.

Summary of Supplemental Soil Assessment Scope of Work

The Supplemental Soil Assessment was initiated in August 1997 and involved the installation of six additional soil borings (SB-82 through SB-85, SB-89, and MW-87S) to further define the horizontal and vertical extent of the vinyl chloride, trichloroethene, and 1,2-dichloroethane in soils and the ethylbenzene and vinyl chloride in ground water. The soil borings were continuously sampled at 2-foot intervals and field screened using a photoionization detector (PID). A total of 46 soil samples were collected and field screened. Each soil sample was also further screened off site by a laboratory for volatile organic compounds (VOCs) using a modified United States Environmental Protection Agency (USEPA) SW-846 Method 8021. Sixteen of the 46 soil samples were selected for further VOCs analysis using SW-846 Method 8260. Five samples were selected for laboratory analysis of total organic carbon (TOC), grain size analysis, and bulk density. A contingency monitoring well (MW-87S) was installed to further delineate vinyl chloride and ethylbenzene in ground water to the south of the Former Gas Holder Area. A hydraulic conductivity test was conducted at MW-87S. On August 28, 1997, four monitoring wells (MW-58S, MW-83S, MW-84S, and MW-87S) were sampled and analyzed for VOCs. On August 29, 1997, water levels were also obtained from the five monitoring wells on Solutia property (MW-58S, MW-59S, MW-83S, MW-84S, and MW-87S) and 16 monitoring wells on the Nova Chemicals, Inc. (Nova) property (MW-61S, MW-62S, MW-63S, MW-85S, MW-86S, TB-1, TB-2, TB-3, TB-5, TB-6, TB-7, RW-1, RW-2, RW-3, RW-4, and EPMW-1).

Geologic and Hydrogeologic Characterization

In August 1997, during the Supplemental Soil Assessment, six soil borings (SB-82 through SB-85, SB-89, and MW-87S) were installed in addition to the 10 soil boring (SB-72 through SB-81) installed during the Preliminary Assessment in April 1997. The locations of these 16 borings are shown on the attached Soil Boring and Monitoring Well Location Map (Figure 1).

The subsurface geologic conditions encountered during the installation of soil borings and monitoring wells in the Former Gas Holder Area are presented on Geologic Cross-Sections A - A' and B - B' (Figures 2A and 3A, respectively). The subsurface geology includes the following units (listed in order of increasing depth from ground surface):

- Fill Materials ranging in thickness from about 3 to 8 feet, and are variable in grain size, interbedded and discontinuous layers, consisting of a dark brown, fine-to-medium sand or a fine gravel (a white very fine sand was observed in 7 of the 16 soil borings installed within the fill unit, ranging in thickness from 0.2 to 0.5 feet approximately 5 feet below ground surface);
- Glacial deltaic/outwash deposits ranging in thickness from about 20 to 30 feet, and are also variable in grain size and interbedded, consisting of a medium-to-coarse sand or a fine sand and silt; and
- Glacial till, encountered at depths ranging from about 21 to 36 feet below grade, and consisting of a very compact, red/brown, fine sand and silt. The thickness of the till is unknown; however, based on soil borings across the Indian Orchard Plant, the till is characterized as tens of feet in thickness.

The soil boring logs for SB-72 through SB-85, SB-89, and MW-87S, completed in the Former Gas Holder Area in April and August 1997, are provided in Attachment 1. Also, the subsurface logs for the six monitoring wells (MW-58S, MW-59S, MW-83S, MW-84S, MW-85S, and MW-86S) and the soil boring (SB-57) previously

installed in the vicinity of the Former Gas Holder Area are included with the new soil boring logs in Attachment 1.

Five soil samples, three from the fill unit [SB-83 (4'-6'), SB-84 (4'-8'), and SB-89 (5'-7')], and two from the deltaic/outwash deposits [SB-83 (8'-10') and SB-84 (10'-14')] were analyzed for grain size using sieve and hydrometer analysis, and for Atterberg limits. The results of these analyses are presented in Attachment 2. Based on these analyses, the fill materials vary between locations with either fine gravel or fine-to-coarse sand predominant. The deltaic/outwash materials are characterized as fine-to-coarse sand, little trace gravel, and trace silt. Both the fill and deltaic/outwash sands are non-cohesive (non-plastic).

On August 29, 1997, a round of water levels from wells that had been surveyed to a single datum (Solutia Indian Orchard Plant datum) were obtained. Based on a contour of the ground-water elevations, the direction of ground-water movement is to the west, as shown on the Ground-Water Elevation Contour Map (Figure 4). The average ground-water hydraulic gradient across the Former Gas Holder Area, as measured on August 29, 1997 between monitoring wells MW-59S and MW-58S, was 0.03 feet per foot (ft/ft); however, between MW-87S and MW-58S, the hydraulic gradient was lower at 0.006 ft/ft.

On August 28, 1997, a rising head permeability test was conducted at monitoring well MW-87S. Based on an analysis of the rate of recovery using the Bouwer-Rice Method, the hydraulic conductivity at MW-87S was estimated at 3.6×10^{-3} centimeters per second (cm/sec) for the 4- to 13-foot well screen interval below ground surface (bgs). The test results are presented in Attachment 3.

Constituent Concentrations Detected in Soils and Ground Water

In August 1997, 46 soil samples were collected from the six continuously sampled soil borings (SB-82, SB-83, SB-84, SB-85, SB-89, and MW-87S) and field screened for VOCs using a PID. These samples were further screened by Commonwealth Analytical of Westfield, Massachusetts for VOCs using USEPA modified SW-846 (September 1996 edition) Method 8021 because the relative response of the PID to vinyl chloride is low compared to the other VOCs and, therefore, the PID is not a good indicator for the presence of vinyl chloride. These soil screening results are provided in Attachment 4. The results are also graphed on the soil boring logs in Attachment 1 and shown on Figures 2B and 3B. These soil screening results represent concentrations based on wet weight and are, therefore, not comparable to results obtained using SW-846 Method 8260 or MCP standards. Based on these screening results, 16 duplicate soil samples were submitted for further laboratory analyses. These 16 soil samples were analyzed for VOCs using USEPA SW-846 (June 1997 edition) Method 8260 by American Environmental Network (formerly IEA, Inc.) using contract laboratory procedures (CLP). In April 1997, one soil sample from each of the 10 soil borings (SB-72 through SB-81) was collected from the 4- to 6-foot interval and also analyzed for VOCs, using USEPA 846 Method 8260. A summary of VOCs detected in subsurface soils in April and August 1997 is presented in Table 1 and on Figures 2A and 3A, with a comparison to MADEP MCP standards for soils (based on revisions effective October 31, 1997). Constituents that exceeded either MCP S-2 soil category or MCP Upper Concentration Limits (UCLs) included the following:

- Vinyl chloride at soil borings SB-74, SB-77, SB-83, and MW-83S exceeded both the S-2 category standards and the UCLs at SB-72 and SB-73 also exceeded the S-2 soil category. The sample depth range was 5.6 to 6.0 feet bgs for all locations except SB-83, where vinyl chloride was detected above the MCP S-2 standard and UCL at a depth range of 6.0 to 8.0 feet bgs. At locations where soils exceeded the MCP UCL standards, a white, fine-to-very-fine sandy material (white sand) was encountered.

- 1,2 - Dichloroethane (DCA) at soil borings SB-72, SB-73, SB-74, and SB-77 exceeded the MCP S-2 standards. The sample depth range for these locations was approximately 2 feet into the water table at 5.6 to 6.0 feet bgs. The DCA source may be a residual of vinyl chloride, as vinyl chloride is produced through pyrolysis of DCA (Kirk-Othmer, 1985).
- Trichloroethene (TCE) at soil borings SB-72, SB-74, and SB-77 exceeded the S-2 standards. The sample depth range for these locations was also 2 feet into the water table at 5.6 to 6.0 feet bgs.

Soil VOC analytical results that were collected below the water table containing the fine white sand were considered more representative of the soil-solid fraction of the VOC concentration, rather than the dissolved fraction of VOCs in ground water because the white sand likely represents an area of residual polyvinyl chloride (PVC) monomer from the former gas holder tank. Whereas, VOC analytical results from soil samples collected below the water table, adjacent to and/or not containing the white sand are more likely representative of the dissolved fraction of VOCs in ground water because vinyl chloride has a relatively high solubility in ground water and is subject to rapid volatilization within days because of its high vapor pressure (Howard, 1989). In addition, based on vinyl chloride's high solubility (Howard, 1989) and low sorption capacity to naturally-occurring organics (Sawyer, McCarthy, & Parkin, 1967), vinyl chloride is likely to be highly mobile in soil. Intervals where white sands were encountered are presented in Table 1. Additional VOCs detected in soils, but at concentrations below MCP RCs, are identified in Table 1 in bold-faced type.

Select soil samples, as indicated in the soil boring logs in Attachment 1, were analyzed for TOC to evaluate the rate of potential VOC (ethylbenzene) sorption to naturally-occurring organic carbons. The results of TOC analysis from the previous investigation and this assessment are presented in Table 2. The laboratory analytical reports are provided in Attachment 5. The average TOC concentration in soils is 2,485 mg/kg. Select samples from the white fine sand interval were also analyzed for bulk density for comparison to average typical bulk soil densities. The average density for the white sand was 90 pounds per cubic foot, slightly lower than sand, at 100 pounds per cubic foot. Therefore, there was no measurable difference in density between the very fine white sand and the surrounding soils using this technique. The laboratory results for density analysis are included in Attachment 5.

Ground-water samples were collected on August 28, 1997, from four monitoring wells installed in the vicinity of the Former Gas Holder Area, including wells MW-58S, MW-59S, MW-83S, and MW-87S. Ground-water samples were analyzed for VOCs using USEPA SW-846 Method 8260 and were field screened for pH, temperature, specific conductivity, turbidity, PID, color, and non-aqueous phase liquid (NAPL) presence. A summary of the field screening results is presented in Table 3. A summary of VOCs detected in ground water in August 1997 is provided in Table 4, with a comparison to MCP GW-2 and GW-3 category standards for ground water. The MCP GW-2 category standards are applicable to ground water less than 15 feet bgs and in the vicinity of occupied buildings. The plume extent is unknown in the vicinity of Building 81 and is, therefore, conservatively considered GW-2. The MCP GW-3 standards are applicable to ground water that may discharge to surface waters. All ground water in Massachusetts is considered at least a GW-3 category under the MCP. The results of a previous round of ground-water sample analyses in February 1997, which included monitoring wells on Nova property, is provided in Table 5 for comparison. Constituents that exceeded MCP Method 1 GW-2 or GW-3 MCP water standards or RCs (based on revisions effective October 31, 1997) within the Former Gas Holder Area in February and August 1997, included the following:

- Vinyl chloride detected at monitoring wells MW-58S, MW-83S, and MW-87S, with concentrations ranging from 0.003 to 2.2 milligrams per liter (mg/L).

- Ethylbenzene detected at monitoring wells MW-83S and MW-87S, with concentrations ranging from 7.3 to 19 mg/L.

No DCA or TCE was detected in the ground-water samples above MCP standards or RCs. DCA was detected once in MW-83S in February 1997 below MCP reportable concentrations. Additional VOCs detected in ground-water samples, but at concentrations below MCP RC, are identified in Table 3 in bold-faced type.

The vertical and horizontal extent of constituents in soil and ground water has been evaluated and is displayed on the geologic cross sections (A-A' and B-B') (Figures 2A and 3A) and Figure 5, respectively. The constituent concentrations are expressed as an exceedence multiple value for constituents present in soil and ground water. The estimated horizontal extent of vinyl chloride above UCLs in soil is shown on Figure 4, and represents an area of approximately 1,350 square feet and meets the definition of a "hotspot" per MADEP MCP 310 CMR 40.0006, where concentrations in soil are 100 times greater than surrounding soils. The estimated maximum vertical extent of vinyl chloride above UCLs in soil is considered to correspond with the visual observation of a white fine sand encountered at a depth of approximately 5 to 6 feet bgs (see boring logs SB-72, SB-73, SB-74, SB-77, SB-78, SB-83, and MW-83S in Attachment 1). The volume of impacted soil above UCL is estimated at 100 cubic yards, assuming a conservative 2-foot thickness and approximately 10 percent has been observed beneath the concrete loading pad.

The estimated horizontal extent of vinyl chloride, DCA, and/or TCE in soil above S-2 standards represents an area of approximately 5,400 square feet. The areal extent of the saturated soils above S-2 standards intersect the location of three north-south trending underground water utility lines (Figure 5). The horizontal extent of constituents in soils above UCL and S-2 soil standards have been delineated and are shown on Figure 5.

The extent of vinyl chloride and ethylbenzene in ground water to the south of the Former Gas Holder Area has not been delineated. The southernmost monitoring well in the Former Gas Holder Area (MW-87S) contains vinyl chloride and ethylbenzene above Method 1 standards for GW-2 category and/or reportable concentrations. The extent of vinyl chloride in ground water to the south needs to be evaluated. East-west trending underground utilities are present to the south and intersect the water table, which may provide a preferential pathway for constituent migration along these subsurface utilities. Located further south of the Former Gas Holder Area is Building 81, an occupied building, where MCP Method 1 GW-2 standards are applicable. The presence of vinyl chloride is unknown in ground water at monitoring well MW-86S, located on Nova property approximately 40 feet north-northeast and hydraulically sidegradient of the Former Gas Holder Area due to elevated laboratory quantitation limits for samples collected from this well. The elevated quantitation limits for vinyl chloride are due to matrix interference for other VOCs (i.e., ethylbenzene) present in the ground-water samples. The method quantitation limits for the ground-water sample collected from MW-86S, based on unreported undiluted analyses by the laboratory, was at 1.0 mg/L which is below the Method GW-3 standard, but above the GW-2 standard. However, monitoring wells TB-3, TB-5, TB-7, and EPMW-2 on the Nova property have not contained vinyl chloride above a lower method detection limit of 0.010 mg/L. The approximate extent of ethylbenzene and vinyl chloride in ground water is also represented on Figure 5.

Recommendations

The southern extent of vinyl chloride and ethylbenzene in ground water (south of monitoring well MW-87S) has not been determined, and the presence of subsurface utility lines intersecting the water table has the potential to provide preferential migration of constituents in ground water along these lines. Therefore, we recommend that

an additional monitoring well be installed within the east-west trending sewer and water utility line backfill material located adjacent to the railroad spur, or north of the water utility and as close to the water utility as possible. The additional ground-water monitoring well should also be located within 30 feet of Building 81, which is an occupied building, to evaluate whether the S-2 categories are currently applicable to the Former Gas Holder Area. The new monitoring well will allow for the collection of ground-water samples to delineate the southern extent of these constituents, and evaluate potential migration pathways. We also recommend that MW-86S north of the Former Gas Holder Area on Nova property be resampled for VOCs to attempt to achieve a lower quantitation limit for vinyl chloride, provided ethylbenzene interference does not force sample dilution. We also recommend that the surrounding monitoring wells near the Former Gas Holder Area (MW-83S, MW-84S, and MW-87S) also be sampled for VOCs, as limited data exist for these wells.

Following your review of the data provided in this transmittal, a review of potential closure strategies will be completed to assist in the selection of the appropriate response action under the MCP for the Former Gas Holder Area.

If you have any questions regarding the data provided in this transmittal, please contact me at (315) 446-2570, extension 148.

Sincerely,

BLASLAND, BOUCK & LEE, INC.



Caron S. Koll
Senior Project Geologist

CSK/gap

cc: Mr. Michael L. House, Solutia Inc.
Mr. Roy P. Hart, Solutia, Inc.
Mr. Andrew N. Johnson, P.E., Blasland, Bouck & Lee, Inc.
Ms. Nancy E. Gensky, Blasland, Bouck & Lee, Inc.
Mr. David W. Lay, Blasland, Bouck & Lee, Inc.

TABLE 1

VOLATILE ORGANIC COMPOUNDS DETECTED IN SUBSURFACE SOIL

FORMER GAS HOLDER AREA PRELIMINARY ASSESSMENT
SOLUTIA INC.
INDIAN ORCHARD PLANT

Sample ID	Area Served	Above/Below Water Table	Date Collected	Sample Depth	1,1,2,2-Tetrachloroethane	1,2-Dichloroethane	1,1,1-Trichloroethane	1,1,2-Trichloroethane (total)	Acetone	Benzene	Bromoform	Chloro-benzene
MW-43S	Yes	Below	01/28/97	(5.8 - 6.0')	45 U	45 U	45 U	50	45 U	45 U	45 U	45 U
SB-72	Yes	Below	04/15/97	(5.8 - 5.8')	0.1 J	0.07 J	8.7**	1.3	5.6	0.78 U	2	0.78 U
SB-73	Yes	Below	04/15/97	(5.4 - 5.7')	1.6 U	1.6 U	7**	58	3.1 U	0.74 BJ	1.6 U	0.27 J
SB-74	Yes	Below	04/15/97	(5.8 - 6.0')	12 U	12 U	85**	110	24 U	12 U	12 U	12 U
SB-75	No	Below	04/16/97	(4.0 - 6.0')	0.005 U	0.005 U	0.005 U	0.005 U	0.0007 J	0.002 J	0.005 U	0.005 U
SB-76	No	Below	04/16/97	(4.0 - 6.0')	0.73 U	0.73 U	0.73 U	0.73 U	4.4	0.73 U	0.73 U	0.73 U
SB-77	Yes	Below	04/16/97	(5.8 - 6.0')	1.5 U	1.5 U	18**	8.2	1.8 BJ	1.5 U	1.5 U	1.5 U
SB-78	Yes	Below	04/16/97	(5.4 - 5.8')	0.76 U	0.76 U	0.76 U	21	1.5 U	0.32 J	0.76 U	0.76 U
SB-79	No	Below	04/16/97	(4.0 - 6.0')	0.006 U	0.006 U	0.006 U	0.001 J	0.011 U	0.002 J	0.006 U	0.006 U
SB-79 (DUP)	No	Below	04/16/97	(4.0 - 6.0')	0.006 U	0.006 U	0.006 U	0.003 J	0.082	0.006	0.006 U	0.006 U
SB-80	No	Below	04/16/97	(4.0 - 6.0')	0.006 U	0.006 U	0.006 U	0.002 J	0.0003 J	0.032	0.006 U	0.006 U
SB-81	No	Below	04/16/97	(4.0 - 6.0')	0.006 U	0.006 U	0.006 U	0.006 U	0.013 U	0.006 U	0.006 U	0.006 U
SB-82	No	Above	08/25/97	(0.0 - 2.0')	0.005 U	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U
SB-82	No	Above	08/25/97	(2.0 - 4.0')	0.006 U	0.006 U	0.006 U	0.006 U	0.011 U	0.006 U	0.006 U	0.006 U
SB-82	No	Below	08/25/97	(6.0 - 8.0')	0.006 U	0.006 U	0.006 U	0.006 U	0.041	0.006 U	0.006 U	0.006 U
SB-82	No	Below	08/25/97	(10.0 - 12.0')	0.006 U	0.006 U	0.006 U	0.006 U	0.049	0.006 U	0.006 U	0.006 U
SB-83	Yes	Below	08/25/97	(6.0 - 8.0')	8.06 U	8.06 U	8.06 U	31	15.8 U	8.06 U	8.06 U	8.06 U
SB-83	No	Below	08/25/97	(8.0 - 10.0')	0.719 U	0.719 U	0.719 U	3.8	3	0.719 U	0.719 U	0.719 U
SB-83	No	Below	08/25/97	(10.0 - 12.0')	0.719 U	0.719 U	0.719 U	5.8	1.3 J	0.719 U	0.719 U	0.719 U
SB-83	No	Below	08/25/97	(14.0 - 16.0')	0.006 U	0.006 U	0.006 U	0.006 U	0.025	0.006 U	0.006 U	0.006 U
SB-84	No	Above	08/26/97	(0.0 - 2.0')	0.005 U	0.005 U	0.005 U	0.005 U	0.038	0.005 U	0.005 U	0.005 U
SB-84	No	Below	08/26/97	(6.0 - 8.0')	0.006 U	0.006 U	0.006 U	0.006 U	0.016	0.006 U	0.006 U	0.006 U
SB-85	No	Above	08/26/97	(1.0 - 2.0')	0.005 U	0.005 U	0.005 U	0.005 U	0.015	0.005 U	0.005 U	0.005 U
SB-85	No	Below	08/26/97	(6.0 - 8.0')	0.005 U	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U
MW-87SRE	No	Above	08/26/97	(0.0 - 2.0')	0.005 U	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U
MW-87S	No	Below	08/26/97	(6.0 - 8.0')	0.006 U	0.006 U	0.006 U	0.006 U	0.011 U	0.006 U	0.006 U	0.006 U
SB-89	No	Above	08/26/97	(1.0 - 3.0')	0.005 U	0.005 U	0.005 U	0.005 U	0.049 B	0.005 U	0.005 U	0.005 U
SB-89	No	Below	08/26/97	(5.0 - 7.0')	0.005 U	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U
MADEP MCP Standards (mg/kg):												
Reportable Concentrations for S-2 Soil					0.2	3	0.2	500	60	60	20	40
MCP UCL for Soil					20	100	600	10,000	10,000	2,000	7,000	10,000
MCP Method 1 Standard for S-2/GW-2					0.2	3	0.2	500 (2)	60	60	20	40
MCP Method 1 Standard for S-2/GW-3					0.8	3	20	500 (2)	60	60	200	40

TABLE 1

VOLATILE ORGANIC COMPOUNDS DETECTED IN SUBSURFACE SOIL

FORMER GAS HOLDER AREA PRELIMINARY ASSESSMENT
SOLUTIA INC.
INDIAN ORCHARD PLANT

Sample ID	White Band Observed?	Above/Below Water Table	Date Collected	Sample Depth	Dibromo-chloro-methane	Ethyl-benzene	Methylene-chloride	1,1,1-Trichloro-ethane	Toluene	1,2-Dichloro-ethane	Vinyl-chloride	Xylene (Total)	
MW-83S	Yes	Below	01/28/97	(5.8 - 6.0)	45 U	45 U	45 U	45 U	45 U	45 U	400**	45 U	
SB-72	Yes	Below	04/15/97	(5.6 - 5.8)	0.037 J	4.8	0.78 U	0.054 J	0.84	30**	12**	0.024 J	
SB-73	Yes	Below	04/15/97	(5.4 - 5.7)	1.6 U	1.6 U	1.6 U	1.6 U	0.48 BJ	7.1	70**	1.6 U	
SB-74	Yes	Below	04/15/97	(5.6 - 6.0)	12 U	12 U	12 U	12 U	12 U	80**	410**	12 U	
SB-75	No	Below	04/16/97	(4.0 - 6.0)	0.005 U	0.005 U	0.003 BJ	0.002 J	0.005 U	0.003 J	0.011 U	0.005 U	
SB-76	No	Below	04/16/97	(4.0 - 6.0)	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.11 J	1.4 U**	0.73 U	
SB-77	Yes	Below	04/16/97	(5.8 - 6.0)	1.5 U	1.5 U	1.5 U	1.5 U	0.32 J	34**	47**	1.5 U	
SB-78	Yes	Below	04/16/97	(5.4 - 5.8)	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	1.1	0.15 J	0.78 U	
SB-79	No	Below	04/16/97	(4.0 - 6.0)	0.006 U	0.002 J	0.002 J	0.011	0.006 U	0.003 J	0.011 U	0.006 U	
SB-79 (DUP)	No	Below	04/16/97	(4.0 - 6.0)	0.006 U	0.002 J	0.006 U	0.019	0.001 J	0.008	0.011 U	0.006 U	
SB-80	No	Below	04/16/97	(4.0 - 6.0)	0.006 U	0.006 U	0.006 U	0.04	0.006 U	0.004 J	0.011 U	0.006 U	
SB-81	No	Below	04/17/97	(4.0 - 6.0)	0.006 U	0.001 J	0.006 U	0.008	0.006 U	0.006 U	0.013 U	0.006 U	
SB-82	No	Above	08/25/97	(0.0 - 2.0)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.075	0.010 U	0.005 U	
SB-82	No	Above	08/25/97	(2.0 - 4.0)	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.02	0.011 U	0.006 U	
SB-82	No	Below	08/25/97	(6.0 - 8.0)	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.007	0.011 U	0.006 U	
SB-82	No	Below	08/25/97	(10.0 - 12.0)	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.001 J	0.006 U	
SB-83	Yes	Below	08/25/97	(6.0 - 8.0)	8.06 U	8.06 U	8.06 U	8.06 U	8.06 U	13	100**	8.06 U	
SB-83	No	Below	08/25/97	(8.0 - 10.0)	0.719 U	0.719 U	0.719 U	0.719 U	0.719 U	4.7	4.4**	0.719 U	
SB-83	No	Below	08/25/97	(10.0 - 12.0)	0.719 U	1.2	0.719 U	0.719 U	0.110 J	7	2.2**	0.719 U	
SB-83	No	Below	08/25/97	(14.0 - 16.0)	0.006 U	0.01	0.006 U	0.006 U	0.006 U	0.006 U	0.002 J	0.006 U	
SB-84	No	Above	08/26/97	(0.0 - 2.0)	0.005 U	0.005 U	0.003 J	0.005 U	0.004 J	0.04	0.010 U	0.005 U	
SB-84	No	Below	08/26/97	(6.0 - 8.0)	0.006 U	0.006 U	0.002 J	0.006 U	0.006 U	0.006 U	0.011 U	0.006 U	
SB-85	No	Above	08/26/97	(1.0 - 2.0)	0.005 U	0.005 U	0.003 J	0.005 U	0.01	0.1	0.011 U	0.002 J	
SB-85	No	Below	08/26/97	(6.0 - 8.0)	0.006 U	0.027	0.006 U	0.006 U	0.006 U	0.006	0.004 J	0.0008 J	
MW-87SRE	No	Above	08/26/97	(0.0 - 2.0)	0.005 U	0.002 JB	0.001 J	0.005 U	0.002 J	0.0009 J	0.005 U	0.005 U	
MW-87S	No	Below	08/26/97	(6.0 - 8.0)	0.006 U	0.16 B	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	
SB-89	No	Above	08/28/97	(1.0 - 3.0)	0.005 U	0.005 U	0.005 U	0.005 U	0.002 J	0.005 U	0.005 U	0.005 U	
SB-89	No	Below	08/28/97	(5.0 - 7.0)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.007	0.010 J	0.005 U	
MADEP MCP Standards (mg/kg):													
Reportable Concentrations for S-2 Soil						20	500	200	30	500	20	0.4	500
MCP UCL for Soil						700	10,000	7,000	1,000	10,000	5,000	20	10,000
MCP Method 1 Standard for S-2/GW-2						20	1,000	200	30	500	20	0.4	500
MCP Method 1 Standard for S-2/GW-3						20	500	200	30	1,000	100	0.5	1,000

Notes:

- (1) All *cis*-isomer of 1,2-Dichloroethene was detected.
 (2) The standard shown is for *cis*-isomer.
 Only compounds with at least one detection are provided in this table.
 Results are expressed as milligrams per kilogram (mg/kg); equivalent to parts per million (ppm).
 Soil analytical results are based on dry weight.
 Analyses performed by IEA, Inc. using SW-846 methodologies with Level III laboratory report data package.
 MCP Standards are based on revisions effective October 31, 1997.
 2-Butanone was detected below quantitation limits at 0.005J in samples collected at MW-87(0.0 - 2.0)RE and MW-87 (6.0 - 8.0).

Key:

- B - The compound was detected in the sample, as well as in the associated blank.
 J - The compound was detected below the method quantitation limits and is estimated.
 U - The compound was not detected; the associated number is the quantitation limit.
 DUP - Duplicate sample.
 Detected values are in bold-face type.
 Detected values above reportable concentrations are in bold-face, italics, and light shading.
 Detected values above Method 1 S-2 soil category under GW-2 ground-water conditions are underlined.
 ** Detected above Method 1 S-2 soil category under GW-3 ground-water conditions.
 # Detected above MCP Upper Concentration Limits (UCLs).

TABLE 2

TOTAL ORGANIC CARBON IN SUBSURFACE SOILS
SOLUTIA INC.
INDIAN ORCHARD PLANT

Sample Location	Interval Depth (feet bgs)	Date Collected	Geologic Unit	Total Organic Carbon
MW-83S	(10 - 12)	01/28/97	Deltaic and outwash sand, medium sand	1560
MW-83S	(14 - 16)	01/28/97	Lacustrine fine sand and silt	2480
MW-83S	(22 - 24)	01/28/97	Glacial Till	1610
MW-84S	(12 - 14)	01/29/97	Deltaic and outwash sand, fine-to-medium sand	737
MW-85S	(8 - 10)	01/30/97	Deltaic and outwash sand, fine-to-medium sand	2560
MW-85S (Dup)	(8 - 10)	01/30/97	Deltaic and outwash sand, fine-to-medium sand	4620
SB-82	(6 - 8)	08/26/97	Deltaic and outwash sand, medium-to-coarse sand	3590
SB-82	(8 - 10)	08/26/97	Deltaic and outwash sand, medium-to-coarse sand	1890
SB-83	(12 - 14)	08/28/97	Glacial Till	1210
SB-89	(3 - 5)	08/30/97	Fill, fine-to-medium sand	5760
SB-89	(7 - 9)	08/28/97	Deltaic and outwash sand, medium-to-coarse sand	1320
Average:				2485

Notes:

Attachment 5 contains lab data sheets for each of the samples collected.

Results are expressed as milligrams per kilogram (mg/kg) equivalent to parts per million (ppm).

Soil analytical results are based on dry weight.

Analysis performed by IEA, Inc.

Dup. = Duplicate.

bgs = Below ground surface.

TABLE 3

GROUND-WATER SAMPLING GENERAL WATER QUALITY FIELD DATA

FORMER GAS HOLDER AREA
SOLUTIA INC.
SPRINGFIELD, MASSACHUSETTS

Location	MW-58S	MW-59S	MW-83S	MW-87S
Date collected	08/28/97	08/28/97	08/28/97	08/28/97
Depth to Water (ft)	7.24	4.07	4.00	3.99
Total Depth (ft)	23.85	16.39	17.05	13.52
Water Column Height (ft)	16.61	12.32	13.05	9.53
Well Diameter (in)	2.00	2.00	2.00	2.00
Well Volume (gal)	2.71	2.01	2.13	1.55
Went dry? (Y/N)	N	Y	N	N
Volume Purged Prior to Sampling (gal)	6.00	2.70	5.00	5.00
pH	7.30	6.51	6.25	6.39
Water Temperature (°F)	70.0	72.2	72.9	68.9
Specific Conductivity (uS/cm)	203	330	301	320
Turbidity	Slight	Medium	Slight	Medium
PID Measurement (ppm)	0	0	3.09	2.5
Water Color	Lt. Brown	Lt. Brown	Lt. Brown	Brown
NAPL Present? (Y/N)	N	N	N	N

Notes:

°F = Degrees Fahrenheit.

uS/cm = MicroSiemens per centimeter.

ppm = Parts per million.

All measurements latest obtained during purging and sampling.

TABLE 4

VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUND WATER, AUGUST 1997

FORMER GAS HOLDER AREA PRELIMINARY ASSESSMENT
SOLUTIA INC.
INDIAN ORCHARD PLANT

Sample ID	Date Collected	Acetone	1,2-Dichloro-ethane (total)	Ethyl-benzene	Methylene chloride	Toluene	Trichloro-ethene	Vinyl chloride	Xylene (total)
MW-58S	08/28/97	0.010 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	<u>0.006 J</u>	0.005 U
MW-59S	08/28/97	0.010 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U
MW-83S	08/28/97	1.0 U	0.5 U	7.3*	0.27 JB	0.036 J	0.5 U	<u>0.88 J*</u>	0.41 J
MW-87S	08/28/97	0.14 J	0.5 U	19*	0.22 J	0.5 U	0.5 U	<u>0.092 J*</u>	0.5 U
<u>MADEP MCP Standards (mg/L):</u>									
Reportable Concentrations for GW-2 Ground Water		50	50	4	50	6	0.3	0.002	6
UCL for Ground Water		100	100	100	100	100	100	100	100
MCP Method 1 Standard for GW-2		50	30/20	30	50	6	0.002	0.002	6
MCP Method 1 Standard for GW-3		50	50	4	50	50	40	40	50

Notes:

Only compounds with at least one detection are provided in this table.

Results are expressed as milligrams per liter (mg/L); equivalent to parts per million (ppm).

Analyses performed by IEA, Inc. using SW-846 methodologies with Level III laboratory report data package.

MCP Standards are based on revisions effective October 31, 1997.

Key:

B - The compound was detected in the sample, as well as in the associated blank.

J - The compound was detected below the method quantitation limits and is estimated.

U - The compound was not detected; the associated number is the quantitation limit.

DUP - Duplicate sample.

Detected values are in bold-face type.

Detected values above MCP reportable concentrations are in bold-face, italics, and light shading.

Detected values above Method 1 standards for GW-2 standards are underlined.

TABLE 5

VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUND WATER, FEBRUARY 1997

SOLUTIA INC./NOVA CHEMICALS, INC.
INDIAN ORCHARD PLANT

Well ID	Property	RTN	Date Collected	1, 2-dichloroethane (mg/L)	1, 2-dichloroethene (total) (mg/L)	acetone (mg/L)	benzene (mg/L)	carbon disulfide (mg/L)	ethylbenzene (mg/L)	styrene (mg/L)	tetrachloroethene (mg/L)	toluene (mg/L)	trichloroethene (mg/L)	vinyl chloride (mg/L)	xylene (total) (mg/L)
EPMW-2 (1)	Nova	1-11694	2/12/97	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 J	0.005 U	0.010 U	0.005 U
MW-58S	Solutia	1-11694	2/12/97	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 J	0.005 U
MW-59S	Solutia	1-11694	2/12/97	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U
MW-83S	Solutia	1-11694	2/12/97	0.011	0.15 (4)	0.010 U	0.005 U	0.005 U	17*	0.006	0.005 U	1.9	0.01	2.2	0.005 U
MW-84S	Solutia	1-11694	2/12/97	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U	0.004 J	0.005 U	0.005 U	0.005 U	0.010 U	0.003 J
MW-85S	Nova	1-11694	2/12/97	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.010 U	0.004 J
MW-86S	Nova	1-11694	2/12/97	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	36*	0.30 J	0.50 U	0.320 J	0.50 U	1.0 U	0.50 U
MW-86S Dup.	Nova	1-11694	2/12/97	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	40*	0.55	0.50 U	0.440 J	0.50 U	1.0 U	0.50 U
TB-1	Nova	1-11694	2/12/97	0.005 U	0.005 U	0.10	0.005	0.003 J	9.3*	94*	0.005 U	0.017	0.005 U	0.010 U	0.005 U
TB-3	Nova	1-11694	2/12/97	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.010 U	0.005 U
TB-5	Nova	1-11694	2/12/97	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U	0.004 J	0.005 U	0.005 U	0.005 U	0.010 U	0.019
TB-6	Nova	1-11694	2/12/97	0.050 U	0.050 U	0.10 U	0.050 U	0.050 U	2.8	11	0.050 U	0.050 U	0.050 U	0.10 U	0.050 U
TB-7 (1)	Nova	1-11694	2/12/97	0.005 U	0.005 U	0.010 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 J	0.005 U	0.005 U	0.010 U	0.005 U
MADEP MCP Standards: (2)															
MCP Reportable Concentration for GW-2 Ground Water				0.02	50	50	2	10	4	0.9	3	6	0.3	0.002	6
UCL for Ground Water				100	100	100	70	NL	100	100	50	100	100	100	100
MCP Method 1 Standard for GW-2 Ground Water				0.02	30/20 (3)	50	2	NL	30	0.9	3	6	0.3	0.002	6
MCP Method 1 Standard for GW-3 Ground Water				50	50	50	7	NL	4	50	5	50	20	40	50

Notes:

Only compounds with at least one detection are included in this table.

Results are expressed as milligrams/liter (mg/L); equivalent to parts per million (ppm).

Analysis performed by IEA, Inc. using SW-846 methodologies with Level III laboratory report data package.

Detected values are in bold-faced type.

Reportable concentration exceedances are in bold-face, italics, and light shading.

Method 1 GW-2 exceedances are underlined.

U = The compound was not detected. Number associated with U is the quantitation limit.

J = The compound was detected below the method quantitation limits and is estimated.

Dup. = Duplicate sample.

(1) EPMW-2 and TB-7 were unlocked and missing well caps. Well integrity may be compromised.

(3) The standard for cis-1, 2-dichloroethene is 30 mg/L; the standard for trans-1, 2-dichloroethene is 20 mg/L.

(4) Analytical lab indicated the 1,2-dichloroethene was all cis-1,2-dichloroethene.

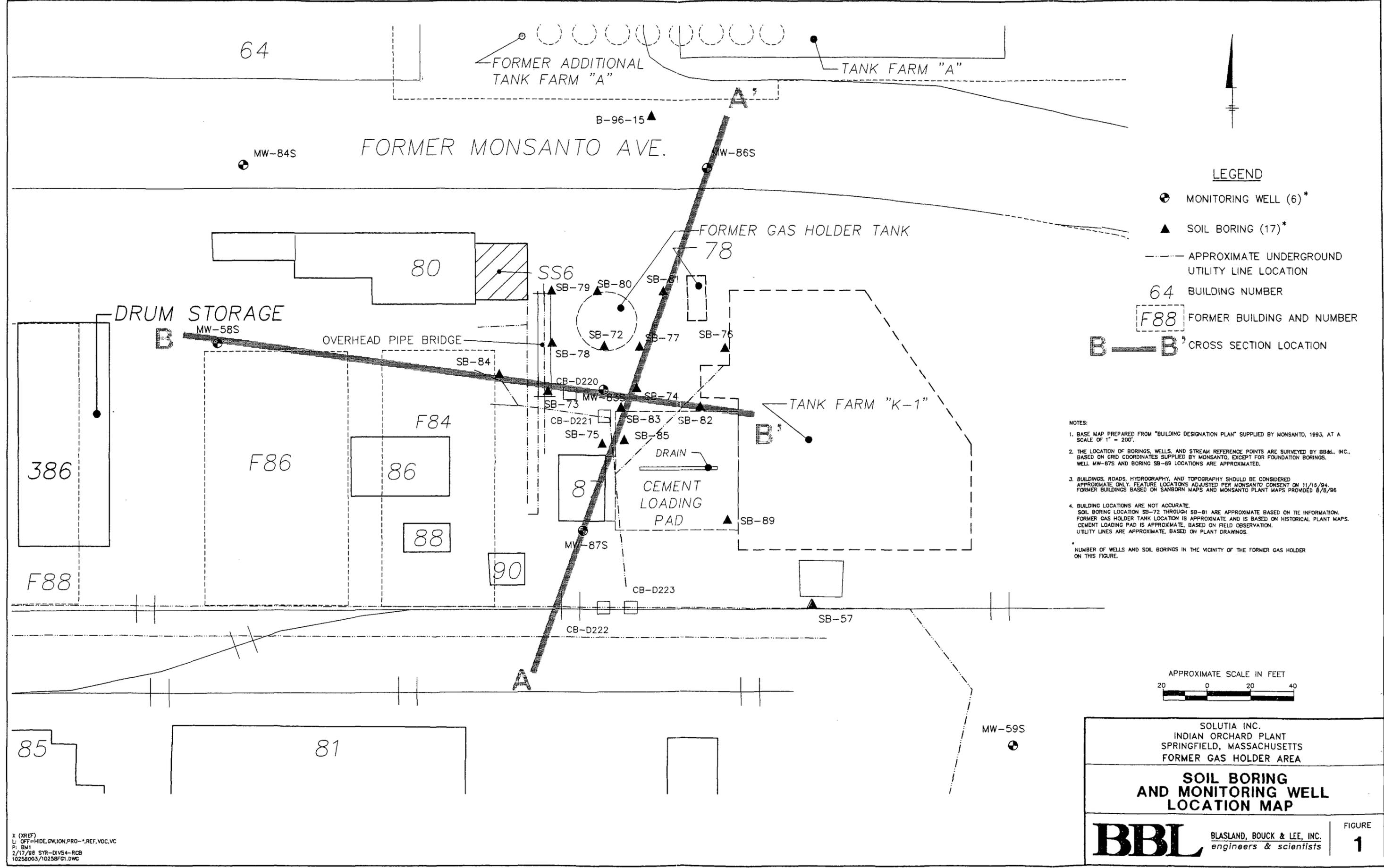
MCP = Massachusetts Contingency Plan.

* Detected above Method 1 standard for GW-3 category.

Detected above Upper Concentration Limit (UCL) per MADEP, MCP 310 CMR 40.0900 (not applicable to this data set).

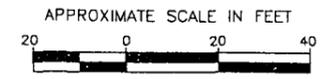
Reference:

(2) MADEP, MCP 310 CMR 40.0000, October 31, 1997.



- LEGEND**
- ⊕ MONITORING WELL (6)*
 - ▲ SOIL BORING (17)*
 - APPROXIMATE UNDERGROUND UTILITY LINE LOCATION
 - 64 BUILDING NUMBER
 - F88 FORMER BUILDING AND NUMBER
 - B—B' CROSS SECTION LOCATION

- NOTES:**
1. BASE MAP PREPARED FROM "BUILDING DESIGNATION PLAN" SUPPLIED BY MONSANTO, 1993, AT A SCALE OF 1" = 200'.
 2. THE LOCATION OF BORINGS, WELLS, AND STREAM REFERENCE POINTS ARE SURVEYED BY B&L, INC., BASED ON GRID COORDINATES SUPPLIED BY MONSANTO, EXCEPT FOR FOUNDATION BORINGS. WELL MW-87S AND BORING SB-89 LOCATIONS ARE APPROXIMATED.
 3. BUILDINGS, ROADS, HYDROGRAPHY, AND TOPOGRAPHY SHOULD BE CONSIDERED APPROXIMATE ONLY. FEATURE LOCATIONS ADJUSTED PER MONSANTO CONSENT ON 11/15/94. FORMER BUILDINGS BASED ON SANBORN MAPS AND MONSANTO PLANT MAPS PROVIDED 8/8/86.
 4. BUILDING LOCATIONS ARE NOT ACCURATE. SOIL BORING LOCATION SB-72 THROUGH SB-81 ARE APPROXIMATE BASED ON THE INFORMATION. FORMER GAS HOLDER TANK LOCATION IS APPROXIMATE AND IS BASED ON HISTORICAL PLANT MAPS. CEMENT LOADING PAD IS APPROXIMATE, BASED ON FIELD OBSERVATION. UTILITY LINES ARE APPROXIMATE, BASED ON PLANT DRAWINGS.
- * NUMBER OF WELLS AND SOIL BORINGS IN THE VICINITY OF THE FORMER GAS HOLDER ON THIS FIGURE.



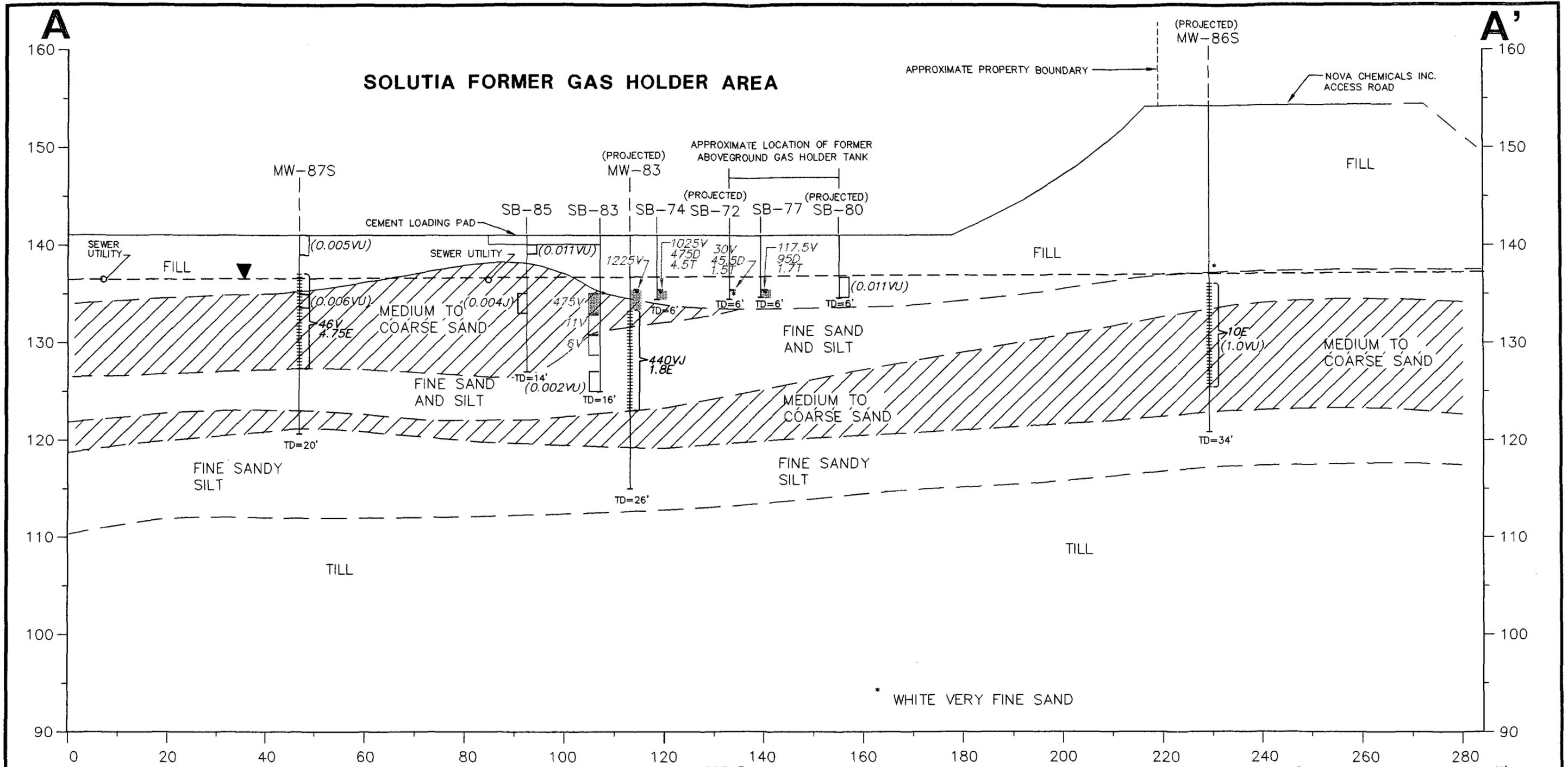
SOLUTIA INC.
 INDIAN ORCHARD PLANT
 SPRINGFIELD, MASSACHUSETTS
 FORMER GAS HOLDER AREA

SOIL BORING AND MONITORING WELL LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

FIGURE 1

X (XREF)
 L: OFF=HIDE,OW,ION,PRO-*,REF,VOC,VC
 P: BM1
 2/17/98 SYR-DIVS4-RCB
 10258003.10258FG1.DWG



SOLUTIA FORMER GAS HOLDER AREA

- NOTE:**
1. MONITORING WELL & SOIL BORING LOCATIONS PROJECTED ONTO CROSS SECTION LINE. GROUND SURFACE, TILL SURFACE, AND WATER TABLE LINES ARE BASED ON CONTOURS OF THESE SURFACES. PLACEMENT ON THE CROSS SECTION IS BASED ON WHERE THE CROSS SECTION LINES CROSS THE CONTOURED SURFACES.
 2. DASHED WHERE INFERRED.
 3. UTILITY DEPTHS ARE ESTIMATED.
 4. TD = TOTAL DEPTH OF BORING

LEGEND

6V	COMPOUNDS WITH REGULATORY EXCEEDENCE, NUMBER INDICATES MAXIMUM MULTIPLE OF THE DETECTED COMPOUND OVER REPORTABLE CONCENTRATIONS FOR S-2 SOILS AND GW2 GROUNDWATER, (e.g. 55V = 55X THE LIMIT OF VINYL CHLORIDE), LETTER INDICATES COMPOUND WITH MAXIMUM EXCEEDENCE.
6V	GROUNDWATER EXCEEDENCE MULTIPLE VALUE
6V	SOIL EXCEEDENCE MULTIPLE VALUE
(0.002VU)	VINYL CHLORIDE NOT DETECTED IN SOIL ABOVE QUANTITATION LIMITS (U) OR DETECTED BELOW THE QUANTITATION LIMITS AND IS ESTIMATED (J).
E	ETHYLBENZENE
V	VINYL CHLORIDE
T	TRICHLOROETHENE
D	DICHLOROETHANE - 1,2
[Symbol]	MCP UCLs EXCEEDED

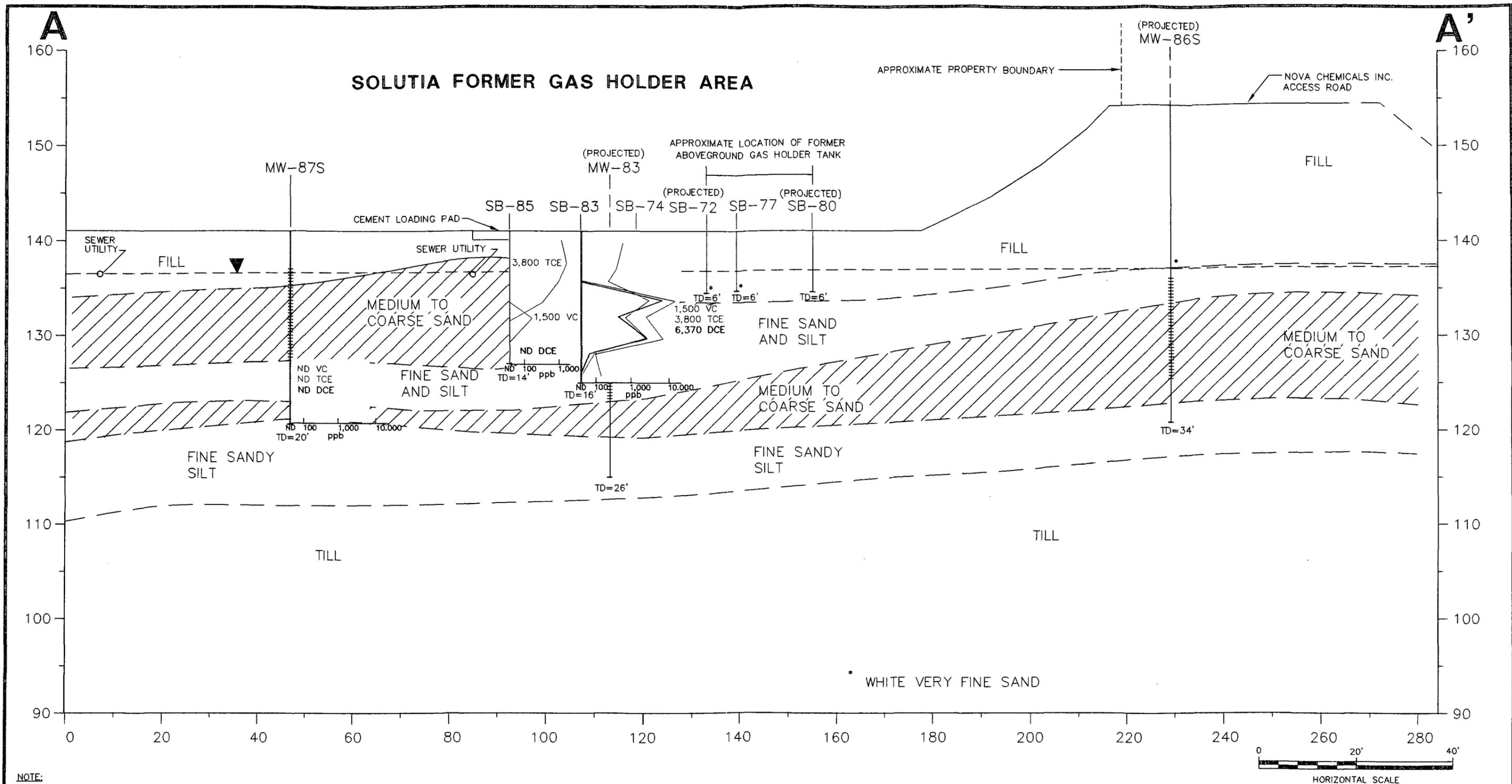
SOLUTIA INC.
 INDIAN ORCHARD PLANT
 SPRINGFIELD, MASSACHUSETTS
 FORMER GAS HOLDER AREA

GEOLOGIC CROSS-SECTION A - A'

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 engineers & scientists

FIGURE 2A

X: (XREF)
 OFF-EXCEED*.STICK-GEO.REF.VC-ND
 P: CS
 7/8/98 SYR-34-RCB PGL
 10258003/10258CSA.DWG



NOTE:

1. MONITORING WELL & SOIL BORING LOCATIONS PROJECTED ONTO CROSS SECTION LINE. GROUND SURFACE, TILL SURFACE, AND WATER TABLE LINES ARE BASED ON CONTOURS OF THESE SURFACES. PLACEMENT ON THE CROSS SECTION IS BASED ON WHERE THE CROSS SECTION LINES CROSS THE CONTOURED SURFACES.
2. DASHED WHERE INFERRED.
3. UTILITY DEPTHS ARE ESTIMATED.
4. TD = TOTAL DEPTH OF BORING

LEGEND

- VC = VINYL CHLORIDE
- TCE = TRICHLOROETHENE
- DCE = TOTAL DICHLOROETHENE
- ND = NON DETECT (<50 ppb)

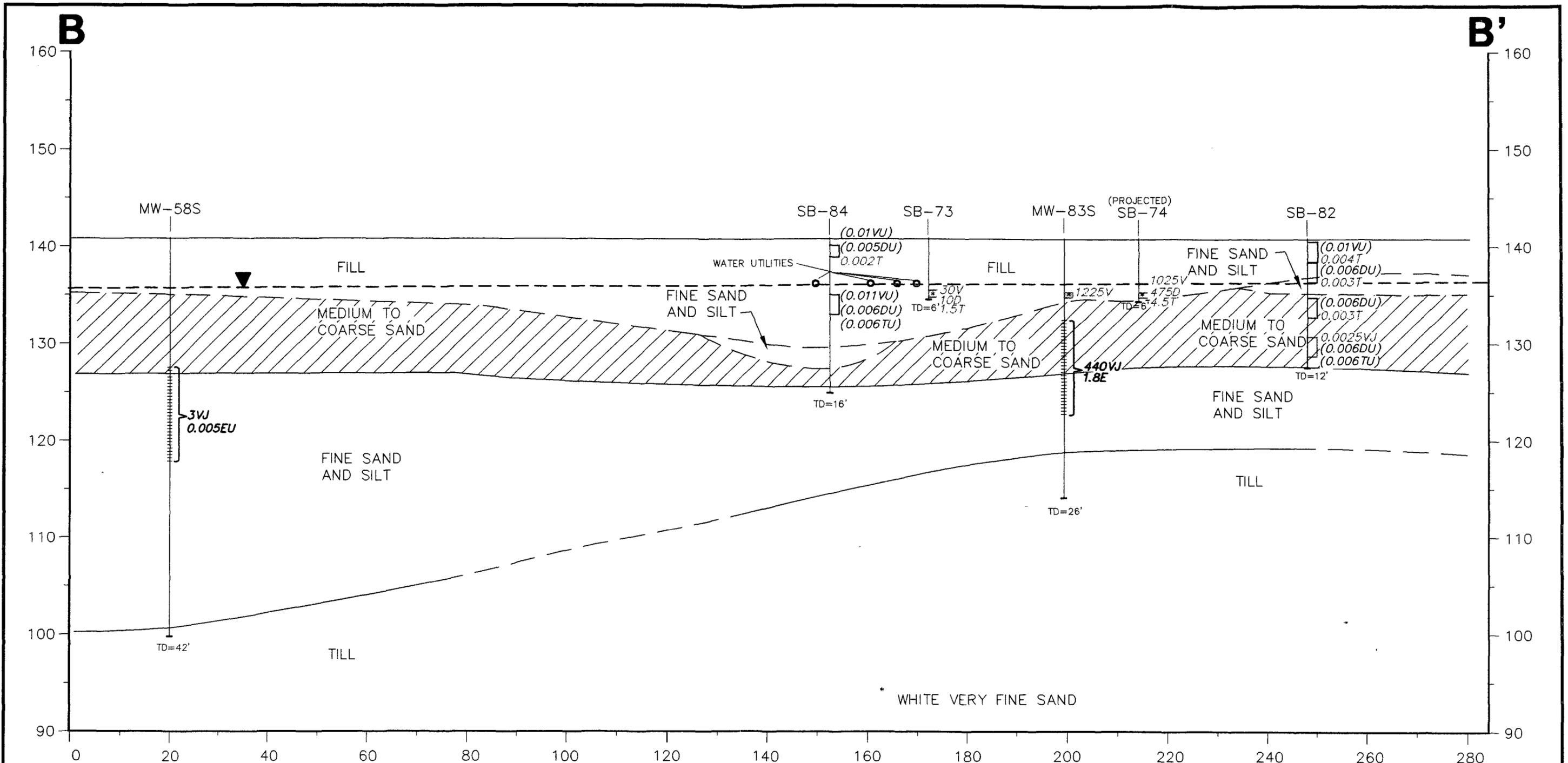
X: (XREF)
 OFT=EXCEED*,STICK-GEO,REF,VC-ND
 P: CS
 2/25/98 SYR-54-RCB
 10258003/10258CGA.DWG

SOLUTIA INC.
 INDIAN ORCHARD PLANT
 SPRINGFIELD, MASSACHUSETTS
 FORMER GAS HOLDER AREA

GEOLOGIC CROSS-SECTION A - A'
WITH GRAPHED
CONCENTRATION TOTALS

BBL BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

FIGURE
2B



NOTE:

1. MONITORING WELL & SOIL BORING LOCATIONS PROJECTED ONTO CROSS SECTION LINE. GROUND SURFACE, TILL SURFACE, AND WATER TABLE LINES ARE BASED ON CONTOURS OF THESE SURFACES. PLACEMENT ON THE CROSS SECTION IS BASED ON WHERE THE CROSS SECTION LINES CROSS THE CONTOURED SURFACES.
2. DASHED WHERE INFERRED.
3. UTILITY DEPTHS ARE ESTIMATED.
4. TD = TOTAL DEPTH OF BORING

LEGEND

- 4.5T COMPOUNDS WITH REGULATORY EXCEEDENCE, NUMBER INDICATES MAXIMUM MULTIPLE OF THE DETECTED COMPOUND OVER REPORTABLE CONCENTRATIONS FOR S-2 SOILS AND GW2 GROUNDWATER, (e.g. 55V = 55X THE LIMIT OF VINYL CHLORIDE), LETTER INDICATES COMPOUND WITH MAXIMUM EXCEEDENCE.
- 3WJ GROUNDWATER EXCEEDENCE MULTIPLE VALUE
- 4.5T SOIL EXCEEDENCE MULTIPLE VALUE
- (0.011VU) VINYL CHLORIDE NOT DETECTED IN SOIL ABOVE QUANTITATION LIMITS (U) OR DETECTED BELOW THE QUANTITATION LIMITS AND IS ESTIMATED (J).
- E ETHYLBENZENE
- V VINYL CHLORIDE
- T TRICHTHORETHENE
- D DICHLOROETHANE - 1,2
- MCP UCLs EXCEEDED

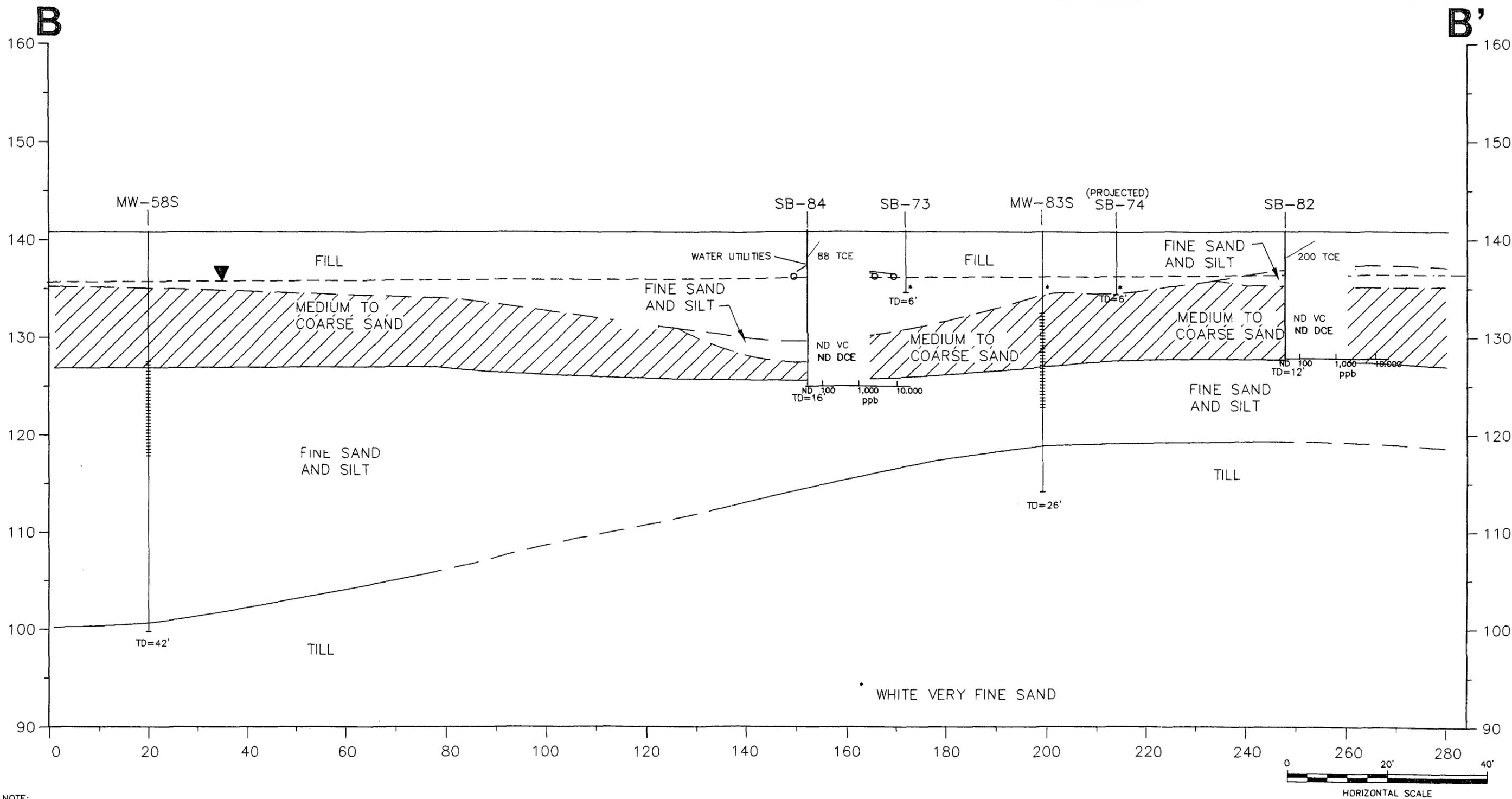
X: (XREF)
 L: (LAYER)
 P: STD-PCP/BL
 7/8/98 SYR-54-RCB PGL
 10258003/10258CSB.DWG

SOLUTIA INC.
 INDIAN ORCHARD PLANT
 SPRINGFIELD, MASSACHUSETTS
 FORMER GAS HOLDER AREA

GEOLOGIC CROSS-SECTION B - B'

BBL BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

FIGURE
3A



NOTE:

1. MONITORING WELL & SOIL BORING LOCATIONS PROJECTED ONTO CROSS SECTION LINE. GROUND SURFACE, TILL SURFACE, AND WATER TABLE LINES ARE BASED ON CONTOURS OF THESE SURFACES. PLACEMENT ON THE CROSS SECTION IS BASED ON WHERE THE CROSS SECTION LINES CROSS THE CONTOURED SURFACES.
2. DASHED WHERE INFERRED.
3. UTILITY DEPTHS ARE ESTIMATED.
4. TD = TOTAL DEPTH OF BORING

LEGEND

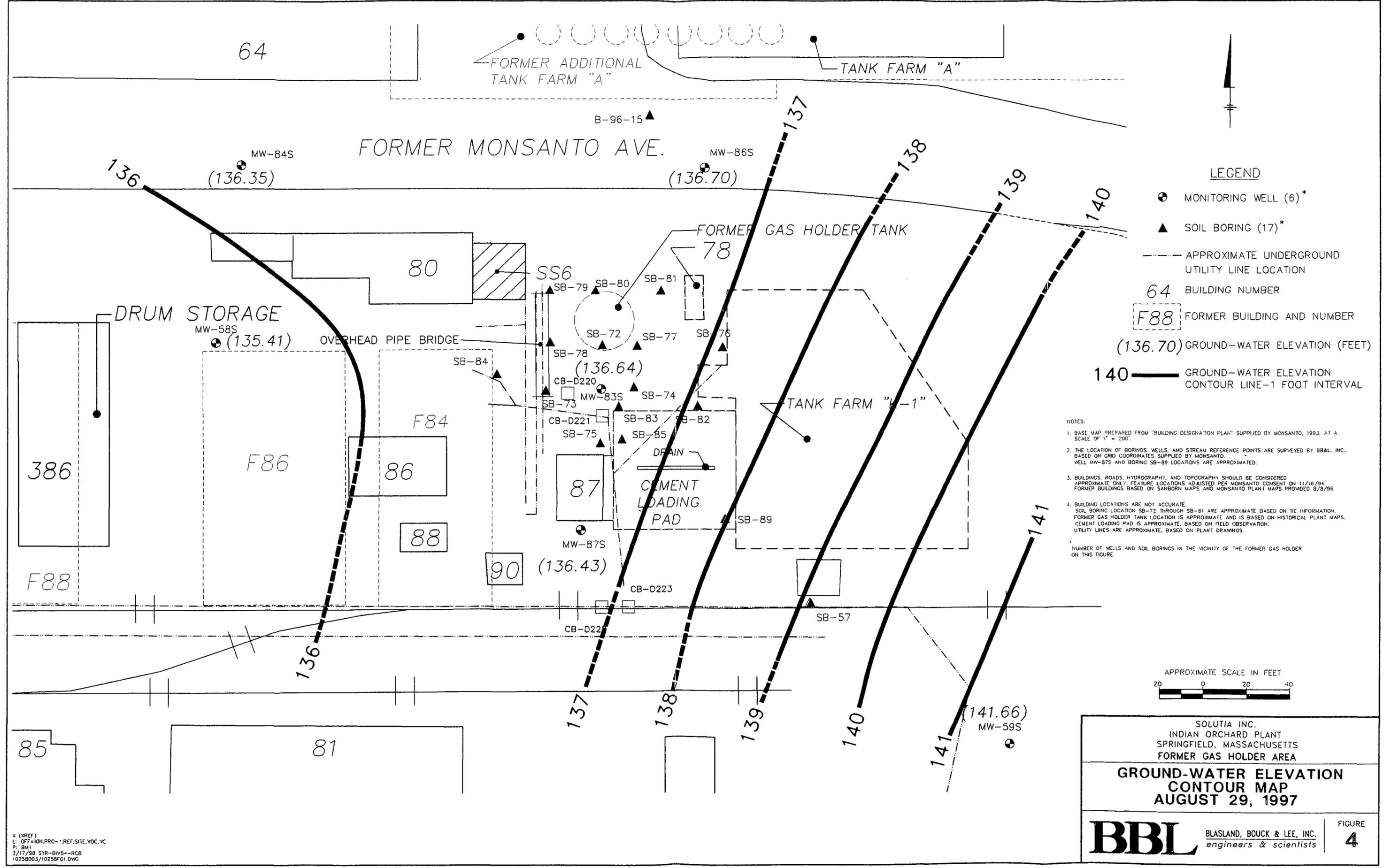
- VC = VINYL CHLORIDE
- TCE = TRICHLOROETHENE
- DCE = TOTAL DICHLOROETHENE
- ND = NON DETECT (<50 ppb)

SOLUTIA INC.
INDIAN ORCHARD PLANT
SPRINGFIELD, MASSACHUSETTS
FORMER GAS HOLDER AREA

GEOLOGIC CROSS-SECTION B - B'
WITH GRAPHED
CONCENTRATION TOTALS

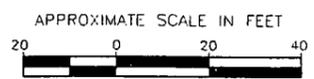
BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
3B



- LEGEND**
- ⊙ MONITORING WELL (6)*
 - ▲ SOIL BORING (17)*
 - APPROXIMATE UNDERGROUND UTILITY LINE LOCATION
 - 64 BUILDING NUMBER
 - F88 FORMER BUILDING AND NUMBER
 - (136.70) GROUND-WATER ELEVATION (FEET)
 - 140 ——— GROUND-WATER ELEVATION CONTOUR LINE-1 FOOT INTERVAL

- NOTES:**
1. BASE MAP PREPARED FROM "BUILDING DESIGNATION PLAN" SUPPLIED BY MONSANTO, 1993, AT A SCALE OF 1" = 200'.
 2. THE LOCATION OF BORINGS, WELLS, AND STREAM REFERENCE POINTS ARE SURVEYED BY BBL & L., INC., BASED ON GRID COORDINATES SUPPLIED BY MONSANTO. WELL MW-87S AND BORING SB-89 LOCATIONS ARE APPROXIMATED.
 3. BUILDINGS, ROADS, HYDROGRAPHY, AND TOPOGRAPHY SHOULD BE CONSIDERED APPROXIMATE ONLY. FEATURE LOCATIONS ADJUSTED PER MONSANTO CONSENT ON 11/16/94. FORMER BUILDINGS BASED ON SANBORN MAPS AND MONSANTO PLANT MAPS PROVIDED 6/8/96.
 4. BUILDING LOCATIONS ARE NOT ACCURATE. SOIL BORING LOCATION SB-72 THROUGH SB-81 ARE APPROXIMATE BASED ON THE INFORMATION. FORMER GAS HOLDER TANK LOCATION IS APPROXIMATE AND IS BASED ON HISTORICAL PLANT MAPS. CEMENT LOADING PAD IS APPROXIMATE, BASED ON FIELD OBSERVATION. UTILITY LINES ARE APPROXIMATE, BASED ON PLANT DRAWINGS.
- NUMBER OF WELLS AND SOIL BORINGS IN THE VICINITY OF THE FORMER GAS HOLDER ON THIS FIGURE.



SOLUTIA INC.
 INDIAN ORCHARD PLANT
 SPRINGFIELD, MASSACHUSETTS
 FORMER GAS HOLDER AREA

**GROUND-WATER ELEVATION
 CONTOUR MAP
 AUGUST 29, 1997**

X (XREF)
 1. OFF=IGN.PRO-1, REF. SITE, VOC, VC
 2. 8/1
 2/17/98 SYR-DIV54-RCB
 10258003/10258FC1.DWG

Attachment 1

Geologic Boring Logs

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Date Start/Finish: 08/25/97 - 08/29/97
Drilling Company: Parratt-Wolff, Inc.
Driller's Name: Layne Petch, Mickey Marshall
Drilling Method: HSA
Bit Size: 3 3/4-in OD, 2-in ID in.
Auger Size: 7-in OD, 4-in ID in.
Rig Type: Ingersoll Rand A-200
Spoon Size: 2-in in.

Northing: 0.0
Easting: 0.0
Well Casing: 0.0 ft.
Corehole Depth: 0.0 ft.
Borehole Depth: 35.0 ft.
Ground Surface Elev.: 0.0 ft.

Observations by: Jeff D. Conrad

Log Number: KEY

Client:
 Solutia Inc.

Location:
 Former Gas Holder Area
 Springfield, MA

DEPTH	ELEVATION	Analytical ID Number	Sample/In./Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Commonwealth Soil Analytical Results	Geologic Column	Stratigraphic Description	Construction
	gs elevation 0.0 ft.							TCE (ug/Kg) 10 100 1000 10000 100000 VC (ug/Kg) 10 100 1000 10000 100000		GROUND SURFACE	
		Not Sampled							Concrete (14).		Flush-mounted cover. Cement pad..
		Split Spoon 4s					VC Detect Limit 50 ug/Kg		Asphalt (65).		Lockable well cap.
		Shelby Tube 8s							Brick (51).		Cement/Bentonite Seal
		Vane Shear 23s							Bentonite seal (65).		Riser.
5	5	Hand Auger 10s						TCE Detect Limit 50 ug/Kg	Coarse Gravel (25).		Sand Pack.
									Medium Gravel (25, 0.5).		
									Fine Gravel (29).		
10	-10								Coarse Sand (2).		Well Screen.
									Medium Sand (6).		
									Fine Sand (7).		
									Very fine Sand (7, 0.5).		
									Medium to coarse Sand (2=6).		

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 engineers & scientists

Remarks:

Saturated Zones		
Date / Time	Elevation	Depth
First Level	-5	5 ↓
Second Level	-7.5	7.5 ↓
Third Level	-10.0	10.0 ↓

Location:

Former Gas Holder Area
Springfield, MA

Well No. KEY

Total Depth = 35.0 ft.

Client:

Solutia Inc.

DEPTH	ELEVATION	Analytical ID Number	Sample/Int./Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm)	Headspace	TCE (ug/Kg)		Geologic Column	Stratigraphic Description	Construction
									10	100			
													<p>Pilot Hole.</p>
											Medium to coarse Sand, and fine to medium Gravel (2=26, 0.5).		
											Medium to coarse Sand, and fine Gravel (26=2, 0.5)		
											Fine to coarse Sand (7=2).		
											Fine to coarse Sand, fine Gravel (2=32, 0.7).		
20	-20										Fine to medium Sand, fine to medium Gravel (6=20, 0.5).		
											Fine Sand and fine to medium Gravel (7=32, 0.5).		
											Fine to medium Sand and Silt (6=36).		
											Fine Sand and Silt, medium Gravel (36=26).		
											Fine Sand and Silt (7=36).		
											Silt (36).		
25	-25												
												<p>NA = Not available. ppm = Parts per million. WOR = Weight of rod. WOH = Weight of hammer. D = Duplicate sample. AGS = Above ground surface. BGS = Below ground surface. VC = Vinyl Chloride TCE = Trichloroethylene</p> <p>Samples: VOCs + TICs split spoon samples were submitted to IEA laboratories for volatile organic compounds (VOCs) and tentatively identified compounds (TICs) and method 8260.</p> <p>Bulk density samples were submitted to IEA laboratories.</p> <p>Grain Size and Atterberg Limit Test samples were submitted to Parratt Wolff for particle size and atterberg limit tests.</p>	
30	-30												
35	-35												

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
First Level	-5	5 ▼
Second Level	-7.5	7.5 ▼
Third Level	-10.0	10.0 ▼

Date Start/Finish: 08/25/97 - 08/25/97
 Drilling Company: Parratt-Wolff, Inc.
 Driller's Name: Layne Petch, Mickey Marshall
 Drilling Method: Direct Push

Northing: 6742.383
 Easting: 4749.799

Log Number: SB-82

Client:
 Solutia Inc.

Rig Type: Ingersoll Rand A-200
 Spoon Size: 2 in.

Borehole Depth: 12.0 ft.
 Ground Surface Elev.: 141.76 ft.

Location:
 Former Gas Holder Area
 Springfield, MA

Observations by: Jeff D. Conrad

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm)	Headspace	Commonwealth Soil Analytical Results					Geologic Column	Stratigraphic Description	Construction	
									TCE (ug/Kg)	VC (ug/Kg)	10	100	1000				10000
GS elevation 141.76 ft.															GROUND SURFACE		
														Asphalt	Patched with asphalt.		
	140	(0-2') VOCs TICs		NA	NA	L1	11.8							Brown fine SAND and SILT, some fine to medium angular Gravel, trace dark brown Clay, moist.			
		(2-4') VOCs TICs		NA	NA	L5	0.0							Brown fine to medium SAND, little black fine Sand, little fine rounded Gravel, moist. Brown fine SAND, moist.			
5		(4-6') VOCs TICs		NA	NA	L3	0.0							Brown fine SAND and SILT, trace red-brown Clay, moist. Brown fine to coarse SAND, little fine to medium Gravel, moist. Red, brick-like fine SAND.			
35		(6-8') VOCs TICs TOC		NA	NA	L2	0.0							Saturated at 6.0' below grade. Brown, gray medium to coarse SAND, fine to coarse angular Gravel, trace red-brown Clay, wet.	Backfilled with soil cuttings.		
10		(8-10') TOC		NA	NA	L3	0.0							Brown fine to medium SAND, wet.			
30		(10-12') VOCs TICs		NA	NA	L2	0.0							Medium to coarse SAND, little fine to medium rounded and subangular Gravel, trace brown Clay.			
5														Boring terminated at 12.0' below grade.			

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 BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

Remarks:
 See key.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 08/25/97 - 08/25/97
 Drilling Company: Parratt-Wolff, Inc.
 Driller's Name: Layne Petch, Mickey Marshall
 Drilling Method: Direct Push

Northing: 6705.240
 Easting: 4749.501

Log Number: SB-83

Client:
 Solutia Inc.

Borehole Depth: 16.0 ft.
 Ground Surface Elev.: 141.80 ft.

Location:
 Former Gas Holder Area
 Springfield, MA

Rig Type: Ingersoll Rand A-200
 Spoon Size: 2 in.

Observations by: Jeff D. Conrad

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm)	Headspace	Commonwealth Soil Analytical Results					Geologic Column	Stratigraphic Description	Construction	
									TCE (ug/Kg)	VC (ug/Kg)	10	100	1000				10000
gs elevation 141.80 ft.										10	100	1000	10000	100000	GROUND SURFACE		
										10	100	1000	10000	100000	Asphalt		
	140	(0-2')	NA	NA	L2	9.3									Brown fine to medium SAND, trace fine rounded Gravel and brown Clay, moist.		
		(2-4')	NA	NA	L0	21.3									Trace black and brown coarse Sand. Black ash. Trace brown Clay. Grades to little fine angular and rounded Gravel, moist.		
5		(4-6') Gr. Size AL Test	NA	NA	L3	0.0									Brown/tan, little grading to trace fine rounded Gravel, moist.		
	135	(6-8') VOCs TICs	NA	NA	L4	190.0									White fine SAND and SILT, trace brown Clay, wet, odor. Grading to light brown staining.		
		(8-10') VOCs TICs Gr. Size AL Test	NA	NA	L1	287.0									Brown medium to coarse SAND; trace fine Sand, fine to medium flat angular Gravel, and brown Clay, wet.		
10		(10-12') VOCs TICs	NA	NA	L2	231.0									Dark brown fine SAND and SILT, some medium to coarse rounded Gravel, wet.		
	130	(12-14') TOC	NA	NA	L1	91.0									Brown SILT, very dense.		
		(14-16') VOCs TICs	NA	NA	NA	0.0									Red-brown fine SAND and SILT, trace orange/red brown Clay, very dense.		



Remarks:
 See key.

Saturated Zones		
Date / Time	Elevation	Depth

Location:
Former Gas Holder Area
Springfield, MA

Client:
Solutia Inc.

Well No. SB-83
Total Depth = 18.0 ft.

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	TCE (ug/Kg)					Geologic Column	Stratigraphic Description	Construction
								10	100	1000	10000	100000			
		14-18 VOCs TCE		NA	NA	NA	0.0								Backfilled with soil cuttings.
18.0													Boring terminated at 18.0' below grade.		
20															
25															
30															
35															

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engineers & scientists

Remarks:
See key.

Saturated Zones		
Date / Time	Elevation	Depth

Date Start/Finish: 08/26/97 - 08/26/97 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Layne Petch, Mickey Marshall Drilling Method: Direct Push Rig Type: Ingersoll Rand A-200 Spoon Size: 2 in.	Northing: 6648.251 Easting: 4765.173 Borehole Depth: 16.0 ft. Ground Surface Elev.: 140.47 ft. Observations by: Jeff D. Conrad	Log Number: SB-84 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Commonwealth Soil Analytical Results		Geologic Column	Stratigraphic Description	Construction
								TCE (ug/Kg)	VC (ug/Kg)			
gs elevation 140.47 ft.								TCE (ug/Kg) 10 100 1000 10000 100000 VC (ug/Kg) 10 100 1000 10000 100000	GROUND SURFACE			
140		(0-2') VOCs TICs	NA	NA	L2	0.8				Asphalt		Patched with asphalt.
		(2-4')	NA	NA	L3	0.0				Dark brown/brown fine to coarse SAND, little fine angular Gravel, trace brown Silt and Clay, moist.		
		(4-8') Gr. Size AL Test	NA	NA	L1	0.0				Brown very fine and fine SAND, moist.		
5	135	(4-8') Gr. Size AL Test	NA	NA	L1	0.0				Orange fine SAND and fine to medium rectangular GRAVEL, moist.		
		(6-8') VOCs TICs	NA	NA	L0	15.8				Brown and fine to coarse SAND, little subangular Gravel, trace brown Silt.		
		(8-10')	NA	NA	0.9	59.3				Red brick.		
		(8-10')	NA	NA	0.9	59.3				Met at 4.8' below grade.		
		(10-14') Gr. Size AL Test	NA	NA	L8	10.0				Loose brown medium to coarse SAND, fine to medium angular GRAVEL, pieces of silt conglomerate, trace brown Silt, slight odor.		Backfilled with soil cuttings.
		(10-14')	NA	NA	1.8	10.0				Some to little fine to medium Gravel, slight odor.		
		(14-18')	NA	NA	L0	12.0				Brown SILT and very fine SAND, trace red/brown Silt and Clay, wet.		
		(14-18')	NA	NA	L0	12.0				Very dense brown medium to coarse SAND and fine angular to rounded GRAVEL, moist.		
		(14-18')	NA	NA	L0	12.0				Brown SILT and very fine SAND, trace brown Clay and organic fibers, no odor.		
		(14-18')	NA	NA	L0	12.0				Gray to brown very fine to fine SAND, no organics, no odor.		

<h1 style="margin:0;">BBL</h1> <p style="margin:0; font-size: small;">BLASLAND, BOUCK & LEE, INC. engineers & scientists</p>	Remarks: See key.	Saturated Zones		
		Date / Time	Elevation	Depth

Location:
Former Gas Holder Area
Springfield, MA

Well No. SB-84
Total Depth = 18.0 ft.

Client:
Solutia Inc.

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	TCE (ug/Kg)		VC (ug/Kg)	Geologic Column	Stratigraphic Description	Construction
								10	100				
18		(14-18)		NA	NA	LO	LO					Gray to brown very fine to fine SAND, no organics, no odor. Boring terminated at 18.0' below grade.	Backfilled with soil cuttings.
20													
25													
30													
35													



Remarks:
See key.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 08/26/97 - 08/26/97 Drilling Company: Parratt-Wolff, Inc. Driller's Name: Layne Petch, Mickey Marshall Drilling Method: Direct Push Rig Type: Ingersoll Rand A-200 Spoon Size: 2 in.	Northing: 6706.778 Easting: 4733.584 Borehole Depth: 14.0 ft. Ground Surface Elev.: 141.74 ft. Observations by: Jeff D. Conrad	Log Number: SB-85 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Commonwealth Soil Analytical Results	Geologic Column	Stratigraphic Description	Construction
								TCE (ug/Kg) 10 100 1000 10000 100000 VC (ug/Kg) 10 100 1000 10000 100000	GROUND SURFACE		
										Concrete	Patched with concrete.
	140	(0-1)	NA	NA	NA	NA				Brown fine to medium SAND, little fine to medium angular Gravel, moist.	Backfilled with soil cuttings.
		(1-2) VOCs TICs	NA	NA	1.0	15.7				White and brown coarse GRAVEL.	
		(2-4)	NA	NA	0.5	15.7 (true)				Brown fine to medium SAND, little to trace fine rounded and angular Gravel.	
5		(4-8)	NA	NA	1.1	0.0					
	85	(6-8) VOCs TICs	NA	NA	0.7	195				Brown/gray fine to coarse SAND and red/gray medium angular Gravel, trace red Silt, wet.	
		(8-10)	NA	NA	2.0	19.7				Medium to coarse SAND, fine to medium angular and round Gravel, trace brown Silt.	
10		(10-12)	NA	NA	1.8	147				Red, slight odor. Coarse GRAVEL	
	30	(12-14)	NA	NA	0.8	98.8				Medium to coarse SAND, fine to medium GRAVEL, wet, no odor.	
5										Terminated boring at 14.0' below grade at indication that dense till has been encountered.	

<h1 style="margin:0;">BBL</h1> <p style="margin:0;">BLASLAND, BOUCK & LEE, INC. engineers & scientists</p>	Remarks: 	Saturated Zones <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:33%;">Date / Time</th> <th style="width:33%;">Elevation</th> <th style="width:33%;">Depth</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date / Time	Elevation	Depth									
Date / Time	Elevation	Depth												

Date Start/Finish: 08/27/97 - 08/27/97
 Drilling Company: Parratt-Wolff, Inc.
 Driller's Name: Layne Petch, Mickey Marshall
 Drilling Method: Direct Push

Log Number: SB-89

Client:
 Solutia Inc.

Rig Type: Ingersoll Rand A-200
 Spoon Size: 2 in.

Borehole Depth: 15 ft.
 Ground Surface Elev.: 141 est. ft.

Location:
 Former Gas Holder Area
 Springfield, MA

Observations by: Jeff D. Conrad

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm)	Headspace	Commonwealth Soil Analytical Results	Geologic Column	Stratigraphic Description	Construction
<p>Ground Surface</p> <p>Concrete.</p> <p>Brown fine to medium SAND, trace fine angular Gravel, moist.</p> <p>Black staining at 17' below grade.</p> <p>Dark brown SILT and fine to medium SAND, little Clay, moist.</p> <p>Loose brown fine to medium SAND, little fine to medium Gravel, moist.</p> <p>Red fine to medium GRAVEL and brick.</p> <p>Fine to coarse tan/gray GRAVEL, little medium to coarse Sand.</p> <p>Brown medium to coarse SAND, trace Silt and fine rounded Gravel, no staining.</p> <p>Brown medium to coarse SAND and fine to medium GRAVEL, trace black staining and Silt, one 1mm-3mm piece of white string material (hardness of quartz), no odor, wet.</p> <p>Brown medium to coarse SAND, little fine to medium Gravel.</p> <p>White, gray and red medium to coarse SAND, trace Silt, no staining, no odor, wet.</p> <p>Terminated boring at 15.0' below grade due to indication of dense till.</p>										<p>Patched with 3000-4000 psi concrete.</p> <p>Backfilled with soil cuttings.</p>		
140		NA	NA	NA	NA	NA	NA	NA				
		(1-3') VOCs TICs	NA	NA	0.8	L2						
5		(3-5') TOC	NA	NA	2.0	0.3						
135		(5-7') VOCs TICs Gr. Size AL Test	NA	NA	1.8	1.0						
		(7-9') TOC	NA	NA	0.8	0.3						
10		(9-11')	NA	NA	1.1	0.3						
130		(11-13')	NA	NA	0.9	0.2						
5		(13-15')	NA	NA	1.0	0.3						

BBL
 BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

Remarks:
 See key.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 08/26/97 - 08/27/97
 Drilling Company: Parratt-Wolff, Inc.
 Driller's Name: Layne Petch, Mickey Marshall
 Drilling Method: HSA
 Bit Size: 3 3/4-in OD, 2-in ID in.
 Auger Size: 7-in OD, 4-in ID in.
 Rig Type: Ingersoll Rand A-200
 Spoon Size: 2-in in.

Well Casing: 140.43 ft.
 Borehole Depth: 20 ft.
 Ground Surface Elev.: 140.70 ft.
 Observations by: Jeff D. Conrad

Log Number: MW-87S
 Client: Solutia Inc.
 Location: Former Gas Holder Area
 Springfield, MA

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Commonwealth Soil Analytical Results	Geologic Column	Stratigraphic Description	Construction
gs elevation 140.70 ft								TCE (ug/Kg) 10 100 1000 10000 100000 VC (ug/Kg) 10 100 1000 10000 100000			
GROUND SURFACE											
140		(0-2') VOCs	TICs	25 14 13 16	27	1.0	0.0		Asphalt	Loose, brown fine to medium SAND, trace fine angular Gravel, dry.	9-inch flush-mounted protective cover (0.23' BGS) Cement pad to 1.0' BGS.
		(2-4')		16 12 27 34	39	0.9	0.0		Trace white Sand and black Gravel.	Black fine SAND and SILT (stained), trace Silt and Clay.	Lockable well cap. Cement/Bentonite Seal (1.0' to 2.0' BGS).
5	135	(4-6')		70 38 40 43	78	1.7	1.4		Dark brown to black stained fine to medium SAND, trace fine Gravel, brown Silt and Clay.	Medium to coarse GRAVEL and maroon brick.	2-inch schedule 40 PVC Riser (0.24' to 3.98' BGS).
		(6-8') VOCs	TICs	43 28 28 10	58	2.0	31.3		Brown medium to coarse SAND, trace fine rounded Gravel, trace brown and maroon Silt, saturated.	Trace coarse Gravel, trace brown Clay, wet.	Moire #0 Sand Pack (2.0' to 15.0' BGS).
		(8-10')		41 15 7 7	22	1.0	64.6		Trace brown SILT.		
10	130	(10-12')		20 14 9 9	23	0.8	333		Medium SAND, trace fine Sand and fine Gravel.	Grading to coarse SAND and cubic fine to medium GRAVEL.	2-inch schedule 40 PVC Well Screen, 0.01' Slot (4.15' to 13.79' BGS).
		(12-14')		10 10 9 10	19	2.0	204		Loose, some maroon to brown, wet.	Soft brown fine SAND.	
5		(14-16')		24 16	36	0.8	29.6		Stiff, brown fine to very fine SAND.		2-inch schedule 40 PVC Sump.



Remarks:
See key.

Saturated Zones		
Date / Time	Elevation	Depth
8/28/97:1746	136.44	4.26 ▼
8/29/97:0819	136.43	4.27 ▼
8/29/97:1145	136.43	4.27 ▼

Location:
Former Gas Holder Area
Springfield, MA

Well No. MW-87S
Total Depth = 20 ft.

Client:
Solutia Inc.

DEPTH	ELEVATION	Analytical ID Number	Sample/Int./Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	TCE (ug/Kg)					Geologic Column	Stratigraphic Description	Construction
								10	100	1000	10000	100000			
25		(14-18)		28	38	0.8	28.6						Gray, trace gray/brown Silt and Clay.	Collapsed soil cuttings.	
		(18-18)		28	28	0.8	12								
		(18-20)		14	70	2.0	3.5								
20													Very stiff orange medium to coarse SAND, little fine rounded Gravel, trace brown fine Sand, Clay and SILT.		
													Gray fine to very fine SAND.		
													Boring terminated at 20.0' below grade.		

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
See key.

Saturated Zones		
Date / Time	Elevation	Depth
8/28/97:1748	136.44	4.28 ▼
8/29/97:0819	136.43	4.27 ▼
8/29/97:1145	136.43	4.27 ▼

Date Start/Finish: 4/15/97 - 4/15/97 Drilling Company: Blasland, Bouck and Lee Driller's Name: J. Hassett, R. Papallo Drilling Method: Manual Advancement Auger size: NA-in. Rig Type: NA Spoon Size: 2-in.	Northing: 4779.177 Easting: 6697.064 Borehole Depth: 6 ft. Ground Surface Elev.: 140.95 ft. Geologist: Ronald D. Kuhn	Well No. SB-72 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA Project:
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int./Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
	140.95 ft								GROUND SURFACE	
	140			NA	NA	2.0	3.6		Asphalt.	
				NA	NA	2.0	0.5		Brown fine to medium SAND, trace coarse Sand and fine to medium Gravel, damp.	Backfilled to grade with soil cuttings.
				NA	NA	2.0	58.1		Tan fine to medium SAND, trace coarse Sand and fine Gravel.	
5	135	SB-72 (5.8-5.8')		NA	NA	2.0	58.1		Saturated.	
									Gray/white fine SAND.	
									Brown fine to coarse SAND.	
									End of boring at 6' below grade.	

<h1 style="margin: 0;">BBL</h1> <p style="margin: 0; font-size: small;">BLASLAND, BOUCK & LEE, INC. engineers & scientists</p>	Remarks: Field screening performed with a 10.0 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-72 (5.8-5.8') submitted to IEA for VOC and TIC analyses.	Water Levels		
		Date / Time	Elevation	Depth
		4/15/97		5.5' ↓

Date Start/Finish: 4/15/97 - 4/15/97 Drilling Company: Blasland, Bouck and Lee Driller's Name: J. Hassett, R. Papallo Drilling Method: Manual Advancement Auger size: NA-in. Rig Type: NA Spoon Size: 2-in.	Northing: 4813.261 Easting: 6701.419 Borehole Depth: 6 ft. Ground Surface Elev.: 140.80 ft. Geologist: Ronald D. Kuhn	Well No. SB-73 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA Project:
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 140.80 ft.									GROUND SURFACE	
40				NA	NA	2.0	3.1		Asphalt.	
				NA	NA	2.0	2.7		Dark brown fine to medium SAND, trace coarse Sand and fine to medium Gravel, damp.	
				NA	NA	2.0	9.6		Tan fine to medium SAND, trace coarse Sand.	
5	135	SB-73 (5.4-5.7')		NA	NA	2.0			Gray/white fine SAND, wet.	
									Orange/brown brick material, saturated.	Backfilled to grade with soil cuttings.
									End of boring at 6' below grade.	
10	130									
5										



Remarks:

Field screening performed with a 10.8 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-73 (5.4-5.7') submitted to IEA for VOC and TIC analyses.

Water Levels

Date / Time	Elevation	Depth
4/15/97		5.4' ↓

Date Start/Finish: 4/15/97 - 4/15/97 Drilling Company: Blasland, Bouck and Lee Driller's Name: J. Hassett, R. Papallo Drilling Method: Manual Advancement Auger size: NA-in. Rig Type: NA Spoon Size: 2-in.	Northing: 4757.673 Easting: 6712.488 Borehole Depth: 6 ft. Ground Surface Elev.: 141.63 ft. Geologist: Ronald D. Kuhn	Well No. SB-74 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA Project:
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
GS elevation	141.63 ft.								GROUND SURFACE	
140				NA	NA	2.0	4.7		Asphalt.	
				NA	NA	2.0	6.5		Dark brown fine to medium SAND, trace coarse Sand and fine to medium Gravel, damp. Tan fine to medium SAND, trace coarse Sand. Grades to white fine Sand.	
5		SB-74 (5.6-6.0')		NA	NA	2.0	17.3		Wet to saturated at approximately 4.0' below grade.	
35									White fine SAND, saturated. End of boring at 6' below grade.	
10										
30										
5										

BBL
 BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

Remarks:

Field screening performed with a 10.6 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-74 (5.6-6.0') submitted to IEA for VOC, TIC, and Bulk Density analyses.

Water Levels

Date / Time	Elevation	Depth
4/15/97		4.0' ↓

Date Start/Finish: 4/16/97 - 4/16/97 Drilling Company: Blasland, Bouck and Lee Driller's Name: J. Hassett, R. Papallo Drilling Method: Manual Advancement Auger size: NA-in. Rig Type: NA Spoon Size: 2-in.	Northing: 4732.163 Easting: 6696.385 Borehole Depth: 6 ft. Ground Surface Elev.: 141.21 ft. Geologist: Ronald D. Kuhn	Well No. SB-75 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA Project:
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 141.21 ft.									GROUND SURFACE	
140				NA	NA	2.0	0.0		Asphalt.	
				NA	NA	2.0	0.0		Dark brown fine to medium SAND, trace coarse Sand and fine to medium Gravel, damp.	Backfilled to grade with soil cuttings.
				NA	NA	2.0	0.0		Tan fine to medium SAND, trace coarse Sand and fine Gravel.	
5		SB-75 (4.0-6.0')		NA	NA	2.0	0.0			
gs									End of boring at 6' below grade.	
10										
15										
20										
25										
30										
35										
40										
45										
50										
55										
60										
65										
70										
75										
80										
85										
90										
95										
100										

 BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists	Remarks: Field screening performed with a 10.6 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-75 (4-6') submitted to IEA for VOC and TIC analyses.	Water Levels		
		Date / Time	Elevation	Depth

Date Start/Finish: 4/16/97 - 4/16/97 Drilling Company: Blasland, Bouck and Lee Driller's Name: J. Hassett, R. Papallo Drilling Method: Manual Advancement Auger size: NA-in. Rig Type: NA Spoon Size: 2-in.	Northing: 4778.861 Easting: 6713.647 Borehole Depth: 6 ft. Ground Surface Elev.: 141.19 ft. Geologist: Ronald D. Kuhn	Well No. SB-77 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA Project:
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 141.9 ft.									GROUND SURFACE	
140				NA	NA	2.0	0.3	Asphalt.	Dark brown fine to medium SAND, trace coarse Sand and fine to medium Gravel, damp.	Backfilled to grade with soil cuttings.
				NA	NA	2.0	0.3		Tan fine to medium SAND, trace coarse Sand.	
5		SB-77 (5.8-6.0')		NA	NA	2.0	43.7			
65									Gray/white fine SAND, saturated.	
									End of boring at 6' below grade.	
10										
130										
5										

 <p>BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists</p>	Remarks: Field screening performed with a 10.6 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-77 (5.8-6.0') submitted to IEA for VOC and TIC analyses.	Water Levels		
		Date / Time	Elevation	Depth
		4/16/97		5.8

Date Start/Finish: 4/16/97 - 4/16/97 Drilling Company: Blasland, Bouck and Lee Driller's Name: J. Hassett, R. Papallo Drilling Method: Manual Advancement Auger size: NA-in. Rig Type: NA Spoon Size: 2-in.	Northing: 4780.466 Easting: 6672.934 Borehole Depth: 6 ft. Ground Surface Elev.: 140.57 ft. Geologist: Ronald D. Kuhn	Well No. SB-78 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA Project:
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
	gs elevation 140.57 ft.								GROUND SURFACE	
	140			NA	NA	2.0	19		Asphalt.	
				NA	NA	2.0	2.2	Dark brown fine to medium SAND, trace coarse Sand and fine to medium Gravel, damp. Tan fine to medium SAND, trace coarse Sand.		
5				NA	NA	2.0	3.6	Wet at approximately 4.0' below grade.		
	35	SB-78 (5.4-5.8')						White fine SAND, saturated. Tan fine to medium SAND, trace coarse Sand.		
								End of boring at 6' below grade.		
	10									
	30									
	5									

	Remarks: Field screening performed with a 10.6 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-78 (5.4-5.8') submitted to IEA for VOC, TIC and Bulk Density analyses.	Water Levels		
		Date / Time	Elevation	Depth
		4/16/97		4.0 ↓

Date Start/Finish: 4/16/97 - 4/16/97
 Drilling Company: Blasland, Bouck and Lee
 Driller's Name: J. Hassett, R. Papallo
 Drilling Method: Manual Advancement
 Auger size: NA-in.
 Rig Type: NA
 Spoon Size: 2-in.

Northing: NA
 Easting: NA
 Borehole Depth: 6 ft.
 Ground Surface Elev.: 141 ft.
 Geologist: Ronald D. Kuhn

Well No. SB-79
 Client: Solutia Company
 Location: Former Gas Holder Area
 Springfield, MA
 Project:

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
GS elevation 141 ft.									GROUND SURFACE	
40				NA	NA	2.0	2.0	Asphalt.	Dark brown fine to medium SAND, trace coarse Sand and fine to medium Gravel, damp.	Backfilled to grade with soil cuttings.
				NA	NA	2.0	2.3		Wet at approximately 4.0' below grade.	
5		SB-79 (4.0-6.0')		NA	NA	2.0	3.2			
35									End of boring at 6' below grade.	
0										
30										
5										



Remarks:
 Field screening performed with a 10.6 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-79 (4-6') and duplicate #DUP-041898 submitted to IEA for VOC and TIC analyses. SB-79 (4-6') submitted to IEA for Bulk Density analysis.

Water Levels		
Date / Time	Elevation	Depth
4/16/97		4.0' ↓

Date Start/Finish: 4/18/97 - 4/16/97 Drilling Company: Blasland, Bouck and Lee Driller's Name: J. Hassett, R. Papallo Drilling Method: Manual Advancement Spoon Size: 2-in. Hammer Weight: 16-lb.	Borehole Depth: 6 ft. Ground Surface Elev.: 141 ft. Estm. Geologist: Ronald D. Kuhn	Well No. SB-76 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation MFL									GROUND SURFACE	
140			NA	NA	2.0	0.0	0.0	Asphalt.	Tan fine to medium SAND, trace coarse Sand, damp.	Backfilled to grade with soil cuttings.
			NA	NA	2.0	0.0	0.0	Dark brown fine to medium SAND, trace coarse Sand, wet.		
5		SB-76 (4.0-6.0')	NA	NA	2.0	0.0	0.0			
135									End of boring at 6' below grade.	
10										
130										
5										

<h1 style="margin:0;">BBL</h1> <p style="margin:0; font-size: small;">BLASLAND, BOUCK & LEE, INC. engineers & scientists</p>	Remarks: Field screening performed with a 10.8 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-76 (4-6') submitted to IEA for VOC and TIC analyses.	Water Levels		
		Date / Time	Elevation	Depth

Start/Finish: 4/17/97 - 4/17/97 Company: Blasland, Bouck and Lee Driller's Name: J. Hassett, R. Papallo Drilling Method: Manual Advancement Spoon Size: 2-in. Hammer Weight: 16-lb.	Borehole Depth: 6 ft. Ground Surface Elev.: 141 ft. Estm. Geologist: Ronald D. Kuhn	Well No.: SB-81 Client: Solutia Inc. Location: Former Gas Holder Area Springfield, MA
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 141 ft.									GROUND SURFACE	
	140			NA	NA	2.0	0.8	Asphalt.	Dark brown fine to medium SAND, trace coarse Sand and fine to medium Gravel, damp.	Backfilled to grade with soil cuttings.
				NA	NA	2.0	0.0			
5		SB-81 (4.0-6.0')		NA	NA	2.0	0.0			
	135								End of boring at 6' below grade.	
	130									
	120									
	110									
	100									
	90									
	80									
	70									
	60									
	50									
	40									
	30									
	20									
	10									
	0									

 BLASLAND, BOUCK & LEE, INC. <i>engineers & scientists</i>	Remarks: Field screening performed with a 10.8 eV PID. Split spoons advanced manually; driven via sledge hammer. Soil sample SB-81 (4-6') submitted to IEA for VOC, TIC and Bulk Density analyses and MS/MSD.	Water Levels		
		Date / Time	Elevation	Depth
		4/17/97		
		NA	NA	NA
NA	NA	NA		

Start/Finish: 08/27/97 - 08/27/97 Company: Parratt-Wolff, Inc. Operator's Name: Layne Petch, Mickey Marshall Drilling Method: Direct Push Rig Type: Ingersoll Rand A-200 Spoon Size: 2-in	Northing: 3445.718 Easting: 3620.949 Borehole Depth: 18.0 ft. Ground Surface Elev.: 141.59 ft. Geologist: Jeff D. Conrad	Boring No.: SB-88 Client: Solutia Inc. Location: Indian Orchard Plant-SDWA2-Gate 2 Springfield, MA
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
										GROUND SURFACE	
140		(0-2')	NA	NA	1.1	0.0				Dark brown fine to medium SAND, trace fine angular Gravel, moist. (FILL)	Backfilled with soil cuttings.
		(2-4')	NA	NA	1.3	0.0				Grades to tan/brown with trace fine to medium rounded Gravel.	
5		(4-8')	NA	NA	1.8	0.0				Grades to brown with little Silt and trace Clay.	
	85	(6-8')	NA	NA	1.3	0.0				Brown/gray medium to coarse SAND, wet. (FILL)	
		(8-10')	NA	NA	0.5	NA				Brown SILT layer with trace PVC.	
	10	(10-12')	NA	NA	0.3	287				Brown fine to medium SAND, trace white PVC and fibrous cloth, loose, wet, slight odor. (FILL)	
	80	(12-14')	NA	NA	1.3	9.4				Brown fine SAND with plastic fragments, trace soft rubber and plastic electrical wire wrap fragments, black staining. (FILL)	
		(14-16')	NA	NA	1.1	6.4				Brown/tan fine to very fine SAND, moist. (Native Soil)	
5										Grades to wet.	



Remarks:

Saturated Zones		
Date / Time	Elevation	Depth

Orchard Plant-SDWA2-Gate 2
 Springfield, MA

Boring No. SB-88

Total Depth = 18.0 ft.

Inc.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
27		(14-18")		NA	NA	1.1	8.4			Brown/tan fine to very fine SAND, wet.	Backfilled with soil cuttings.
		(18-18")		NA	NA	2.0	0.0				
28										Boring terminated at 18.0' below grade.	
20											
25											
15											
30											
10											



Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Finish: 1/28/97 - 1/28/97 Company: Parratt-Wolff, Inc. Name: Rick Navatka, Lane Pech Method: HSA/Direct Push Size: 4.25 Type: CME 55 Truck Mount Spoon Size: 2-in.	Northing: 4759.446 Easting: 6697.943 Well Casing Elev.: 140.64 ft. Borehole Depth: 26 ft. Ground Surface Elev.: 141.23 ft. Development Date: 1/31/97 Geologist: Karen A. Goldenberg	Well No. MW-83S Client: Monsanto Company/Nova Chemicals Location: Indian Orchard Plant-Resimines-North Springfield, MA Project: Baseline E.A. RTN:1-11694
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DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 141.23 ft.									GROUND SURFACE	Flush-mounted cover. Cement pad to 10' Below Ground Surface (BGS).
140				NA	NA	1.2	3.0		Brown fine SAND and GRAVEL. Tan fine to medium SAND. Brown fine SAND.	Lockable well cap. Cement/Bentonite Grout (0.60'-4.00' BGS)
				NA	NA	1.5	15.2		Tan fine SAND, 0.1' Brown fine SAND, compact. Grades with little medium Sand.	2-inch schedule 40 PVC (0.59'- 8.00' BGS)
5		MW-83S (5.8-6.0) VOC		NA	NA	1.5	1437			Bentonite seal (4.00'- 6.10' BGS)
85				NA	NA	1.5	149		White very fine SAND. White fine SAND. Gray fine SAND, some Gravel.	
				NA	NA	1.8	147		Brown fine to medium SAND, trace fine Gravel, wet.	Masonry Sand Pack (6.10' - 26.00' BGS)
10				NA	NA	1.8	128		Grades to medium SAND, little fine and coarse Sand, trace fine Gravel.	
				NA	NA	2.0	2.2		Grades to medium to coarse SAND. Red fine SAND, trace Silt, compact. Coarse SAND and fine GRAVEL.	Well Screen, 0.01" Slot (8.00' - 18.00' BGS)
5				NA	NA	2.0	0.0		Brown fine SAND and SILT. Grades to SILT.	

BBL
 BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

Remarks:

Field screening performed with a 10.8 eV PID.
 Soil sample MW-83S submitted to IEA for VOC and TIC analyses (very fine white sand).

Water Levels

Date / Time	Elevation	Depth
1/31/97:1007	136.77	4.46 ↓
2/11/97		4.44 ↓
3/18/97		4.64 ↓

Company/Nova Chemicals

Project
Baseline E.A. RTN1-11694

Well No. MW-83S

Total Depth = 28 ft.

Orchard Plant-Resimines-North
Wilmington, MA

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction
28				NA	NA	2.0	0.0		Thin CLAY seam.	<p>Well Screen, 0.01" Slot (8.00' - 18.00' BGS)</p> <p>Masonry Sand Pack (8.10' - 26.00' BGS)</p>
27				NA	NA	1.5	28.3		Brown SILT and CLAY.	
26				NA	NA	0.8	32.7			
25				NA	NA	2.0	57.6		Red-brown SILT and Clay, trace fine Gravel, compact (TILL).	
24				NA	NA	1.8	8.4			
23				NA	NA	1.0	8.1		Grades to SILT, some fine Sand, little Clay, trace Gravel, very hard (TILL).	
22									End of boring at 28' below grade.	



Remarks:

Field screening performed with a 10.6 eV PID.

Water Levels

Date / Time	Elevation	Depth
1/31/97:1007	136.77	4.46 ↓
2/1/97		4.44 ↓
3/18/97		4.64 ↓

Date: 1/29/97 - 1/29/97 Client: Parratt-Wolff, Inc. Contact: Rick Navatka, Lane Pech Address: HSA/Direct Push Phone: 9.25 Equipment: 55 Truck Mount Casing: 2-in.	Northing: 4865.882 Easting: 6527.735 Well Casing Elev.: 148.94 ft. Borehole Depth: 48.0 ft. Ground Surface Elev.: 148.93 ft. Development Date: 1/31/97 Geologist: Karen A. Goldenberg	Well No. MW-84S Client: Monsanto Company/Nova Chemicals Location: Indian Orchard Plant-Gate 1 Access Rd Springfield, MA Project: Baseline E.A. RTN:1-11694
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DEPTH (ft.)	ELEVATION (ft.)	Analytical ID Number	Sample/In./Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction
									GROUND SURFACE	Flush-mounted cover.
				NA	NA	1	3.8		Brown medium SAND, trace fine to medium Gravel, fine and coarse Sand.	Lockable well cap. Cement pad to 1.0' Below Ground Surface (BGS).
145				NA	NA	12	4.9		Grades to tan to brown fine to coarse SAND, little fine to medium Gravel.	
				NA	NA	10	4.3		Grades with some Gravel.	2-inch schedule 40 PVC (0.43'-12.0' BGS)
				NA	NA	12	3.9		Tan fine to medium SAND.	Cement/Bentonite Grout (0.5'- 8.0' BGS)
140				NA	NA	0.8	3.7		Red brown SILT and fine SAND, trace fine Gravel.	Bentonite seal (8.0'- 10.0' BGS)
				NA	NA	12	2.7		Tan to brown fine SAND and SILT, little to some medium Sand.	
				NA	NA	18	2.5		At 12.3', 0.2' red fine SAND and SILT.	Masonry Sand Pack (10.0' - 48.0' BGS)
				NA	NA	18	2.6		Brown fine to medium SAND, trace coarse Sand and fine Gravel.	Well Screen, 0.01" Slot (12.0'-22.0' BGS)
				NA	NA	18	2.6		Grades to fine to coarse SAND, saturated.	



Remarks:

Field screening performed with a 10.6 eV PID.

Water Levels

Date / Time	Elevation	Depth
1/31/97:1122	138.45	12.48 ↓

Company/Nova Chemicals
 Orchard Plant-Gate 1 Access Rd
 Springfield, MA

Project
 Baseline E.A. RTN1-11694

Well No. MW-84S
 Total Depth = 48.0 ft.

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction
				NA	NA	1.8	2.6		Brown fine SAND and SILT.	<p>Masonry Sand Pack (10.0' - 48.0' BGS) Well Screen, 0.01" Slot (12.0' - 22.0' BGS)</p>
				NA	NA	2.0	0.6		Brown fine to coarse SAND, trace Gravel.	
									Gray fine SAND.	
				NA	NA	1.8	0.6		Brown medium to coarse SAND.	
				NA	NA	1.0	2.5		Brown fine SAND, little Silt.	
				NA	NA	1.8	2.4			
				NA	NA	2.0	3.1			
				NA	NA	2.0	2.6			
				NA	NA	1.8	2.5			
				NA	NA	2.0	2.5			
				NA	NA	2.0	3.2			
				NA	NA	2.0	3.4		Grades with more Silt.	



Remarks:

Field screening performed with a 10.6 eV PID.

Water Levels

Date / Time	Elevation	Depth
V31/97:122	136.45	12.48 ↓

Client:
Monsanto Company/Nova Chemicals

Project:
Baseline E.A. RTN1-11694

Well No. MW-84S
Total Depth = 48.0 ft.

Location:
Indian Orchard Plant-Gate 1 Access Rd
Springfield, MA

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/8 In.	N	Recovery (ft.)	P10/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction	
				NA	NA	2.0	3.4		Fine SAND, little medium Sand, fine Gravel, and Silt.	Masonry Sand Pack (10.0' - 48.0' BGS)	
				NA	NA	1.8	0.0				
10				NA	NA	1.0	0.0				
40				NA	NA	0.0	NA				
				NA	NA	1.0	NA				Fine SAND, little Silt, trace fine Gravel.
105				NA	NA	1.6	NA				Gray compact fine SAND, little medium Sand, some Silt, trace fine Gravel, hard.
45				NA	NA	2.0	2.6				Varved SAND and SILT.
											End of boring at 48.0' below grade.
100											
50											
98											
55											

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Field screening performed with a 10.6 eV PID.

Water Levels

Date / Time	Elevation	Depth
1/31/97:1122	136.45	12.48 ↓

Start/Finish: 1/30/97 - 1/30/97 Company: Parratt-Wolff, Inc. Owner's Name: Rick Navatka, Lane Pech Testing Method: HSA/Direct Push Sampler Size: 4.25 Rig Type: CME 55 Truck Mount Spoon Size: 2-in.	Northing: 4758.780 Easting: 7048.850 Well Casing Elev.: 145.58 ft. Borehole Depth: 28 ft. Ground Surface Elev.: 174.36 ft. Development Date: 1/31/97 Geologist: Karen A. Goldenberg	Well No. MW-85S Client: Monsanto Company/Nova Chemicals Location: Indian Orchard Plant-Gate 1 Access Rd Springfield, MA Project: Baseline E.A. RTN:1-11694
---	--	--

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 174.36 ft.									GROUND SURFACE	4-inch steel protective casing (1.92' AGS) Lockable well cap
				NA	NA	12	14		Brown fine to medium SAND, trace Gravel.	
				NA	NA	0.2	NA		Tan fine to medium SAND.	
170				NA	NA	0.2	22		Trace fine Gravel and coarse Sand.	2-inch schedule 40 PVC (1.72' AGS - 17.00' BGS)
5				NA	NA	0.4	23			
				NA	NA	10	3.4			
85				NA	NA	0.3	15		Brown fine SAND and SILT.	Cement/Bentonite Grout (0.0' - 13.0' BGS)
10				NA	NA	10	0.9		Brown to dark brown fine SAND, some Silt, little medium Sand, trace Gravel.	
				NA	NA	0.2	3.4		Grades with little Gravel.	Bentonite seal (13.0' - 14.9' BGS)
80										

BBL
 BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

Remarks:
 Field screening performed with a 10.6 eV PID.

Water Levels		
Date / Time	Elevation	Depth
1/31/97:1415	158.39	15.97 ↓

...to Company/Nova Chemicals
 ... Orchard Plant—Gate 1 Access Rd
 Springfield, MA

Project
 Baseline E.A. RTN:1-11694

Well No. MW-85S
 Total Depth = 28 ft.

DEPTH	ELEVATION	Analytical ID Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction
				NA	NA	0.2	3.4		Brown to dark brown fine SAND, little tan Sand and Gravel.	
				NA	NA	0.1	NA		Brown medium to coarse SAND, saturated.	
20	85			NA	NA	1.4	18		Grades to brown fine to medium SAND, trace coarse Sand, saturated.	
				NA	NA	2.0	15		Grades to light brown fine SAND, some medium Sand.	
				NA	NA	1.8	4.9		Grades with little coarse SAND, trace fine Gravel.	
25	80			NA	NA	1.8	2.7		Red brown SILT and fine SAND, trace Gravel, hard (TILL).	
				NA	NA	1.9	1.9		Green-gray SILT.	
									Red SILT, some Gravel, hard (TILL).	
	145								End of boring at 28' below grade.	
30										
	140									
35										



Remarks:
 Field screening performed with a 10.8 eV PID.

Water Levels		
Date / Time	Elevation	Depth
1/31/97:1415	158.39	15.97 ↓

Start Date: 1/30/97 - 1/31/97 Company: Parratt-Wolff, Inc. Operator Name: Rick Navatka, Lane Pech Logging Method: HSA/Direct Push Probe Size: 4.25 Log Type: CME 55 Truck Mount Spoon Size: 2-in.	Northing: 4865.620 Easting: 6746.496 Well Casing Elev: 154.52 ft. Borehole Depth: 34 ft. Ground Surface Elev: 154.52 ft. Development Date: 1/31/97 Geologist: Karen A. Goldenberg	Well No. MW-88S Client: Monsanto Company/Nova Chemicals Location: Indian Orchard Plant-Gate I Access Rd Springfield, MA Project: Baseline E.A. RTN:1-11694
--	--	--

DEPTH	ELEVATION	Analytical ID Number	Sample/In./Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction
									GROUND SURFACE	Flush-mounted cover Cement pad to 10' Below Ground Surface (BGS)
				NA	NA	1.4	11		Brown SAND, stained from asphalt.	Lockable well cap
				NA	NA	1.0	4.7		Tan fine to coarse SAND, little fine Gravel, trace medium Gravel.	2-inch schedule 40 PVC (0.30'- 18.00' BGS)
5				NA	NA	0.5	5.2		Grades to red-brown	
				NA	NA	1.0	4.8			
				NA	NA	1.2	4.8			
15				NA	NA	0.9	1.8			
				NA	NA	0.2	2.5		Grades with brown SAND.	Cement/Bentonite Grout (0.3' - 12.5' BGS)
				NA	NA	0.8	2.8			
140				NA	NA	0.8	2.8			Bentonite seal (12.5'- 15.5' BGS)



Remarks:
Field screening performed with a 10.6 eV PID.

Water Levels		
Date / Time	Elevation	Depth
1/31/97:1530	138.91	17.61 ↓

Client:
Monsanto Company/Nova Chemicals

Project:
Baseline E.A. RTN1-11694

Well No. MW-86S

Location:
Indian Orchard Plant-Gate 1 Access Rd
Springfield, MA

Total Depth = 34 ft.

DEPTH	ELEVATION	Analytical ID Number	Sample/Int./Type	Blows/6 In.	N	Recovery (ft.)	PID/FID (ppm) Field Screening	Geologic Column	Stratigraphic Description	Well Construction
				NA	NA	0.8	28		Brown and tan fine to coarse SAND, little fine Gravel, trace medium Gravel.	<p>Masonry Sand Pack (15.5' - 34.0' BGS)</p> <p>Well Screen, 0.0" Slot (18.0' - 28.0' BGS)</p>
				NA	NA	1.4	26		Brown to black fine SAND (stained), some white very fine Sand.	
				NA	NA	1.7	174		Black stained fine SAND and SILT, hard, fragments of red and green rock.	
20	135			NA	NA	2.0	273		Fine SAND. Grades to fine to coarse SAND.	
				NA	NA	NA	236		Grades to fine to medium SAND, little coarse Sand, trace fine to medium Gravel.	
				NA	NA	2.0	413			
				NA	NA	1.8	1623		Fine to medium GRAVEL, SILT and SAND, hard.	
				NA	NA	2.0	1864		Fine to medium SAND, trace Gravel, hard. Grades with more Gravel.	
30	125			NA	NA	1.4	1393		Saturated.	
				NA	NA	1.8	508		Fine to medium GRAVEL, medium to coarse Sand, little fine Sand, trace Silt, hard. Fine to medium SAND, little fine Gravel, hard.	
									Red and gray SILT.	
20									End of boring at 34' below grade.	

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Field screening performed with a 10.6 eV PID.

Water Levels

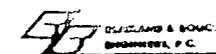
Date / Time	Elevation	Depth
1/31/97:530	138.91	17.81 ↓

DEPTH	SAMPL	SAMPLE N	RECOVER (FEET)	N	SOIL CLASSIFICATION	WELL COLUMN	GEOLOGIC COLUMN	HMU SCREENING		OVA SCREENING				NOTES
								PPM	PPM	10	100	1,000	10,000	
0														PVC Stick up = 2.08' Steel casing Stick up = 2.40'
	1	1.2	10		Brown fine to medium SAND, with SILT seams, moist, firm, no odor. [FILL]			0	0					Locking 4" diameter protective steel casing installed with cement at 0-2.0'.
	2	1.5	12					.2	0					
5	3	2.0	14					0	1					Bentonite slurry 2.0'-16.0'
	4	2.0	19					.2	.5					
	5	1.5	13					0	0					
10	6	2.0	26		Red SILT and fine to coarse SAND, trace cobbles, very wet, hard, no odor. Water table at 11.5'.			0	0					Masonry sand pack 30' - 16'.
	7	1.0	45					0	1					PVC .01 slot screen set at 28' - 18'.
15	8	1.5	47					0	0					
	9	.5	50					0	2					
	10	2.0	27					0	1.5					
20	11	2.0	5		Brown medium to coarse SAND, wet, firm, no odor.			0	1.0					
	12	2.0	24					0	0					
25	13	2.0	36		Gray fine SAND, wet, firm, no odor.			0	1					
	14	1.0	37					0	3					
	15	1.5	97		Red SILT, some fine to coarse SAND, wet, hard, no odor. [GLACIAL TILL]			0	2					Backfill 28'-30'.
30					Boring Terminated @ 30.0'									Standard split spoon samples 2.5' long 2" diameter split spoon driven with 140 lb. hammer 30".

BORE ELEVATION 143.4'
 DATE INSTALLED 6-19-85
 DATE OF TEST 8-19-85
 TEST METHOD 100 lb. Split Spoon

PROJECT NO. 162-12-02
 PROJECT TITLE Monsanto Tank Assessment
 ADDRESS Bldg. 81
 CLASSIFIED BY CSS CHECKED BY CSS

SUBSURFACE LOG



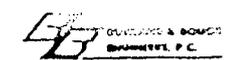
B. J. BING
 ENGINEER

DEPTH	SAMPL	SAMPLE #	RECOVER (FEET)	N	SOIL CLASSIFICATION	WELL COLUMN	GEOLOGIC COLUMN	HNU SCREENING		OVA SCREENING				NOTES
								RPM	RPM	10	100	1,000	10,000	
0														PVC stick-up = 2.01' Steel casing stick-up = 2.12'
	1	.4	7		Brown SILT and fine SAND, moist, firm, odor with concrete, brick (FILL)			0	0					Locking 4" diameter protective steel casing installed with cement @ 0-2.0'
	2	.1	62					.6	2					Bentonite slurry, 2.0'-12.0'
5	3	1.2	26		-grades wet with slight odor.			.2	1					Masonry sand pack 12.0'-23.0'
	4	.5	28		Brown SILT, Fine SAND and angular fine to coarse GRAVEL, little fine to coarse SAND, wet, slight odor.			1	6					PVC.01 slot screen set at 23.0'-13.0'.
	5	1.1	31		Water Table at 7.8			.2	3					
10	6	1.3	39		-grading to moderate odor			.4	3					
	7	2.0	17					.6	3					
15	8	1.1	33		Gray fine SAND, varved with trace SILT, wet, firm, odor.			0	18					
	9	1.0	39					0	10					
	10	1.5	10					0	3					
20	11	2.0	18					0	30					
	12	2.0	9		grades to fine to medium SAND with odor, wet.			0	18					
25	13	2.0	45					0	50					
	14	2.0	34					0	80					Backfill and Bentonite pellets 42.2'-23.0'.
	15	2.0	75					0	10					
30	16	0	75					-	-					2.5 foot long, 2 inch diameter Split spoon sampler driven by dropping 140 lb. hammer 30 inch.
	17	0	50/2					-	-					
35	18	1.8	78		grade to gray medium SAND, interbedded with Red TILL partings, trace odor, compact.			.2	200					
	19	2.0	65					.4	50					
	20	2.0	75					.4	80					
40	21	1.0	54		Red SILT, fine to medium SAND, trace coarse SAND, wet, trace odor. (GLACIAL TILL)			0	30					
	22	1.0	50/2		Working Hand/Flashed at 42.2'			0	2					

SURFACE ELEVATION 140.6'
 DATE STARTED 8-19-65
 DATE COMPLETED 8-19-65
 METHOD USED P.C. ON 8" DIA. CASING

Project No. 102-12-02
 Investigator Monsanto Tank Investigation
 Operator B. G. B.
 QUALIFIED BY CSS CHECKED BY CSS

SUBSURFACE, INC.



BIRMINGHAM, ALA.
 35202

Date Start/Finish: 12/13/94
 Drilling Company: Parrot-Wolff, Inc.
 Driller's Name: Rick Navatka
 Drilling Method: Geoprobe

Rig Type: Ingersoll Rand A-200
 Spoon Size: 2"
 Borehole Depth: 10'
 Geologist: Ronald Kuhn

Boring No. SB-57
 Client: Monsanto Co.
 Location: Dirty Sewer D-233
 Project: East Sewer Investigation

Sample Depth (ft)	Recovery (ft)	PID (ppm) 11.7 ev.	Stratigraphic Description
			GROUND SURFACE
0-2	1.8	6	0-0.4' Black Asphalt 0.4-1.8' Brown coarse to fine SAND, little coarse to fine Gravel, damp.
2-4	0.4	4	2.0-2.4' Brown coarse to fine SAND, trace fine Gravel, damp.
4-5#	1.0	NA	4.0-5.0' Concrete Water table @ approximately 5.0'.
5-7*	0.8	3	5.0-5.6' Brown coarse to fine SAND and medium to fine GRAVEL, saturated.
7-9	1.6	3	7.0-8.6' Red fine SAND and SILT, trace medium to fine Gravel, moist. (TLL)
9-10	1.0	0	9.0-10.0' Red fine SAND and SILT, trace medium to fine Gravel, moist. (TLL)

Remarks:
 Boring terminated at 10.0'.
 Temporary PVC Schedule 40, 0.01" slot screen set at 9.5' below grade.
 * - Lab soil sample taken at 5.0-7.0 ft. below grade.
 # - Water table encountered at approximately 5.0' below grade.

Attachment 2

Geotechnical Testing Results

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

September 22, 1997



Ms. Caron Koll
Blasland, Bouck and Lee, Inc.
6723 Towpath Road
Box 66
Syracuse, New York 13214-0066

Re: L-97002
Laboratory Testing
Monsanto/Solutia
Project No. 102.58.002

Dear Ms. Koll:

Enclosed are the results of laboratory testing performed at your request on five jar soil samples delivered to our laboratory on September 2, 1997 for the above referenced project. Results include:

- | | |
|-------------------------------------|--------|
| 1. Sieve Analysis ASTM D422 & D1140 | 5 each |
| 2. Hydrometer Analysis ASTM D422 | 5 each |
| 3. Atterberg Limits ASTM D4318 | 5 each |

All requested tests have been completed on the previously received sample(s) for the above project. All sample remains are scheduled to be disposed of on October 22, 1997. Please notify Parratt-Wolff, Inc. by letter or telephone prior to October 22, 1997 if you would prefer to pick up the sample(s) or that the sample(s) be retained by Parratt-Wolff, Inc. for an additional period of time.

Thank you for this opportunity to work with you.

Very truly yours,

PARRATT - WOLFF, INC.

A handwritten signature in cursive script that reads 'Donald P. Blasland'. There is a circled '107' written below the signature.

Donald P. Blasland, SET
V.P. - Laboratory & Field Services
DPB/bap

encs:

cc: Mr. Kelvin Kwong
Solutia/Monsanto
30 Worcester St.
Springfield, Massachusetts 01151-1089

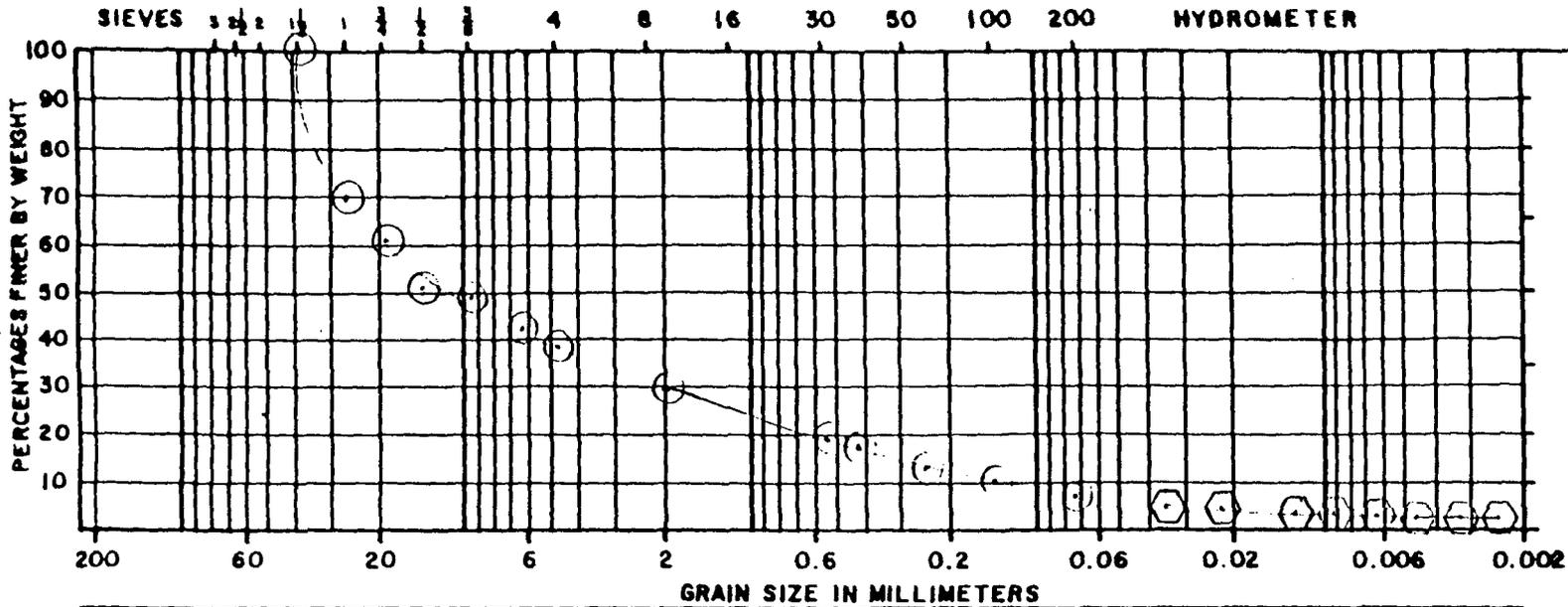
September 22, 1997

L-97002
Laboratory Testing
Monsanto/Solutia
Project No. 102.58.002

ATTERBERG LIMITS
ASTM D4318

Lab ID#	Boring #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
10121	SB 89	5.0-7.0	Non-Plastic	--	--
10122	SB 83	4.0-6.0	Non-Plastic	--	--
10123	SB 89 ⁺	10.0-14.0	Non-Plastic	--	--
10124	SB 89 ⁺	4.0-8.0	Non-Plastic	--	--
10125	SB 83	8.0-10.0	Non Plastic	--	--

GRAIN SIZE ANALYSIS



BOULDERS COBBLES	C	GRAVEL			F	SAND			SILT-CLAY SOIL		
		M			C	M	F				

228	76.2	25.4	9.52	2.0	0.59	0.25	0.074	MM.	OPENING
9 in.	3 in.	1 in.	3/8 in.	No. 10	30	60	200		SIEVE

L-97002	Lab I.D. # 10121
Laboratory Testing	Boring #: SB 89
Monsanto/Solutia	Depth: 5.0'-7.0'
Project No. 102.58.002	
Sieve Analysis ASTM D422 & D1140 Hydrometer Analysis ASTM D422	

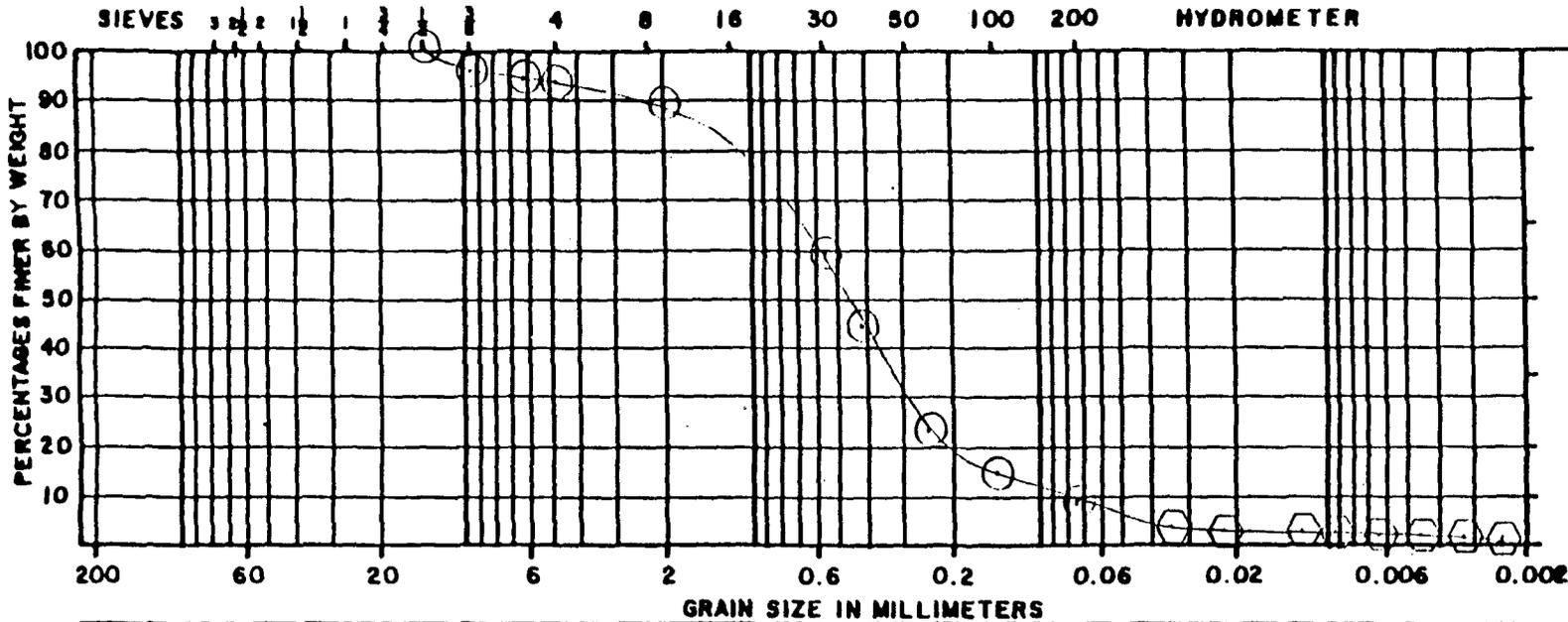
115-58 RD EAST SYRACUSE, N.Y. 13057
 TELEPHONE AREA CODE 315-437-1429



**parratt
wolf fine**

SOIL CONCEPTS

GRAIN SIZE ANALYSIS



BOULDERS COBBLES	GRAVEL			SAND			SILT-CLAY SOIL
	C	M	F	C	M	F	
228	76.2	25.4	9.52	2.0	0.59	0.25	0.074 MM.
9 in.	3 in.	1 in.	3/8 in.	No. 10	30	60	200
							OPENING SIEVE

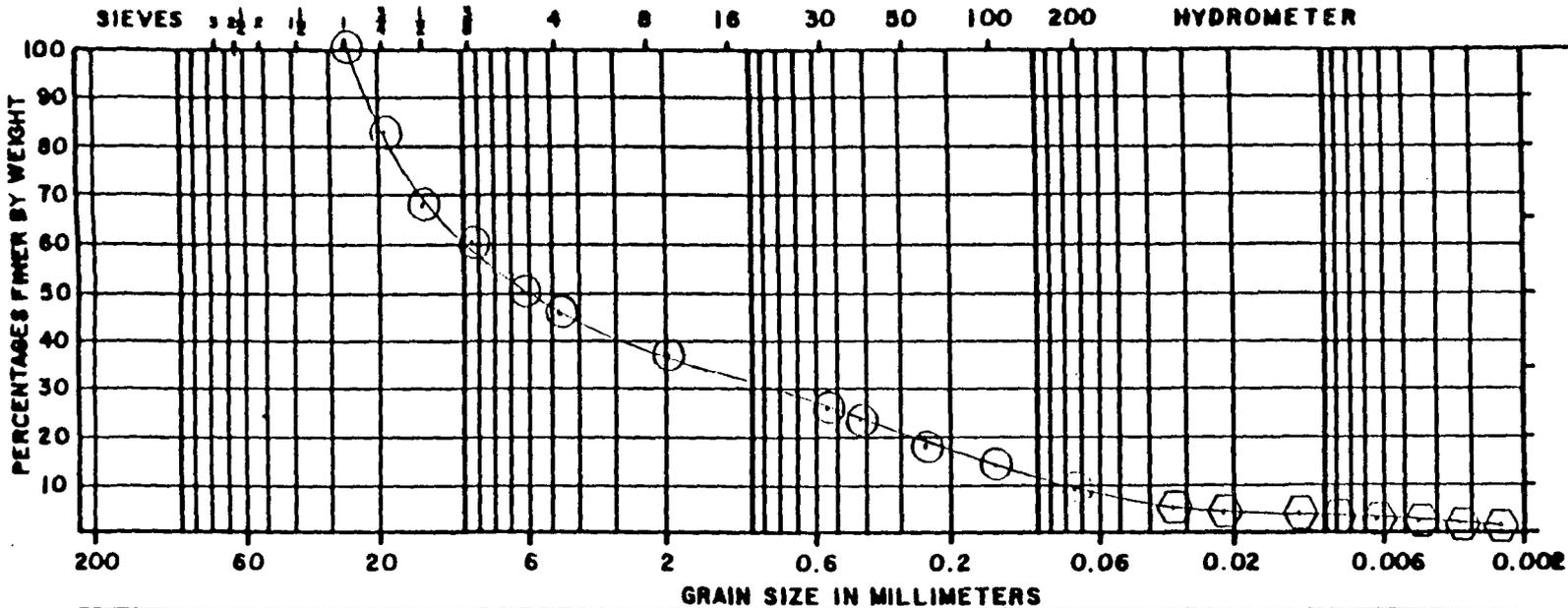
L-97002	Lab I.D. # 10122
Laboratory Testing	Boring #: SB 83
Monsanto/Solutia	Depth: 4.0'-6.0'
Project No. 102.58.002	
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115-ER RD EAST SYRACUSE, N.Y. 13057
 TELEPHONE AREA CODE 315-437-1429



REPORT NO. 2
 SCALE 1:1
 L-97

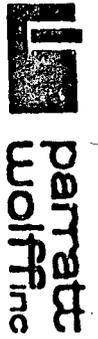
GRAIN SIZE ANALYSIS



BOULDERS COBBLES	GRAVEL			2.0	SAND			0.074 MM.	SILT-CLAY SOIL
	C	M	F		C	M	F		
228	76.2	25.4	9.52	2.0	0.59	0.25	0.074	MM.	OPENING
9 in.	3 in.	1 in.	3/8 in.	No. 10	30	60	200		SIEVE

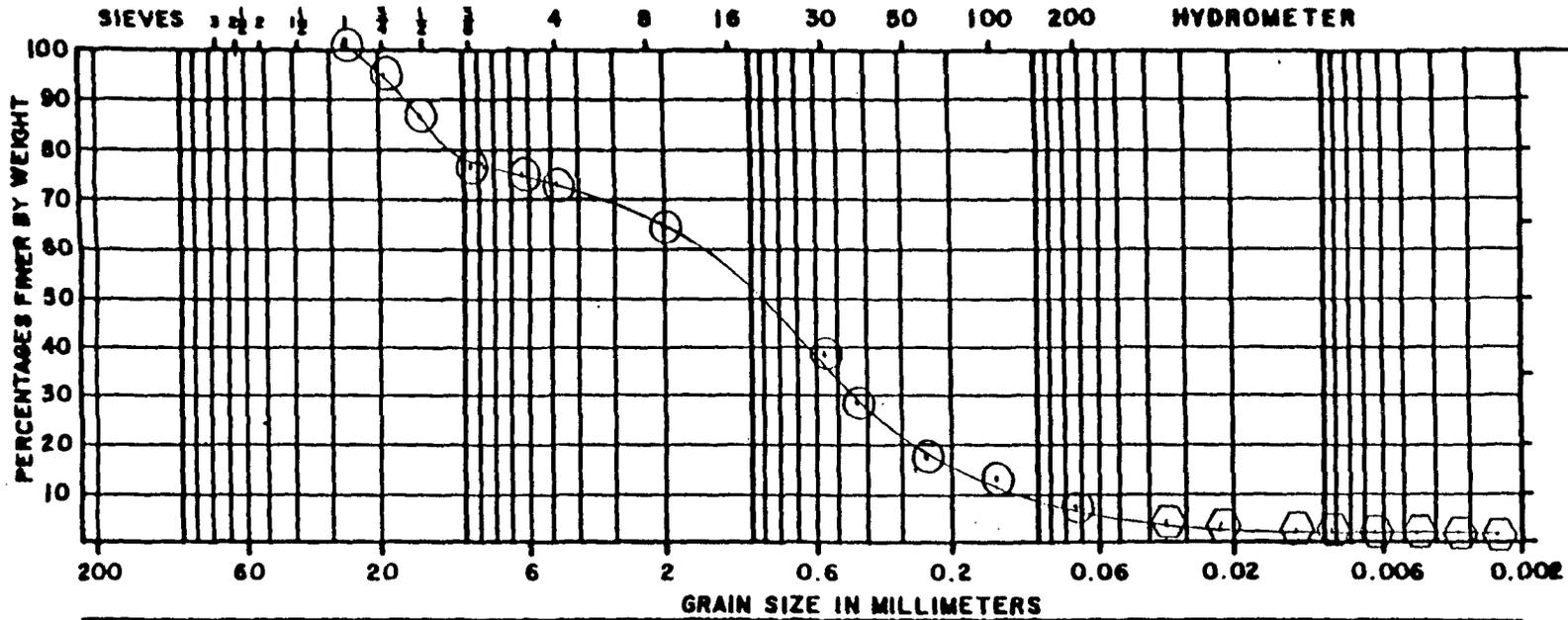
L-97002	Lab I.D. # 10124
Laboratory Testing	Boring #: SB 89-1
Monsanto/Solutia	Depth: 4.0'-8.0'
Project No. 102.58.002	
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PARRATT
 WOLFF INC.
 115-ER RD. EAST SYRACUSE, N.Y. 13057
 TELEPHONE AREA CODE 315-437-1429



SEP 21 1989
 REPORT NO. 102.58.002
 SHEET NO. 1 OF 1

GRAIN SIZE ANALYSIS



BOULDERS COBBLES	GRAVEL			SAND	SILT-CLAY SOIL	
	C	M	F		C	F
228	76.2	25.4	9.52	2.0	0.59	0.25
9 in.	3 in.	1 in.	3/8 in.	No. 10	30	60
				0.074 MM.		
				200		
						OPENING SIEVE

L-97002	Lab I.D. # 10125
Laboratory Testing	Boring #: SB 83
Monsanto/Solutia	Depth: 8.0'-10.0'
Project No. 102.58.002	
○ Sieve Analysis ASTM D422 & D1140	
○ Hydrometer Analysis ASTM D422	

FISHER RD. EAST SYRACUSE, N.Y. 13057
 TELEPHONE AREA CODE 315/437-1429



SEP 11 1983
 7002

Attachment 3

Hydraulic Conductivity Test Results

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

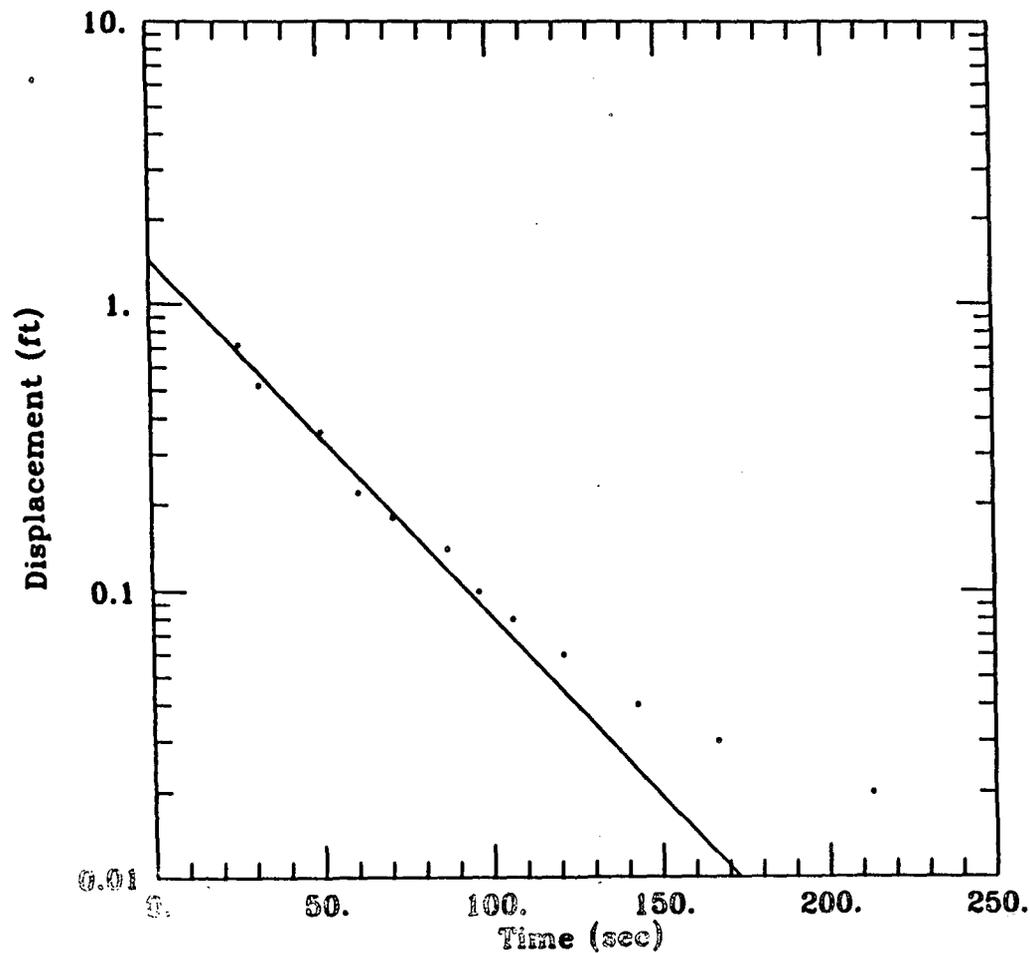
Client: Solutia, Inc.

Company: Blasland, Bouck & Lee, Inc.

Location: Springfield, MA

Project: 102.58.002

MW-87S Rising Head Test



DATA SET:

MW87S.PAR
09/02/97

AQUIFER MODEL:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

PROJECT DATA:

test date: 08/29/97
test well: MW-87S
obs. well: MW-87S

TEST DATA:

H0 = 1.43 ft
rc = 0.08333 ft
rw = 0.2917 ft
L = 9.82 ft
b = 9.82 ft
H = 9.82 ft

PARAMETER ESTIMATES:

K = 0.0001184 ft/sec
y0 = 1.433 ft

Bailer/Slug Computation Spreadsheet

by Jeff D. Conrad, 1996.

Project: Monsanto

Project Number: 102.58.002

Dimensions

Length	2.83 ft			
Outer Diameter (ID)	1.50 in	0.125 ft		
X-S Area	0.01227185 ft ²			
Volume	0.03477023 ft ³	0.2600994 gal	0.983998 L	983.99754 mL

Well Dimensions

Inner casing diameter	2.00 in	0.1666667 ft		
Sandpack diameter	7.00 in	0.5833333 ft		
Porosity	0.30			
Inner casing X-Sectional Area	0.02181662 ft ²			
Sandpack X-Sectional Area (total)	0.26725354 ft ²			
Sandpack X-Sectional Area (pores)	0.08017606 ft ²			

Balling

Instantaneous drawdown in inner casing	19.125 in	1.59375 ft		
Instantaneous drawdown in sandpack	0 in	0 ft		
Equilibrated drawdown in inner casing	4.09090909 in	0.3409091 ft		
Equilibrated drawdown in sandpack	4.09090909 in	0.3409091 ft		

Attachment 4

VOC Soil Screening Results

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

BBL/Monsanto Co./Solutia, Inc. Volatile Screening Results

Sample ID Date Collected Date Analyzed	SB82 0-2 8/25/97 8/26/97	SB82 2-4 8/25/97 8/26/97	SB82 4-6 8/25/97 8/26/97	SB82 6-8 8/25/97 8/26/97	SB82 8-10 8/25/97 8/26/97	SB82 10-12 8/25/97 8/26/97	SB83 0-2 8/25/97 8/26/97	SB83 2-4 8/25/97 8/26/97
COMPOUND UG/KG WET WEIGHT								
Vinyl Chloride	<50	<50	<50	<50	<50	<50	<50	<50
Trans-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50
Cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50
Trichloroethene	200	<50	<50	<50	<50	<50	650	500
Surrogate recovery	81%	96%	95%	103%	92%	101%	96%	97%
Dilution	50	50	50	50	50	50	50	50
Method: Samples analyzed using EPA Method 8021 (modified) from SW-846 Sept. 1996								

BBL/Monsanto Co./Solutia, Inc. Volatile Screening Results

Sample ID Date Collected Date Analyzed	SB83 4-6 8/25/97 8/26/97	SB83 6-8 8/25/97 8/26/97	SB83 8-10 8/25/97 8/26/97	SB83 10-12 8/25/97 8/26/97	SB83 12-14 8/25/97 8/26/97	SB83 14-16 8/25/97 8/26/97
COMPOUND UG/KG WET WEIGHT						
Vinyl Chloride	50	15000E	3800E	7200E	120	160
Trans-1,2-Dichloroethene	<50	170	<50	<50	<50	<50
Cis-1,2-Dichloroethene	<50	6200E	670	2100	78	<50
Trichloroethene	280	3800E	710	2100	140	<50
Surrogate recovery	98%	96%	96%	NR	89%	102%
Dilution	50	50	50	50	50	50
Method: Samples analyzed using		E= EXCEEDED RANGE	E= EXCEEDED RANGE	E= EXCEEDED RANGE		
EPA Method 8021 (modified) from		ESTIMATED VALUE	ESTIMATED VALUE	ESTIMATED VALUE		
SW-846 Sept. 1996						

BBL/Monsanto Co./Solutia, Inc. Volatile Screening Results

Sample ID	SB84 00-02	SB84 02-04	SB84 04-06	SB84 06-08	SB84 08-10	SB84 10-12	SB84 12-14	SB84 14-16
Date Collected	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97
Date Analyzed	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97
COMPOUND UG/KG WET WEIGHT								
Vinyl Chloride	<50	<50	<50	<50	<50	<50	<50	<50
Trans-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50
Cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50
Trichloroethene	88	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene	<50	<50	<50	100	85	250	<50	<50
Surrogate recovery ELCD/PID	84%/80%	93%/88%	102%/101%	110%/104%	93%/98%	106%/104%	98%/95%	102%/103%
Dilution	50	50	50	50	50	50	50	50
Method: Samples analyzed using								
EPA Method 8021 (modified) from								
SW-846 Sept. 1996								

BBL/Monsanto Co./Solutia, Inc. Volatile Screening Results

Sample ID	SB85 0-2	SB85 2-4	SB85 4-6	SB85 6-8	SB85 8-10	SB85 10-12	SB85 12-14	MW87 0-2
Date Collected	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97
Date Analyzed	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97
COMPOUND UG/KG WET WEIGHT								
Vinyl Chloride	<50	<50	<50	50	190	<50	<50	<50
Trans-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50
Cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50
Trichloroethene	1400	1900	1000	380	<50	<50	<50	<50
Ethylbenzene	<50	<50	<50	180	8800	580	170	<50
Surrogate recovery ELCD/PID	101%/102%	97%/99%	99%/101%	86%/79%	104%/95%	93%/86%	85%/75%	95%/89%
Dilution	50	50	50	50	50	50	50	50
Method: Samples analyzed using EPA Method 8021 (modified) from SW-846 Sept. 1996								

BBL/Monsanto Co./Solutia, Inc. Volatile Screening Results

Sample ID	MW87 2-4	MW87 4-6	MW87 6-8	MW87 8-10	MW87 10-12	MW87 12-14	MW87 14-16
Date Collected	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97	8/26/97
Date Analyzed	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97	8/27/97
COMPOUND UG/KG WET WEIGHT							
Vinyl Chloride	<50	<50	<50	<50	<50	<50	<50
Trans-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50
Cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50
Trichloroethene	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene	<50	<50	880	3400	610	2500	1400
Surrogate recovery ELCD/PID	104%/97%	108%/97%	92%/90%	98%/100%	96%/99%	99%/100%	101%/100%
Dilution	50	50	50	50	50	50	50
Method: Samples analyzed using							
EPA Method 8021 (modified) from							
SW-846 Sept. 1996							

BBL/Monsanto Co./Solutia, Inc. Volatile Screening Results

Sample ID	MW87 16-18	MW87 18-20					
Date Collected	8/26/97	8/26/97					
Date Analyzed	8/27/97	8/27/97					
COMPOUND UG/KG WET WEIGHT							
Vinyl Chloride	<50	<50					
Trans-1,2-Dichloroethene	<50	<50					
Cis-1,2-Dichloroethene	<50	<50					
Trichloroethene	<50	<50					
Ethylbenzene	60	600					
Surrogate recovery ELCD/PID	99%/99%	88%/86%					
Dilution	50	50					
Method: Samples analyzed using							
EPA Method 8021 (modified) from							
SW-846 Sept. 1996							

Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 01085
(413)572-3200 fax(413)572-3215



Client: BB+L Job#/Proj. Manager: 10258.002 Caren Koll Workorder # _____ COC # _____

Address: 6723 Toupath Rd Work ID: _____
Syracuse, NY 13214 Contact: _____

Phone: (315) 446-9120 Collected by: JDL

Requested Turn Around Time (✓) Special Detection Limits?(✓) Special QA/QC? (✓)

24 hr. 1 wk. Other Yes No Yes No

48 hr. 2 wk. Specify: ASAP Specify: _____ Specify: _____

Shaded areas for office use

Analysis Requested

Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)

1. please send results ASAP to Kelvin Kwong @ Monsanto Co / Suffolk
FAX: (413) 730-3299
phone (413) 727-2447

AND
Caren Koll
BB+L
FAX: (315) 449-2353
phone (315) 446-9120

Sample Type Codes				Preservative																																													
WW-Wellwater		W-Wastewater		SW-Surfacewater		LW-Labwater				Plastic(P) or Glass(G)		Na2SO3		HNO3 to pH <2		H2SO4 to pH <2		HCl to pH <2		NaOH to pH >12		Other		4° C		pH		Volatiles		Semivolatiles		PCB & Pesticides		Metals		Cyanide		TCLP		Oil & Grease		Total Pet. Hyd. (TPH)		General Chemistry		Bacteriological		Other	
RW-Raw Water		GW-Groundwater		PW-Public Water		SO-Soil																																											
S-Solid		SL-Sludge		O-Oil		A-Air		Z-Other																																									
Fraction	Sample ID	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers																																											
Use one line per container For volatiles-one line/analysis																																																	
	SB85(04-06)	SO	8-26-97 1145	✓	✓	1																																											
	SB85(06-08)	SO	8-26-97 1150	✓	✓	1																																											
	SB85(08-10)	SO	8-26-97 1153	✓	✓	1																																											
	SB85(10-12)	SO	8-26-97 1200	✓	✓	1																																											
	SB85(12-14)	SO	8-26-97 1210	✓	✓	1																																											
	MW87(00-02)	SO	8-26-97 1425	✓	✓	1																																											
	MW87(02-04)	SO	8-26-97 1430	✓	✓	1																																											
	MW87(04-06)	SO	8-26-97 1440	✓	✓	1																																											
	MW87(06-08)	SO	8-26-97 1450	✓	✓	1																																											
	MW87(08-10)	SO	8-26-97 1512	✓	✓	1																																											

Requested by: <u>[Signature]</u> Date: <u>8-27-97</u> Time: <u>0730</u>	Received by: <u>[Signature]</u> Date: <u>8-27-97</u> Time: <u>0730</u>	Cooler # _____
Requested by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____	Temp _____
Requested by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____	Pressure _____
Requested by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____	By _____

BBL/Monsanto Co./Solutia, Inc. Volatile Screening Results

Sample ID	SB89 1-3	SB89 3-5	SB89 5-7	SB89 7-9	SB89 9-11	SB89 11-13	SB89 13-15	
Date Collected	8/28/97	8/28/97	8/28/97	8/28/97	8/28/97	8/28/97	8/28/97	
Date Analyzed	8/28/97	8/28/97	8/28/97	8/28/97	8/28/97	8/28/97	8/28/97	
COMPOUND UG/KG WET WEIGHT								
Vinyl Chloride	<50	<50	<50	<50	<50	<50	<50	
Trans-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	
Cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	
Trichloroethene	<50	<50	<50	<50	<50	<50	<50	
Ethylbenzene	<50	<50	<50	<50	<50	<50	<50	
Surrogate recovery ELCD/PID	84%/74%	95%/91%	115%/101%	103%/101%	93%/93%	101%/103%	NR/96%	
Dilution	50	50	50	50	50	50		
Method: Samples analyzed using								
EPA Method 8021 (modified) from								
SW-846 Sept. 1996								

Chain of Custody Form

53 Southampton St. W. 01106
Tel: (617) 252-2200

Client: BB&L Job#/Proj. Manager: 10258.002
 Address: 6723 Woodside Rd Work ID: CarenKoll
Spartanburg, NY 13214
 Phone: (315) 446-9120 Contact: _____
 Collected by: JDC

Requested Turn Around Time (✓) Special Detection Limits? (✓) Special QA/QC? (✓)
 24 hr. 1 wk. Other Yes No Yes No
 48 hr. 2 wk. Specify: ASAP Specify: _____

Sample Type Codes				Preservative														Other	PID				
WW-Wellwater	W-Wastewater	SW-Surfacewater	LW-Labwater	Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH <2	NaOH to pH >12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP			Oil & Grease	Total Pet. Hyd. (TPH)	General Chemistry	Bacteriological
RW-Raw Water	GW-Groundwater	PW-Public Water	SO-Soil																				
S-Solid	SL-Sludge	O-Oil	A-Air	Z-Other																			
Fraction	Sample ID Use one line per container For volatiles-one line/analysis	Sample Type	Date Time Collected	Grab(✓) Comp(✓)	# containers	Plastic(P) or Glass(G)																	
	SB 89(01-03)	SO	8-28-97 0810	✓	1						✓	✓											12
	SB 89(03-05)	SO	8-28-97 0815	✓	1						✓	✓											0.3
	SB 89(05-07)	SO	8-28-97 0820	✓	1						✓	✓											1.0
	SB 89(07-09)	SO	8-28-97 0825	✓	1						✓	✓											0.3
	SB 89(09-11)	SO	8-28-97 0830	✓	1						✓	✓											0.3
	SB 89(11-13)	SO	8-28-97 0835	✓	1						✓	✓											0.3
	SB 89(13-15)	SO	8-28-97 0840	✓	1						✓	✓											0.3
	SB 89(15-17)	SO	8-28-97	✓	1						✓	✓											

Handwritten notes:

relayed to Kelvin Kwongs
 Monsanto/Solutia
 Fax: (413) 730-32
 Phone (413) 727-244
 AND
 Caren Koll
 BB&L
 Fax: (315) 449-23
 Ph. (315) 446 9120

Relinquished by: <u>[Signature]</u> Date: <u>8-28-97</u> Time: <u>0912</u>	Received by: <u>[Signature]</u> Date: <u>8-28-97</u> Time: <u>0912</u>
Relinquished by: <u>[Signature]</u> Date: <u>8-28-97</u> Time: <u>0940</u>	Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____
Method of shipment: <u>drop off @ Solutia</u>	Laboratory: _____

Cooler #: Cooler #
 Temp. @ receipt: 2.4°C
 Preservation pH checked
 By: _____ Date: _____

JDC

Attachment 5

Laboratory Analytical Results

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



IEA

An Aquarion Company

200 Monroe Turnpike
Monroe, Connecticut 06468

Phone 203-261-4458
Fax 203-268-5346

American Environmental Network

May 09, 1997

Ms. Caron Koll
BLASLAND, BOUCK & LEE
6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Dear Ms. Koll:

Please find enclosed the analytical results of 13 samples received at our laboratory on April 17-18, 1997. This report contains sections addressing the following information at a minimum:

- . sample summary
- . analytical methodology
- . state certifications
- . definition of data qualifiers and terminology
- . analytical results
- . chain-of-custody

IEA Report #	7097-0875A
Project ID:	MONSANTO-INDIAN ORCHARD
Purchase Order #	844070

Copies of this analytical report and supporting data are maintained in our files for a minimum of five years unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory location and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact your customer service representative at (203) 261-4458 for any additional information. Thank you for utilizing our services; we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Very truly yours,

Jeffrey C. Curran
Laboratory Manager

JCC

cc: K. Kwong
Schaumburg, M. Garvey
Illinois
847-705-0740

N. Billerica,
Massachusetts
508-687-1400

Whippany,
New Jersey
201-428-8181

Carroll,
North Carolina
919-677-0090



printed on recycled paper

7097-0875A
BLASLAND, BOUCK & LEE

Case Narrative

Volatile Organics - Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 8260A. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995/5972A GC/MS/DS.

The following samples were analyzed as medium level soils due to high target compound concentrations:

SB-72(5.6-5.8)	STR
SB-73(5.4-5.7)	1:2
SB-74(5.6-6.0)	1:10
SB-78(5.4-5.8)	STR
SB-77(5.8-6.0)	1:2

No problems were encountered.

TABLE VO-1.5
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB-72(5 .6-5.8)		Quant. Limits with no Dilution
Lab Sample I.D.	VBLKE5	970875A-01		
Method Blank I.D.	VBLKE5	VBLKE5		
Quant. Factor	1.00	1.25		
Chloromethane	U	U		1200
Bromomethane	U	U		1200
Vinyl Chloride	U	12000		1200
Chloroethane	U	U		1200
Methylene Chloride	U	U		620
Acetone	U	5600		1200
Carbon Disulfide	U	U		620
Vinyl Acetate	U	U		1200
1,1-Dichloroethene	U	U		620
1,1-Dichloroethane	U	U		620
1,2-Dichloroethene (total)	U	1300		620
Chloroform	U	U		620
1,2-Dichloroethane	U	9100		620
2-Butanone	U	U		1200
1,1,1-Trichloroethane	U	U		620
Carbon Tetrachloride	U	U		620
Bromodichloromethane	U	U		620
1,2-Dichloropropane	U	U		620
cis-1,3-Dichloropropene	U	U		620
Trichloroethene	U	30000		620
Dibromochloromethane	U	37J		620
1,1,2-Trichloroethane	U	70J		620
Benzene	U	U		620
trans-1,3-Dichloropropene	U	U		620
Bromoform	U	2000		620
4-Methyl-2-Pentanone	U	U		1200
2-Hexanone	U	U		1200
Tetrachloroethene	U	54J		620
Toluene	U	840		620
1,1,2,2-Tetrachloroethane	U	100J		620
Chlorobenzene	U	U		620
Ethylbenzene	U	4800		620
Styrene	U	U		620
Xylene (total)	U	24J		620
Date Received		04/17/97		
Date Extracted	N/A	N/A		
Date Analyzed	04/22/97	04/22/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.6
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

SCL
Method

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB-73 (5 .4-5.7)	SB-74 (5 .6-6.0)	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKG3	970875A-02	970875A-03	
Method Blank I.D.	VBLKG3	VBLKG3	VBLKG3	
Quant. Factor	1.00	2.56	20.0	
Chloromethane	U	U	U	1200
Bromomethane	U	U	U	1200
Vinyl Chloride	U	7900	410000	1200
Chloroethane	U	U	U	1200
Methylene Chloride	U	U	U	620
Acetone	U	U	U	1200
Carbon Disulfide	U	U	U	620
Vinyl Acetate	U	U	U	1200
1,1-Dichloroethene	U	U	U	620
1,1-Dichloroethane	U	U	U	620
1,2-Dichloroethene (total)	U	58000	110000	620
Chloroform	U	U	U	620
1,2-Dichloroethane	U	2000	95000	620
2-Butanone	U	U	U	1200
1,1,1-Trichloroethane	U	U	U	620
Carbon Tetrachloride	U	U	U	620
Bromodichloromethane	U	U	U	620
1,2-Dichloropropane	U	U	U	620
cis-1,3-Dichloropropene	U	U	U	620
Trichloroethene	U	7100	90000	620
Dibromochloromethane	U	U	U	620
1,1,2-Trichloroethane	U	U	U	620
Benzene	410J	740JB	U	620
trans-1,3-Dichloropropene	U	U	U	620
Bromoform	U	U	U	620
4-Methyl-2-Pentanone	U	U	U	1200
2-Hexanone	U	U	U	1200
Tetrachloroethene	U	U	U	620
Toluene	320J	460JB	U	620
1,1,2,2-Tetrachloroethane	U	U	U	620
Chlorobenzene	U	270J	U	620
Ethylbenzene	U	U	U	620
Styrene	U	U	U	620
Xylene (total)	U	U	U	620
Date Received		04/17/97	04/17/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	04/23/97	04/23/97	04/23/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

5011

TABLE VO-1.1
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB-75(4-6)		Quant. Limits with no Dilution
Lab Sample I.D.	VBLKB7	970875A-04		
Method Blank I.D.	VBLKB7	VBLKB7		
Quant. Factor	1.00	1.10		
Chloromethane	U	U		10
Bromomethane	U	U		10
Vinyl Chloride	U	U		10
Chloroethane	U	U		10
Methylene Chloride	.9J	3JB		5.0
Acetone	U	.7J		10
Carbon Disulfide	U	U		5.0
Vinyl Acetate	U	U		10
1,1-Dichloroethene	U	U		5.0
1,1-Dichloroethane	U	U		5.0
1,2-Dichloroethene (total)	U	U		5.0
Chloroform	U	U		5.0
1,2-Dichloroethane	U	U		5.0
2-Butanone	U	U		10
1,1,1-Trichloroethane	U	U		5.0
Carbon Tetrachloride	U	U		5.0
Bromodichloromethane	U	U		5.0
1,2-Dichloropropane	U	U		5.0
cis-1,3-Dichloropropene	U	U		5.0
Trichloroethene	U	3J		5.0
Dibromochloromethane	U	U		5.0
1,1,2-Trichloroethane	U	U		5.0
Benzene	U	2J		5.0
trans-1,3-Dichloropropene	U	U		5.0
Bromoform	U	U		5.0
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	2J		5.0
Toluene	U	U		5.0
1,1,2,2-Tetrachloroethane	U	U		5.0
Chlorobenzene	U	U		5.0
Ethylbenzene	U	U		5.0
Styrene	U	U		5.0
Xylene (total)	U	U		5.0
Date Received		04/17/97		
Date Extracted	N/A	N/A		
Date Analyzed	04/25/97	04/25/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.7
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

S-11
Medium

All values are ug/Kg dry weight basis.

Client Sample I.D.	SB-76(4-6)			
Lab Sample I.D.	970875A-05			Quant. Limits with no Dilution
Method Blank I.D.	VBLKG3			
Quant. Factor	1.18			
Chloromethane	U			1200
Bromomethane	U			1200
Vinyl Chloride	U			1200
Chloroethane	U			1200
Methylene Chloride	U			620
Acetone	4400			1200
Carbon Disulfide	U			620
Vinyl Acetate	U			1200
1,1-Dichloroethene	U			620
1,1-Dichloroethane	U			620
1,2-Dichloroethene (total)	U			620
Chloroform	U			620
1,2-Dichloroethane	U			620
2-Butanone	U			1200
1,1,1-Trichloroethane	U			620
Carbon Tetrachloride	U			620
Bromodichloromethane	U			620
1,2-Dichloropropane	U			620
cis-1,3-Dichloropropene	U			620
Trichloroethene	110J			620
Dibromochloromethane	U			620
1,1,2-Trichloroethane	U			620
Benzene	U			620
trans-1,3-Dichloropropene	U			620
Bromoform	U			620
4-Methyl-2-Pentanone	U			1200
2-Hexanone	U			1200
Tetrachloroethene	U			620
Toluene	U			620
1,1,2,2-Tetrachloroethane	U			620
Chlorobenzene	U			620
Ethylbenzene	U			620
Styrene	U			620
Xylene (total)	U			620
Date Received	04/17/97			
Date Extracted	N/A			
Date Analyzed	04/23/97			

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.8
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Soil
Medium

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB-77 (5 .8-6.0)	SB-78 (5 .4-5.8)	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKG6	970875A-08	970875A-09	
Method Blank I.D.	VBLKG6	VBLKG6	VBLKG6	
Quant. Factor	1.00	2.41	1.23	
Chloromethane	U	U	U	1200
Bromomethane	U	U	U	1200
Vinyl Chloride	U	47000	150J	1200
Chloroethane	U	U	U	1200
Methylene Chloride	U	U	U	620
Acetone	490J	1800JB	U	1200
Carbon Disulfide	U	U	U	620
Vinyl Acetate	U	U	U	1200
1,1-Dichloroethene	U	U	U	620
1,1-Dichloroethane	U	U	U	620
1,2-Dichloroethene (total)	U	8200	21000	620
Chloroform	U	U	U	620
1,2-Dichloroethane	U	19000	U	620
2-Butanone	U	U	U	1200
1,1,1-Trichloroethane	U	U	U	620
Carbon Tetrachloride	U	U	U	620
Bromodichloromethane	U	U	U	620
1,2-Dichloropropane	U	U	U	620
cis-1,3-Dichloropropene	U	U	U	620
Trichloroethene	U	34000	1100	620
Dibromochloromethane	U	U	U	620
1,1,2-Trichloroethane	U	U	U	620
Benzene	U	U	320J	620
trans-1,3-Dichloropropene	U	U	U	620
Bromoform	U	U	U	620
4-Methyl-2-Pentanone	U	U	U	1200
2-Hexanone	U	U	U	1200
Tetrachloroethene	U	U	U	620
Toluene	U	320J	U	620
1,1,2,2-Tetrachloroethane	U	U	U	620
Chlorobenzene	U	U	U	620
Ethylbenzene	U	U	U	620
Styrene	U	U	U	620
Xylene (total)	U	U	U	620
Date Received		04/17/97	04/17/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	04/24/97	04/24/97	04/24/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any
 variation in sample weight/volume, % moisture and
 sample dilution.

TABLE VO-1.2
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Soil

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB-79 (4-6)	DUP-041697	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKB8	970875A-10	970875A-11	
Method Blank I.D.	VBLKB8	VBLKB8	VBLKB8	
Quant. Factor	1.00	1.12	1.14	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	2J	U	5.0
Acetone	U	U	82	10
Carbon Disulfide	U	U	U	5.0
Vinyl Acetate	U	U	U	10
1,1-Dichloroethene	U	U	U	5.0
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	U	1J	3J	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	U	10
1,1,1-Trichloroethane	U	U	U	5.0
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	U	3J	8	5.0
Dibromochloromethane	U	U	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	U	2J	6	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	11	19	5.0
Toluene	U	U	1J	5.0
1,1,2,2-Tetrachloroethane	U	U	U	5.0
Chlorobenzene	U	U	U	5.0
Ethylbenzene	U	2J	2J	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	U	5.0
Date Received		04/17/97	04/17/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	04/28/97	04/28/97	04/28/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

0.11

TABLE VO-1.3
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	SB-80(4-6)	SB-81(4-6)	SB-81(4-6) MS	Quant. Limits with no Dilution
Lab Sample I.D.	970875A-12	970875A-13	970875A-13MS	
Method Blank I.D.	VBLKB8	VBLKB8	VBLKB8	
Quant. Factor	1.11	1.28	1.28	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	U	U	5.0
Acetone	.3J	U	6J	10
Carbon Disulfide	U	U	U	5.0
Vinyl Acetate	U	U	U	10
1,1-Dichloroethene	U	U	72X	5.0
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	2J	U	U	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	5J	10
1,1,1-Trichloroethane	U	U	U	5.0
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	4J	U	62X	5.0
Dibromochloromethane	U	U	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	32	U	67X	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	40	8	6	5.0
Toluene	U	U	65X	5.0
1,1,2,2-Tetrachloroethane	U	U	U	5.0
Chlorobenzene	U	U	66X	5.0
Ethylbenzene	U	1J	U	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	U	5.0
Date Received	04/17/97	04/18/97	04/18/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	04/28/97	04/28/97	04/28/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any
 variation in sample weight/volume, % moisture and
 sample dilution.

TABLE VO-1.4
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Soil

All values are ug/Kg dry weight basis.

Client Sample I.D.	SB-81(4-6)			
Lab Sample I.D.	MSD			
Method Blank I.D.	970875A-13			
Quant. Factor	MSD			Quant. Limits with no Dilution
	VBLKB8			
	1.28			
Chloromethane	U			10
Bromomethane	U			10
Vinyl Chloride	U			10
Chloroethane	U			10
Methylene Chloride	2J			5.0
Acetone	2J			10
Carbon Disulfide	U			5.0
Vinyl Acetate	U			10
1,1-Dichloroethene	73X			5.0
1,1-Dichloroethane	U			5.0
1,2-Dichloroethene (total)	U			5.0
Chloroform	U			5.0
1,2-Dichloroethane	U			5.0
2-Butanone	U			10
1,1,1-Trichloroethane	U			5.0
Carbon Tetrachloride	U			5.0
Bromodichloromethane	U			5.0
1,2-Dichloropropane	U			5.0
cis-1,3-Dichloropropene	U			5.0
Trichloroethene	63X			5.0
Dibromochloromethane	U			5.0
1,1,2-Trichloroethane	U			5.0
Benzene	69X			5.0
trans-1,3-Dichloropropene	U			5.0
Bromoform	U			5.0
4-Methyl-2-Pentanone	U			10
2-Hexanone	U			10
Tetrachloroethene	5J			5.0
Toluene	62X			5.0
1,1,2,2-Tetrachloroethane	U			5.0
Chlorobenzene	62X			5.0
Ethylbenzene	U			5.0
Styrene	U			5.0
Xylene (total)	U			5.0
Date Received	04/18/97			
Date Extracted	N/A			
Date Analyzed	04/28/97			

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-2.0
7097-0875A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Related Method Blank: VBLKDY

Lab Sample Id: VBLKDY Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
121-43-7	BORIC ACID, TRIMETHYL ESTER	12.03	14JN

Lab Sample Id: 970875A-06 Client Sample Id: RB-041697

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
121-43-7	BORIC ACID, TRIMETHYL ESTER	11.91	13JNB

Lab Sample Id: 970875A-07 Client Sample Id: TB-041697

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
121-43-7	BORIC ACID, TRIMETHYL ESTER	12.34	9JNB

See Appendix for qualifier definitions

TABLE VO-2.1
7097-0875A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Soil

Related Method Blank: VBLKB7

Lab Sample Id: VBLKB7 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 970875A-04 Client Sample Id: SB-75(4-6)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
556672	CYCLOTETRASILOXANE, OCTAMETH	22.77	23JN
	UNKNOWN SILOXANE	25.66	22J
	UNKNOWN	23.46	8J

See Appendix for qualifier definitions

Soil

TABLE VO-2.2
7097-0875A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Related Method Blank: VBLKB8

Lab Sample Id: VBLKB8 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 970875A-10 Client Sample Id: SB-79(4-6)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
556672	UNKNOWN SILOXANE	25.55	61J
	CYCLOTETRASILOXANE, OCTAMETH	22.69	16JN

Lab Sample Id: 970875A-11 Client Sample Id: DUP-041697

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
556672	UNKNOWN SILOXANE	25.57	35J
	CYCLOTETRASILOXANE, OCTAMETH	22.71	23JN

Lab Sample Id: 970875A-12 Client Sample Id: SB-80(4-6)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
556672	UNKNOWN SILOXANE	25.53	99J
	CYCLOTETRASILOXANE, OCTAMETH	22.65	48JN
	UNKNOWN SILOXANE	28.26	10J

Lab Sample Id: 970875A-13 Client Sample Id: SB-81(4-6)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.3
7097-0875A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Related Method Blank: VBLKE5

Lab Sample Id: VBLKE5 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 970875A-01 Client Sample Id: SB-72(5.6-5.8)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.4
7097-0875A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Medium

Related Method Blank: VBLKG3

Lab Sample Id: VBLKG3 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 970875A-02 Client Sample Id: SB-73(5.4-5.7)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 970875A-03 Client Sample Id: SB-74(5.6-6.0)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 970875A-05 Client Sample Id: SB-76(4-6)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.5
7097-0875A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

11-11
11:00 am

Related Method Blank: VBLKG6

Lab Sample Id: VBLKG6 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 970875A-08 Client Sample Id: SB-77(5.8-6.0)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 970875A-09 Client Sample Id: SB-78(5.4-5.8)

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

See Appendix for qualifier definitions

ORGANICS APPENDIX

- U - Indicates that the compound was analyzed for but not detected.
- J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.
- B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.
- N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.
- S - Estimated due to surrogate outliers.
- X - Matrix spike compound.
- (1) - Cannot be separated.
- (2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.
- A - This flag indicates that a TIC is a suspected aldol condensation product.
- E - Indicates that it exceeds calibration curve range.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C - Confirmed by GC/MS.
- T - Compound present in TCLP blank.
- P - This flag is used for a pesticide/aroclor target analyte when there is a greater than 25 percent difference for detected concentrations between the two GC columns (see Form X).

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the AEN-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

AEN-Connecticut Certification Summary (as of May 1997)

State	Responsible Agency	Certification	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Kansas	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	E-210/E-1185
Maine	Department of Human Services	Wastewater	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	252891
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste	10602
North Carolina	Division of Environmental Management	Wastewater	388
North Dakota	Department of Health and Consolidated Laboratories	Non-Potable/Potable Hazardous Waste	R-138
Oklahoma	Department of Environmental Quality	General Water Quality/ Sludge Testing	9614
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Washington	Department of Ecology	Wastewater/ Hazardous Waste	C231
West Virginia	Division of Environmental Protection	Wastewater/ Hazardous Waste	263

TABLE VO-1.0
7097-0875A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Aqueous

All values are ug/L.

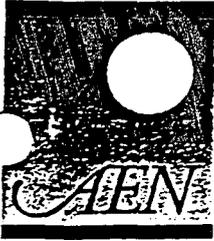
Client Sample I.D.	Method Blank	RB-041697	TB-041697	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKDY	970875A-06	970875A-07	
Method Blank I.D.	VBLKDY	VBLKDY	VBLKDY	
Quant. Factor	1.00	1.00	1.00	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	1J	U	U	5.0
Acetone	8J	U	U	10
Carbon Disulfide	U	U	U	5.0
Vinyl Acetate	U	U	U	10
1,1-Dichloroethene	U	U	U	5.0
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	U	U	U	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	3J	10
1,1,1-Trichloroethane	U	U	U	5.0
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	U	U	U	5.0
Dibromochloromethane	U	U	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	U	U	U	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	2J	10
2-Hexanone	U	U	2J	10
Tetrachloroethene	U	U	U	5.0
Toluene	U	U	U	5.0
1,1,2,2-Tetrachloroethane	U	U	U	5.0
Chlorobenzene	U	U	U	5.0
Ethylbenzene	U	U	U	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	U	5.0
Date Received		04/17/97	04/17/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	04/22/97	04/22/97	04/22/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

7097-0875A
 BLASLAND, BOUCK & LEE
 SAMPLE SUMMARY

CLIENT ID	LAB ID	MATRIX	DATE COLLECTED	DATE RECEIVED
SB-72 (5.6-5.8)	970875A-01	SOIL	04/15/97	04/17/97
SB-73 (5.4-5.7)	970875A-02	SOIL	04/15/97	04/17/97
SB-74 (5.6-6.0)	970875A-03	SOIL	04/15/97	04/17/97
SB-75 (4-6)	970875A-04	SOIL	04/16/97	04/17/97
SB-76 (4-6)	970875A-05	SOIL	04/16/97	04/17/97
RB-041697	970875A-06	WATER	04/16/97	04/17/97
TB-041697	970875A-07	WATER	04/16/97	04/17/97
SB-77 (5.8-6.0)	970875A-08	SOIL	04/16/97	04/17/97
SB-78 (5.4-5.8)	970875A-09	SOIL	04/16/97	04/17/97
SB-79 (4-6)	970875A-10	SOIL	04/16/97	04/17/97
DUP-041697	970875A-11	SOIL	04/16/97	04/17/97
SB-80 (4-6)	970875A-12	SOIL	04/16/97	04/17/97
SB-81 (4-6)	970875A-13	SOIL	04/17/97	04/18/97
SB-81 (4-6)	970875A-13MS	SOIL	04/17/97	04/18/97
SB-81 (4-6)	970875A-13MSD	SOIL	04/17/97	04/18/97



American Environmental Network

200 Monroe Turnpike • Monroe, CT 06468 • (203) 261-4458 • Fax (203) 268-5346

September 15, 1997

Ms. Caron Koll
BLASLAND, BOUCK & LEE
6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Dear Ms. Koll :

Please find enclosed the analytical results of 12 sample(s) received at our laboratory on August 26, 1997. This report contains sections addressing the following information at a minimum:

- sample summary
- analytical methodology
- state certifications
- definition of data qualifiers and terminology
- analytical results
- chain-of-custody

IEA Report #7097-2033A	Purchase Order #PROJ.#10258
Project ID: MONSANTO FORMER GAS HOLDIN	

Copies of this analytical report and supporting data are maintained in our files for a minimum of five years unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory location and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact your customer service representative at (203) 261-4458 for any additional information. Thank you for utilizing our services; we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Very truly yours,

Jeffrey C. Curran
Jeffrey C. Curran
Laboratory Manager

JCC

cc: K. KWONG

7097-2033A
BLASLAND, BOUCK & LEE

Case Narrative

Classical Chemistry - Listed below are the wet chemistry analyte methods and references for the samples analyzed in this SDG. No analytical problems were encountered.

Analyte	Method	Reference
TOCD	9060	1

References:

1. Test Methods for the Evaluation of Solid Waste, SW846, 3rd ed., 1986.

Volatile Organics - Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 8260A. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995/5972A GC/MS/DS.

Samples SB83-8-10, SB8310-12 and SB83-6-8 were analyzed as medium level soils due to high target compound concentrations. Sample SB83-6-8 was also analyzed at a 1:10 dilution.

No problems were encountered.

TABLE VO-1.0
7097-2033A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Aqueous

All values are ug/L.

Client Sample I.D.	Method Blank	TB082697		Quant. Limits with no Dilution
Lab Sample I.D.	VBLKB3	972033A-11		
Method Blank I.D.	VBLKB3	VBLKB3		
Quant. Factor	1.00	1.00		
Chloromethane	U	U		10
Bromomethane	U	U		10
Vinyl Chloride	U	U		10
Chloroethane	U	U		10
Methylene Chloride	U	U		5.0
Acetone	U	U		10
Carbon Disulfide	U	U		5.0
Vinyl Acetate	U	U		10
1,1-Dichloroethene	U	U		5.0
1,1-Dichloroethane	U	U		5.0
1,2-Dichloroethene (total)	U	U		5.0
Chloroform	U	U		5.0
1,2-Dichloroethane	U	U		5.0
2-Butanone	U	U		10
1,1,1-Trichloroethane	U	U		5.0
Carbon Tetrachloride	U	U		5.0
Bromodichloromethane	U	U		5.0
1,2-Dichloropropane	U	U		5.0
cis-1,3-Dichloropropene	U	U		5.0
Trichloroethene	U	U		5.0
Dibromochloromethane	U	U		5.0
1,1,2-Trichloroethane	U	U		5.0
Benzene	U	U		5.0
trans-1,3-Dichloropropene	U	U		5.0
Bromoform	U	U		5.0
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5.0
Toluene	U	U		5.0
1,1,2,2-Tetrachloroethane	U	U		5.0
Chlorobenzene	U	U		5.0
Ethylbenzene	U	U		5.0
Styrene	U	U		5.0
Xylene (total)	U	U		5.0
Date Received		08/26/97		
Date Extracted	N/A	N/A		
Date Analyzed	09/02/97	09/02/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.1
7097-2033A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Soil

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB8210-12 FMSD		Quant. Limits with no Dilution
Lab Sample I.D.	VBLKDL	972033A-10 FMSD		
Method Blank I.D.	VBLKDL	VBLKDL		
Quant. Factor	1.00	1.00		
Chloromethane	U	42X		10
Bromomethane	U	42X		10
Vinyl Chloride	U	44X		10
Chloroethane	U	39X		10
Methylene Chloride	1J	58BX		5.0
Acetone	U	40X		10
Carbon Disulfide	U	49X		5.0
Vinyl Acetate	U	61X		10
1,1-Dichloroethene	U	47X		5.0
1,1-Dichloroethane	U	56X		5.0
1,2-Dichloroethene (total)	U	110X		5.0
Chloroform	U	52X		5.0
1,2-Dichloroethane	U	48X		5.0
2-Butanone	4J	54BX		10
1,1,1-Trichloroethane	U	44X		5.0
Carbon Tetrachloride	U	41X		5.0
Bromodichloromethane	U	49X		5.0
1,2-Dichloropropane	U	56X		5.0
cis-1,3-Dichloropropene	U	52X		5.0
Trichloroethene	U	51X		5.0
Dibromochloromethane	U	45X		5.0
1,1,2-Trichloroethane	U	53X		5.0
Benzene	U	51X		5.0
trans-1,3-Dichloropropene	U	48X		5.0
Bromoform	U	49X		5.0
4-Methyl-2-Pentanone	U	51X		10
2-Hexanone	U	50X		10
Tetrachloroethene	U	43X		5.0
Toluene	U	52X		5.0
1,1,2,2-Tetrachloroethane	U	56X		5.0
Chlorobenzene	U	48X		5.0
Ethylbenzene	1J	47BX		5.0
Styrene	U	48X		5.0
Xylene (total)	U	140X		5.0
Date Received		08/26/97		
Date Extracted	N/A	N/A		
Date Analyzed	09/08/97	09/08/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.2
7097-2033A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB82-0-2	SB82-2-4	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKB1	972033A-01	972033A-02	
Method Blank I.D.	VBLKB1	VBLKB1	VBLKB1	
Quant. Factor	1.00	1.06	1.11	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	U	U	5.0
Acetone	U	U	U	10
Carbon Disulfide	U	U	U	5.0
Vinyl Acetate	U	U	U	10
1,1-Dichloroethene	U	U	U	5.0
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	U	U	U	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	U	10
1,1,1-Trichloroethane	U	U	U	5.0
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	U	75	20	5.0
Dibromochloromethane	U	U	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	U	U	U	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	U	U	5.0
Toluene	U	U	U	5.0
1,1,2,2-Tetrachloroethane	U	U	U	5.0
Chlorobenzene	U	U	U	5.0
Ethylbenzene	U	U	U	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	U	5.0
Date Received		08/26/97	08/26/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	08/29/97	08/29/97	08/29/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor

Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

Soil

TABLE VO-1.3
7097-2033A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	SB82-6-8	SB8210-12		Quant. Limits with no Dilution
Lab Sample I.D.	972033A-03	972033A-10		
Method Blank I.D.	VBLKB1	VBLKB1		
Quant. Factor	1.12	1.11		
Chloromethane	U	U		10
Bromomethane	U	U		10
Vinyl Chloride	U	1J		10
Chloroethane	U	U		10
Methylene Chloride	U	U		5.0
Acetone	41	49		10
Carbon Disulfide	U	U		5.0
Vinyl Acetate	U	U		10
1,1-Dichloroethene	U	U		5.0
1,1-Dichloroethane	U	U		5.0
1,2-Dichloroethene (total)	U	U		5.0
Chloroform	U	U		5.0
1,2-Dichloroethane	U	U		5.0
2-Butanone	U	U		10
1,1,1-Trichloroethane	U	U		5.0
Carbon Tetrachloride	U	U		5.0
Bromodichloromethane	U	U		5.0
1,2-Dichloropropane	U	U		5.0
cis-1,3-Dichloropropene	U	U		5.0
Trichloroethene	7	U		5.0
Dibromochloromethane	U	U		5.0
1,1,2-Trichloroethane	U	U		5.0
Benzene	U	U		5.0
trans-1,3-Dichloropropene	U	U		5.0
Bromoform	U	U		5.0
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5.0
Toluene	U	U		5.0
1,1,2,2-Tetrachloroethane	U	U		5.0
Chlorobenzene	U	U		5.0
Ethylbenzene	U	U		5.0
Styrene	U	U		5.0
Xylene (total)	U	U		5.0
Date Received	08/26/97	08/26/97		
Date Extracted	N/A	N/A		
Date Analyzed	08/29/97	08/30/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor

Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.4
7097-2033A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Soil

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB8314-16	SB8210-12 FMS	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKB2	972033A-08	972033A-10 FMS	
Method Blank I.D.	VBLKB2	VBLKB2	VBLKB2	
Quant. Factor	1.00	1.23	1.11	
Chloromethane	U	U	49X	10
Bromomethane	U	U	36X	10
Vinyl Chloride	U	2J	50X	10
Chloroethane	U	U	32X	10
Methylene Chloride	U	U	57X	5.0
Acetone	U	25	120X	10
Carbon Disulfide	U	U	39X	5.0
Vinyl Acetate	U	U	80X	10
1,1-Dichloroethene	U	U	55X	5.0
1,1-Dichloroethane	U	U	62X	5.0
1,2-Dichloroethene (total)	U	U	110X	5.0
Chloroform	U	U	62X	5.0
1,2-Dichloroethane	U	U	69X	5.0
2-Butanone	U	U	85X	10
1,1,1-Trichloroethane	U	U	62X	5.0
Carbon Tetrachloride	U	U	63X	5.0
Bromodichloromethane	U	U	64X	5.0
1,2-Dichloropropane	U	U	57X	5.0
cis-1,3-Dichloropropene	U	U	56X	5.0
Trichloroethene	U	U	56X	5.0
Dibromochloromethane	U	U	59X	5.0
1,1,2-Trichloroethane	U	U	63X	5.0
Benzene	U	U	56X	5.0
trans-1,3-Dichloropropene	U	U	59X	5.0
Bromoform	U	U	57X	5.0
4-Methyl-2-Pentanone	U	U	78X	10
2-Hexanone	U	U	84X	10
Tetrachloroethene	U	U	56X	5.0
Toluene	U	U	58X	5.0
1,1,2,2-Tetrachloroethane	U	U	68X	5.0
Chlorobenzene	U	U	54X	5.0
Ethylbenzene	U	10	56X	5.0
Styrene	U	U	57X	5.0
Xylene (total)	U	U	170X	5.0
Date Received		08/26/97	08/26/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	08/31/97	08/31/97	08/31/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.5
7097-2033A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Soil
Medium

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB83-6-8	SB83-8-10	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKB6	972033A-05	972033A-06	
Method Blank I.D.	VBLKB6	VBLKB6	VBLKB6	
Quant. Factor	1.00	13.0	1.16	
Chloromethane	U	U	U	1200
Bromomethane	U	U	U	1200
Vinyl Chloride	U	U	U	1200
Chloroethane	U	190000	4400	1200
Methylene Chloride	U	U	U	1200
Acetone	U	U	U	620
Carbon Disulfide	U	U	3000	1200
Vinyl Acetate	U	U	U	620
1,1-Dichloroethene	U	U	U	1200
1,1-Dichloroethane	U	U	U	620
1,2-Dichloroethene (total)	U	U	U	620
Chloroform	U	31000	3800	620
1,2-Dichloroethane	U	U	U	620
2-Butanone	U	U	U	620
1,1,1-Trichloroethane	U	U	U	1200
Carbon Tetrachloride	U	U	U	620
Bromodichloromethane	U	U	U	620
1,2-Dichloropropane	U	U	U	620
cis-1,3-Dichloropropene	U	U	U	620
Trichloroethene	U	U	U	620
Dibromochloromethane	U	13000	4700	620
1,1,2-Trichloroethane	U	U	U	620
Benzene	U	U	U	620
trans-1,3-Dichloropropene	U	U	U	620
Bromoform	U	U	U	620
4-Methyl-2-Pentanone	U	U	U	620
2-Hexanone	U	U	U	1200
Tetrachloroethene	U	U	U	1200
Toluene	U	U	U	620
1,1,2,2-Tetrachloroethane	U	U	U	620
Chlorobenzene	U	U	U	620
Ethylbenzene	U	U	U	620
Styrene	U	U	U	620
Xylene (total)	U	U	U	620
Date Received		08/26/97	08/26/97	
Date Extracted		N/A	N/A	
Date Analyzed	N/A 09/03/97	09/03/97	09/03/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.6
7097-2033A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Soil
Medium

All values are ug/Kg dry weight basis.

Client Sample I.D.	SB8310-12			
Lab Sample I.D.	972033A-07			
Method Blank I.D.	VELK86			
Quant. Factor	1.16			Quant. Limits with no Dilution
Chloromethane	U			1200
Bromomethane	U			1200
Vinyl Chloride	2400			1200
Chloroethane	U			1200
Methylene Chloride	U			620
Acetone	1300J			1200
Carbon Disulfide	U			620
Vinyl Acetate	U			1200
1,1-Dichloroethene	U			620
1,1-Dichloroethane	U			620
1,2-Dichloroethene (total)	5600			620
Chloroform	U			620
1,2-Dichloroethane	U			620
2-Butanone	U			1200
1,1,1-Trichloroethane	U			620
Carbon Tetrachloride	U			620
Bromodichloromethane	U			620
1,2-Dichloropropane	U			620
cis-1,3-Dichloropropene	U			620
Trichloroethene	7000			620
Dibromochloromethane	U			620
1,1,2-Trichloroethane	U			620
Benzene	U			620
trans-1,3-Dichloropropene	U			620
Bromoform	U			620
4-Methyl-2-Pentanone	U			1200
2-Hexanone	U			1200
Tetrachloroethene	U			620
Toluene	110J			620
1,1,2,2-Tetrachloroethane	U			620
Chlorobenzene	U			620
Ethylbenzene	1200			620
Styrene	U			620
Xylene (total)	U			620
Date Received	08/26/97			
Date Extracted	N/A			
Date Analyzed	09/03/97			

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-2.0
7097-2033A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Aqueous

Related Method Blank: VBLKB3

Lab Sample Id: VBLKB3 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972033A-11 Client Sample Id: TB082697

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.1
7097-2033A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Soil

Related Method Blank: VBLKDL

Lab Sample Id: VBLKDL Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972033A-10FMSD Client Sample Id: SB8210-12FMSD

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.2
7097-2033A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Soil

Related Method Blank: VBLKB1

Lab Sample Id: VBLKB1 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972033A-01 Client Sample Id: SB82-0-2

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	23.80	5J

Lab Sample Id: 972033A-02 Client Sample Id: SB82-2-4

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
556672	CYCLOTETRASILOXANE, OCTAMETH	23.83	19JN
	UNKNOWN SILOXANE	26.66	18J

Lab Sample Id: 972033A-03 Client Sample Id: SB82-6-8

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972033A-10 Client Sample Id: SB8210-12

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	26.55	11J
	UNKNOWN SILOXANE	29.47	9J

See Appendix for qualifier definitions

TABLE VO-2.3
7097-2033A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Soil

Related Method Blank: VBLKB2

Lab Sample Id: VBLKB2 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	29.48	8J

Lab Sample Id: 972033A-08 Client Sample Id: SB8314-16

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	26.57	20J
	UNKNOWN SILOXANE	23.70	8J

Lab Sample Id: 972033A-10FMS Client Sample Id: SB8210-12FMS

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	NONE DETECTED		

See Appendix for qualifier definitions

TABLE VO-2.4
7097-2033A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Soil
Medium

Related Method Blank: VBLKB6

Lab Sample Id: VBLKB6 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972033A-05 Client Sample Id: SB83-6-8

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972033A-06 Client Sample Id: SB83-8-10

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972033A-07 Client Sample Id: SB8310-12

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

See Appendix for qualifier definitions

ORGANICS APPENDIX

- U - Indicates that the compound was analyzed for but not detected.
- J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.
- B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.
- N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.
- S - Estimated due to surrogate outliers.
- X - Matrix spike compound.
- (1) - Cannot be separated.
- (2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.
- A - This flag indicates that a TIC is a suspected aldol condensation product.
- E - Indicates that it exceeds calibration curve range.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C - Confirmed by GC/MS.
- T - Compound present in TCLP blank.
- P - This flag is used for a pesticide/aroclor target analyte when there is a greater than 25 percent difference for detected concentrations between the two GC columns (see Form X).

INORGANICS APPENDIX

C - Concentration qualifiers

- U - Indicates analyte was not detected at method reporting limit.
- B - Indicates analyte result between IDL and contract required detection limit (CRDL)

Q - QC qualifiers

- E - Reported value is estimated because of the presence of interference
- M - Duplicate injection precision not met
- N - Spiked sample recovery not within control limits
- S - The reported value was determined by the method of standard additions (MSA)
- W - Post-digest spike recovery furnace analysis was out of 85-115 percent control limit, while sample absorbance was less than 50 percent of spike absorbance
- * - Duplicate analysis not within control limit
- + - Correlation coefficient for MSA is less than 0.995

M - Method codes

- P - ICP
- A - Flame AA
- F - Furnace AA
- CV - Cold vapor AA (manual)
- C - Cyanide
- NR - Not Required
- NC - Not Calculated as per protocols

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the AEN-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

AEN-Connecticut Certification Summary (as of August 1997)

State	Responsible Agency	Certification	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Human Services	Wastewater	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste	10602
North Carolina	Division of Environmental Management	Wastewater	388
North Dakota	Department of Health and Consolidated Laboratories	Non-Potable/Potable Hazardous Waste	R-138
Oklahoma	Department of Environmental Quality	General Water Quality/ Sludge Testing	9614
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Washington	Department of Ecology	Wastewater/ Hazardous Waste	C231
West Virginia	Division of Environmental Protection	Wastewater/ Hazardous Waste	263

7097-2033A
BLASLAND, BOUCK & LEE
SAMPLE SUMMARY

CLIENT ID	LAB ID	MATRIX	DATE COLLECTED	DATE RECEIVED
SB82-0-2	972033A-01	SOIL	08/25/97	08/26/97
SB82-2-4	972033A-02	SOIL	08/25/97	08/26/97
SB82-6-8	972033A-03	SOIL	08/25/97	08/26/97
SB82-8-10	972033A-04	SOIL	08/25/97	08/26/97
SB83-6-8	972033A-05	SOIL	08/25/97	08/26/97
SB83-8-10	972033A-06	SOIL	08/25/97	08/26/97
SB8310-12	972033A-07	SOIL	08/25/97	08/26/97
SB8314-16	972033A-08	SOIL	08/25/97	08/26/97
SB8210-12	972033A-10	SOIL	08/25/97	08/26/97
SB8210-12	972033A-10MS	SOIL	08/25/97	08/26/97
SB8210-12	972033A-10MSD	SOIL	08/25/97	08/26/97
TB082697	972033A-11	WATER	08/26/97	08/26/97

IEA-CT ANALYTICAL SUMMARY

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Client ID: SB82-0-2, SB82-2-4, SB82-6-8, SB82-8-10, SB8210-12, SB83-6-8,
SB83-8-10, SB8310-12, SB8314-16, TB082697
Job Number: 7097-2033A

Date: 9/15/97

Qty	Matrix	Analysis	Description
9	None	DISK	Diskette Prep.
2	SOIL	TOC-9060-DUP	Total Organic Carbon
2	SOIL	VOA-8260A-TCL	TCL Volatile Organic
8	SOIL	VOA-8260A-TCL-10	TCL Volatile Organic
1	WATER	VOA-8260A-TCL-10	TCL Volatile Organic

7097-2105A
BLASLAND, BOUCK & LEE

Case Narrative

Classical Chemistry - Listed below are the wet chemistry analyte methods and references for the samples analyzed in this SDG. No analytical problems were encountered and all holding times were met.

Analyte	Method	Reference
TOCD	9060	1

References:

1. Test Methods for the Evaluation of Solid Wastes, SW846, 3rd ed., 1986.

Volatile Organics - Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 8260A. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995/5972A GC/MS/DS.

No problems were encountered.

TABLE VO-1.0
7097-2105A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Aquatics

All values are ug/L.

Client Sample I.D.	Method Blank	TB082997		Quant. Limits with no Dilution
Lab Sample I.D.	VBLKDG	972105A-05		
Method Blank I.D.	VBLKDG	VBLKDG		
Quant. Factor	1.00	1.00		
Chloromethane	U	U		10
Bromomethane	U	U		10
Vinyl Chloride	U	U		10
Chloroethane	U	U		10
Methylene Chloride	U	.9J		5.0
Acetone	U	U		10
Carbon Disulfide	U	U		5.0
Vinyl Acetate	U	U		10
1,1-Dichloroethene	U	U		5.0
1,1-Dichloroethane	U	U		5.0
1,2-Dichloroethene (total)	U	U		5.0
Chloroform	U	U		5.0
1,2-Dichloroethane	U	U		5.0
2-Butanone	U	U		10
1,1,1-Trichloroethane	U	U		5.0
Carbon Tetrachloride	U	U		5.0
Bromodichloromethane	U	U		5.0
1,2-Dichloropropane	U	U		5.0
cis-1,3-Dichloropropene	U	U		5.0
Trichloroethene	U	U		5.0
Dibromochloromethane	U	U		5.0
1,1,2-Trichloroethane	U	U		5.0
Benzene	U	U		5.0
trans-1,3-Dichloropropene	U	U		5.0
Bromoform	U	U		5.0
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5.0
Toluene	U	U		5.0
1,1,2,2-Tetrachloroethane	U	U		5.0
Chlorobenzene	U	U		5.0
Ethylbenzene	U	U		5.0
Styrene	U	U		5.0
Xylene (total)	U	U		5.0
Date Received		08/28/97		
Date Extracted	N/A	N/A		
Date Analyzed	09/04/97	09/04/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account
 variation in sample weight/volume, % moisture, and
 sample dilution.

TABLE VO-1.1
7097-2105A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Aqueous

All values are ug/L.

Client Sample I.D.	Method Blank	MW-83S		Quant. Limits with no Dilution
Lab Sample I.D.	VBLKGE	972105A-06		
Method Blank I.D.	VBLKGE	VBLKGE		
Quant. Factor	1.00	100.		
Chloromethane	U	U		10
Bromomethane	U	U		10
Vinyl Chloride	U	880J		10
Chloroethane	U	U		10
Methylene Chloride	2J	270JB		5.0
Acetone	8J	U		10
Carbon Disulfide	U	U		5.0
Vinyl Acetate	U	U		10
1,1-Dichloroethene	U	U		5.0
1,1-Dichloroethane	U	U		5.0
1,2-Dichloroethene (total)	U	U		5.0
Chloroform	U	U		5.0
1,2-Dichloroethane	U	U		5.0
2-Butanone	U	U		10
1,1,1-Trichloroethane	U	U		5.0
Carbon Tetrachloride	U	U		5.0
Bromodichloromethane	U	U		5.0
1,2-Dichloropropane	U	U		5.0
cis-1,3-Dichloropropene	U	U		5.0
Trichloroethene	U	U		5.0
Dibromochloromethane	U	U		5.0
1,1,2-Trichloroethane	U	U		5.0
Benzene	U	U		5.0
trans-1,3-Dichloropropene	U	U		5.0
Bromoform	U	U		5.0
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5.0
Toluene	U	36J		5.0
1,1,2,2-Tetrachloroethane	U	U		5.0
Chlorobenzene	U	U		5.0
Ethylbenzene	U	7300		5.0
Styrene	U	U		5.0
Xylene (total)	U	410J		5.0
Date Received		08/28/97		
Date Extracted	N/A	N/A		
Date Analyzed	09/11/97	09/11/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.2
7097-2105A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB89-1-3	SB138-12-14	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKBB	972105A-01	972105A-08	
Method Blank I.D.	VBLKBB	VBLKBB	VBLKBB	
Quant. Factor	1.00	1.06	1.20	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	U	U	5.0
Acetone	13	49B	U	10
Carbon Disulfide	U	U	U	5.0
Vinyl Acetate	U	U	U	10
1,1-Dichloroethene	U	U	U	5.0
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	U	U	U	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	U	10
1,1,1-Trichloroethane	U	U	U	5.0
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	U	U	U	5.0
Dibromochloromethane	U	U	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	U	U	U	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	U	U	5.0
Toluene	U	2J	U	5.0
1,1,2,2-Tetrachloroethane	U	U	U	5.0
Chlorobenzene	U	U	U	5.0
Ethylbenzene	U	U	1J	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	56	5.0
Date Received		08/28/97	08/28/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	09/11/97	09/11/97	09/11/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account the
 variation in sample weight/volume, % moisture, and
 sample dilution.

1011

TABLE VO-1.3
7097-2105A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB89-5-7	SB88-12-14	Quant. Limits with no. Dilution
Lab Sample I.D.	VBLKBC	972105A-02	972105A-07	
Method Blank I.D.	VBLKBC	VBLKBC	VBLKBC	
Quant. Factor	1.00	1.09	1.20	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	1J	U	U	5.0
Acetone	U	U	U	10
Carbon Disulfide	U	U	U	5.0
Vinyl Acetate	U	U	U	10
1,1-Dichloroethene	U	U	U	5.0
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	U	U	U	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	U	10
1,1,1-Trichloroethane	U	U	U	5.0
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	U	U	U	5.0
Dibromochloromethane	U	U	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	U	U	U	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	U	U	5.0
Toluene	U	U	U	5.0
1,1,2,2-Tetrachloroethane	U	U	U	5.0
Chlorobenzene	U	U	U	5.0
Ethylbenzene	U	U	U	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	5J	5.0
Date Received		08/28/97	08/28/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	09/11/97	09/11/97	09/11/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture, and sample dilution.

TABLE VO-1.4
7097-2105A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	SB88-16-18			
Lab Sample I.D.	972105A-09			Quant. Limits with no Dilution
Method Blank I.D.	VBLKBC			
Quant. Factor	1.23			
Chloromethane	U			10
Bromomethane	U			10
Vinyl Chloride	U			10
Chloroethane	U			10
Methylene Chloride	U			5.0
Acetone	28			10
Carbon Disulfide	U			5.0
Vinyl Acetate	U			10
1,1-Dichloroethene	U			5.0
1,1-Dichloroethane	U			5.0
1,2-Dichloroethene (total)	U			5.0
Chloroform	U			5.0
1,2-Dichloroethane	U			5.0
2-Butanone	U			10
1,1,1-Trichloroethane	U			5.0
Carbon Tetrachloride	U			5.0
Bromodichloromethane	U			5.0
1,2-Dichloropropane	U			5.0
cis-1,3-Dichloropropene	U			5.0
Trichloroethene	U			5.0
Dibromochloromethane	U			5.0
1,1,2-Trichloroethane	U			5.0
Benzene	U			5.0
trans-1,3-Dichloropropene	U			5.0
Bromoform	U			5.0
4-Methyl-2-Pentanone	U			10
2-Hexanone	U			10
Tetrachloroethene	U			5.0
Toluene	U			5.0
1,1,2,2-Tetrachloroethane	U			5.0
Chlorobenzene	U			5.0
Ethylbenzene	U			5.0
Styrene	U			5.0
Xylene (total)	U			5.0
Date Received	08/28/97			
Date Extracted	N/A			
Date Analyzed	09/11/97			

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account the
 variation in sample weight/volume, % moisture, and
 sample dilution.

TABLE VO-2.0
7097-2105A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Related Method Blank: VBLKDG

Lab Sample Id: VBLKDG Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972105A-05 Client Sample Id: TB082997

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.1
7097-2105A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

015

Related Method Blank: VBLKGE

Lab Sample Id: VBLKGE Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972105A-06 Client Sample Id: MW-83S

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.2
7097-2105A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Soil

Related Method Blank: VBLKBB

Lab Sample Id: VBLKBB Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN	27.35	35J
	UNKNOWN	27.48	25J

Lab Sample Id: 972105A-01 Client Sample Id: SB89-1-3

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	26.54	42J
	UNKNOWN	23.75	14J
	UNKNOWN SILOXANE	29.50	6J

Lab Sample Id: 972105A-08 Client Sample Id: SB138-12-14

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN	25.69	98J
	UNKNOWN SILOXANE	29.53	20J
	UNKNOWN	24.36	18J
	UNKNOWN	25.39	16J
	UNKNOWN	24.81	15J
	UNKNOWN SILOXANE	26.60	14J
	UNKNOWN	26.16	13J
	UNKNOWN	24.01	11J

See Appendix for qualifier definitions

TABLE VO-2.3
7097-2105A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

1011

Related Method Blank: VBLKBC

Lab Sample Id: VBLKBC Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972105A-02 Client Sample Id: SB89-5-7

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	26.76	28J
	UNKNOWN	23.92	6J

Lab Sample Id: 972105A-07 Client Sample Id: SB88-12-14

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	26.68	8J
	UNKNOWN	25.77	7J

Lab Sample Id: 972105A-09 Client Sample Id: SB88-16-18

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	26.64	25J
	UNKNOWN	27.13	16J

See Appendix for qualifier definitions

INORGANICS APPENDIX

C - Concentration qualifiers

- U - Indicates analyte was not detected at method reporting limit.
- B - Indicates analyte result between IDL and contract required detection limit (CRDL)

Q - QC qualifiers

- E - Reported value is estimated because of the presence of interference
- M - Duplicate injection precision not met
- N - Spiked sample recovery not within control limits
- S - The reported value was determined by the method of standard additions (MSA)
- W - Post-digest spike recovery furnace analysis was out of 85-115 percent control limit, while sample absorbance was less than 50 percent of spike absorbance
- - Duplicate analysis not within control limit
- + - Correlation coefficient for MSA is less than 0.995

M - Method codes

- P - ICP
- A - Flame AA
- F - Furnace AA
- CV - Cold vapor AA (manual)
- C - Cyanide
- NR - Not Required
- NC - Not Calculated as per protocols

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the AEN-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

AEN-Connecticut Certification Summary (as of August 1997)

State	Responsible Agency	Certification	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Human Services	Wastewater	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste	10602
North Carolina	Division of Environmental Management	Wastewater	388
North Dakota	Department of Health and Consolidated Laboratories	Non-Potable/Potable Hazardous Waste	R-138
Oklahoma	Department of Environmental Quality	General Water Quality/ Sludge Testing	9614
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Washington	Department of Ecology	Wastewater/ Hazardous Waste	C231
West Virginia	Division of Environmental Protection	Wastewater/ Hazardous Waste	263

7097-2105A
BLASLAND, BOUCK & LEE
SAMPLE SUMMARY

CLIENT ID	LAB ID	MATRIX	DATE COLLECTED	DATE RECEIVE
SB89-1-3	972105A-01	SOIL	08/28/97	08/28/97
SB89-5-7	972105A-02	SOIL	08/28/97	08/28/97
SB89-7-9	972105A-03	SOIL	08/28/97	08/28/97
SB83-12-14	972105A-04	SOIL	08/25/97	08/28/97
TB082997	972105A-05	WATER	08/28/97	08/28/97
MW-83S	972105A-06	WATER	08/28/97	08/28/97
SB88-12-14	972105A-07	SOIL	08/27/97	08/28/97
SB138-12-14	972105A-08	SOIL	08/27/97	08/28/97
SB88-16-18	972105A-09	SOIL	08/27/97	08/28/97

IEA-CT ANALYTICAL SUMMARY

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Client ID: MW-83S, SB138-12-14, SB83-12-14, SB88-12-14, SB88-16-18, SB88-16-18, SB89-5-7, SB89-7-9, TB082997
Job Number: 7097-2105A

Date: 9/17/97

Qty	Matrix	Analysis	Description
9	None	-DISK	Diskette Prep.
3	SOIL	TOC-9060-DUP	Total Organic Carbon
5	SOIL	VOA-8260A-TCL-10	TCL Volatile Organic
2	WATER	VOA-8260A-TCL-10	TCL Volatile Organic



American Environmental Network

200 Monroe Turnpike • Monroe, CT 06468 • (203) 261-4458 • Fax (203) 268-5346

September 19, 1997

Ms. Caron Koll
BLASLAND, BOUCK & LEE
6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Dear Ms. Koll :

Please find enclosed the analytical results of 7 sample(s) received at our laboratory on August 30, 1997. This report contains sections addressing the following information at a minimum:

- . sample summary
- . analytical methodology
- . state certifications
- . definition of data qualifiers and terminology
- . analytical results
- . chain-of-custody

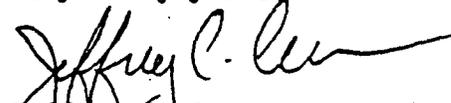
IEA Report #7097-2110A	Purchase Order #PROJ.#10258
Project ID: MONSANTO FORMER GAS HOLDIN	

Copies of this analytical report and supporting data are maintained in our files for a minimum of five years unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory location and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact your customer service representative at (203) 261-4458 for any additional information. Thank you for utilizing our services; we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Very truly yours,


Jeffrey C. Curran
Laboratory Manager

JCC

cc: K. KWONG

7097-2110A
BLASLAND, BOUCK & LEE

Case Narrative

Classical Chemistry - Listed below are the wet chemistry analyte methods and references for the samples analyzed in this SDG. No analytical problems were encountered and all holding times were met.

Analyte	Method	Reference
TOCD	9060	I

References:

1. Test Methods for the Evaluation of Solid Wastes, SW846, 3rd ed., 1986.

Volatile Organics - Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 8260A. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5972A GC/MS/DS.

Sample MW-87S was analyzed at a 1:100 dilution due to a high target compound concentration.

No problems were encountered.

TABLE VO-1.0
7097-2110A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/L.

Client Sample I.D.	Method Blank	MW-58S	MW-59S	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKDE	972110A-01	972110A-02	
Method Blank I.D.	VBLKDE	VBLKDE	VBLKDE	
Quant. Factor	1.00	1.00	1.00	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	6J	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	U	U	5.0
Acetone	U	U	U	10
Carbon Disulfide	U	U	U	5.0
Vinyl Acetate	U	U	U	10
1,1-Dichloroethene	U	U	U	5.0
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	U	U	U	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	U	10
1,1,1-Trichloroethane	U	U	U	5.0
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	U	U	U	5.0
Dibromochloromethane	U	U	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	U	U	U	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	U	U	5.0
Toluene	U	U	U	5.0
1,1,2,2-Tetrachloroethane	U	U	U	5.0
Chlorobenzene	U	U	U	5.0
Ethylbenzene	U	U	U	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	U	5.0
Date Received		08/30/97	08/30/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	09/03/97	09/04/97	09/04/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

Aquatics

TABLE VO-1.1
7097-2110A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/L.

Client Sample I.D.	TB082897Z			Quant. Limits with no Dilution
Lab Sample I.D.	972110A-04			
Method Blank I.D.	VBLKDE			
Quant. Factor	1.00			
Chloromethane	U			10
Bromomethane	U			10
Vinyl Chloride	U			10
Chloroethane	U			10
Methylene Chloride	.7J			5.0
Acetone	U			10
Carbon Disulfide	U			5.0
Vinyl Acetate	U			10
1,1-Dichloroethene	U			5.0
1,1-Dichloroethane	U			5.0
1,2-Dichloroethene (total)	U			5.0
Chloroform	U			5.0
1,2-Dichloroethane	U			5.0
2-Butanone	U			10
1,1,1-Trichloroethane	U			5.0
Carbon Tetrachloride	U			5.0
Bromodichloromethane	U			5.0
1,2-Dichloropropane	U			5.0
cis-1,3-Dichloropropene	U			5.0
Trichloroethene	U			5.0
Dibromochloromethane	U			5.0
1,1,2-Trichloroethane	U			5.0
Benzene	U			5.0
trans-1,3-Dichloropropene	U			5.0
Bromoform	U			5.0
4-Methyl-2-Pentanone	U			10
2-Hexanone	U			10
Tetrachloroethene	U			5.0
Toluene	U			5.0
1,1,2,2-Tetrachloroethane	U			5.0
Chlorobenzene	U			5.0
Ethylbenzene	U			5.0
Styrene	U			5.0
Xylene (total)	U			5.0
Date Received	08/30/97			
Date Extracted	N/A			
Date Analyzed	09/04/97			

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account the variation in sample weight/volume, % moisture, and sample dilution.

Agisou

TABLE VO-1.2
7097-2110A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/L.

Client Sample I.D.	Method Blank	MW-58S FMS 972110A-01	MW-58S FMSD 972110A-01	Quant. Limits with n Diluti
Lab Sample I.D.	VBLKDG	FMS	FMSD	
Method Blank I.D.	VBLKDG	VBLKDG	VBLKDG	
Quant. Factor	1.00	1.00	1.00	
Chloromethane	U	45X	44X	10
Bromomethane	U	49X	44X	10
Vinyl Chloride	U	52X	50X	10
Chloroethane	U	44X	43X	10
Methylene Chloride	U	48X	46X	5.0
Acetone	U	27X	21X	10
Carbon Disulfide	U	48X	47X	5.0
Vinyl Acetate	U	73X	37X	10
1,1-Dichloroethene	U	47X	45X	5.0
1,1-Dichloroethane	U	50X	48X	5.0
1,2-Dichloroethene (total)	U	96X	93X	5.0
Chloroform	U	49X	47X	5.0
1,2-Dichloroethane	U	50X	48X	5.0
2-Butanone	U	41X	37X	10
1,1,1-Trichloroethane	U	46X	45X	5.0
Carbon Tetrachloride	U	46X	43X	5.0
Bromodichloromethane	U	47X	46X	5.0
1,2-Dichloropropane	U	49X	47X	5.0
cis-1,3-Dichloropropene	U	49X	48X	5.0
Trichloroethene	U	47X	46X	5.0
Dibromochloromethane	U	48X	46X	5.0
1,1,2-Trichloroethane	U	49X	48X	5.0
Benzene	U	48X	46X	5.0
trans-1,3-Dichloropropene	U	50X	48X	5.0
Bromoform	U	50X	48X	5.0
4-Methyl-2-Pentanone	U	56X	50X	10
2-Hexanone	U	44X	37X	10
Tetrachloroethene	U	47X	42X	5.0
Toluene	U	48X	44X	5.0
1,1,2,2-Tetrachloroethane	U	50X	49X	5.0
Chlorobenzene	U	46X	43X	5.0
Ethylbenzene	U	48X	43X	5.0
Styrene	U	47X	44X	5.0
Xylene (total)	U	140X	130X	5.0
Date Received		08/30/97	08/30/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	09/04/97	09/04/97	09/05/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantification factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % recovery and sample dilution.

TABLE VO-1.3
7097-2110A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

Aqueous

All values are ug/L.

Client Sample I.D.	MW-87S			Quant. Limits with no Dilution
Lab Sample I.D.	972110A-03			
Method Blank I.D.	VBLKDG			
Quant. Factor	100.			
Chloromethane	U			10
Bromomethane	U			10
Vinyl Chloride	92J			10
Chloroethane	U			10
Methylene Chloride	220J			5.0
Acetone	140J			10
Carbon Disulfide	U			5.0
Vinyl Acetate	U			10
1,1-Dichloroethene	U			5.0
1,1-Dichloroethane	U			5.0
1,2-Dichloroethene (total)	U			5.0
Chloroform	U			5.0
1,2-Dichloroethane	U			5.0
2-Butanone	U			10
1,1,1-Trichloroethane	U			5.0
Carbon Tetrachloride	U			5.0
Bromodichloromethane	U			5.0
1,2-Dichloropropane	U			5.0
cis-1,3-Dichloropropene	U			5.0
Trichloroethene	U			5.0
Dibromochloromethane	U			5.0
1,1,2-Trichloroethane	U			5.0
Benzene	U			5.0
trans-1,3-Dichloropropene	U			5.0
Bromoform	U			5.0
4-Methyl-2-Pentanone	U			10
2-Hexanone	U			10
Tetrachloroethene	U			5.0
Toluene	U			5.0
1,1,2,2-Tetrachloroethane	U			5.0
Chlorobenzene	U			5.0
Ethylbenzene	19000			5.0
Styrene	U			5.0
Xylene (total)	U			5.0
Date Received	08/30/97			
Date Extracted	N/A			
Date Analyzed	09/04/97			

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture, and sample dilution.

TABLE VO-2.0
7097-2110A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

8/10/05

Related Method Blank: VBLKDE

Lab Sample Id: VBLKDE Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972110A-01 Client Sample Id: MW-58S

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972110A-02 Client Sample Id: MW-59S

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972110A-04 Client Sample Id: TB082897Z

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.1
7097-2110A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Aqueous

Related Method Blank: VBLKDG

Lab Sample Id: VBLKDG Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972110A-01FMS Client Sample Id: MW-58SFMS

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972110A-01FMSD Client Sample Id: MW-58SFMSD

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972110A-03 Client Sample Id: MW-87S

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.0
7097-2140A
MALCOLM PIRNIE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

1
Method Blank

Related Method Blank: VBLKEI

Lab Sample Id: VBLKEI Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972140A-01 Client Sample Id: TP-03

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

See Appendix for qualifier definitions

ORGANICS APPENDIX

- U - Indicates that the compound was analyzed for but not detected.
- J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.
- B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.
- N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.
- S - Estimated due to surrogate outliers.
- X - Matrix spike compound.
- (1) - Cannot be separated.
- (2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.
- A - This flag indicates that a TIC is a suspected aldol condensation product.
- E - Indicates that it exceeds calibration curve range.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C - Confirmed by GC/MS.
- T - Compound present in TCLP blank.
- P - This flag is used for a pesticide/rochlor target analyte when there is a greater than 25 percent difference for detected concentrations between the two GC columns (see Form X).

INORGANICS APPENDIX

C - Concentration qualifiers

- U - Indicates analyte was not detected at method reporting limit.
- B - Indicates analyte result between IDL and contract required detection limit (CRDL)

Q - QC qualifiers

- E - Reported value is estimated because of the presence of interference
- M - Duplicate injection precision not met
- N - Spiked sample recovery not within control limits
- S - The reported value was determined by the method of standard additions (MSA)
- W - Post-digest spike recovery furnace analysis was out of 85-115 percent control limit, while sample absorbance was less than 50 percent of spike absorbance
- * - Duplicate analysis not within control limit
- + - Correlation coefficient for MSA is less than 0.995

M - Method codes

- P - ICP
- A - Flame AA
- F - Furnace AA
- CV - Cold vapor AA (manual)
- C - Cyanide
- NR - Not Required
- NC - Not Calculated as per protocols

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the AEN-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

AEN-Connecticut Certification Summary (as of August 1997)

State	Responsible Agency	Certification	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Human Services	Wastewater	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste	10602
North Carolina	Division of Environmental Management	Wastewater	388
North Dakota	Department of Health and Consolidated Laboratories	Non-Potable/Potable Hazardous Waste	R-138
Oklahoma	Department of Environmental Quality	General Water Quality/ Sludge Testing	9614
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Washington	Department of Ecology	Wastewater/ Hazardous Waste	C231
West Virginia	Division of Environmental Protection	Wastewater/ Hazardous Waste	263

7097-2110A
BLASLAND, BOUCK & LEE
SAMPLE SUMMARY

CLIENT ID	LAB ID	MATRIX	DATE COLLECTED	DATE RECEIVED
MW-58S	972110A-01	WATER	08/28/97	08/30/97
MW-58S	972110A-01MS	WATER	08/28/97	08/30/97
MW-58S	972110A-01MSD	WATER	08/28/97	08/30/97
MW-59S	972110A-02	WATER	08/28/97	08/30/97
MW-87S	972110A-03	WATER	08/28/97	08/30/97
TB082897Z	972110A-04	WATER	08/28/97	08/30/97
SB89-3-5	972110A-05	SOIL	08/28/97	08/30/97



American Environmental Network

200 Monroe Turnpike • Monroe, CT 06468 • (203) 261-4458 • Fax (203) 268-5346

September 19, 1997

Ms. Caron Koll
BLASLAND, BOUCK & LEE
6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Dear Ms. Koll :

Please find enclosed the analytical results of 4 sample(s) received at our laboratory on August 26, 1997. This report contains sections addressing the following information at a minimum:

- sample summary
- analytical methodology
- state certifications
- definition of data qualifiers and terminology
- analytical results
- chain-of-custody

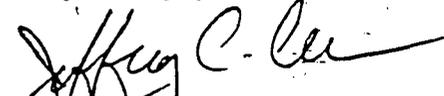
IEA Report #7097-2057A	Purchase Order #PROJ.#10258
Project ID: MONSANTO FORMER GAS HOLDIN	

Copies of this analytical report and supporting data are maintained in our files for a minimum of five years unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory location and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact your customer service representative at (203) 261-4458 for any additional information. Thank you for utilizing our services; we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Very truly yours,


 Jeffrey C. Curran
 Laboratory Manager

JCC

cc: K. KWONG

7097-2057A
BLASLAND, BOUCK & LEE

Case Narrative

Classical Chemistry - Listed below are the wet chemistry analyte methods and references for the samples analyzed in this SDG. Results reported in g/cc. No analytical problems were encountered.

Analyte	Method	Reference
Bulk Density	D5057-90	I

References:

1. ASTM

INORGANICS APPENDIX

C - Concentration qualifiers

- U - Indicates analyte was not detected at method reporting limit.
- B - Indicates analyte result between IDL and contract required detection limit (CRDL)

Q - QC qualifiers

- E - Reported value is estimated because of the presence of interference
- M - Duplicate injection precision not met
- N - Spiked sample recovery not within control limits
- S - The reported value was determined by the method of standard additions (MSA)
- W - Post-digest spike recovery furnace analysis was out of 85-115 percent control limit, while sample absorbance was less than 50 percent of spike absorbance
- * - Duplicate analysis not within control limit
- + - Correlation coefficient for MSA is less than 0.995

M - Method codes

- P - ICP
- A - Flame AA
- F - Furnace AA
- CV - Cold vapor AA (manual)
- C - Cyanide
- NR - Not Required
- NC - Not Calculated as per protocols

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the AEN-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

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State	Responsible Agency	Certification	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Human Services	Wastewater	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste	10602
North Carolina	Division of Environmental Management	Wastewater	388
North Dakota	Department of Health and Consolidated Laboratories	Non-Potable/Potable Hazardous Waste	R-138
Oklahoma	Department of Environmental Quality	General Water Quality/ Sludge Testing	9614
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Washington	Department of Ecology	Wastewater/ Hazardous Waste	C231
West Virginia	Division of Environmental Protection	Wastewater/ Hazardous Waste	263

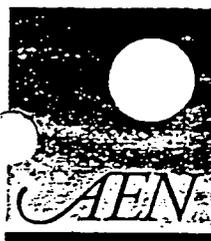
7097-2057A
BLASLAND, BOUCK & LEE
SAMPLE SUMMARY

CLIENT ID	LAB ID	MATRIX	DATE COLLECTED	DATE RECEIVED
SB74-5.6-6	972057A-01	SOIL	04/15/97	08/26/97
SB79-4-6	972057A-02	SOIL	04/16/97	08/26/97
SB78-5.4-5.8	972057A-03	SOIL	04/16/97	08/26/97
SB81-4-6	972057A-04	SOIL	04/17/97	08/26/97

Client ID: SB74-5.6-6, SB78-5.4-5.8, SB79-4-6, SB81-4-6
 Job Number: 7097-2057A

Date: 9/19/97

Qty	Matrix	Analysis	Description
4	None	DISK	Diskette Prep.
4	SOIL	BULK DENSITY	Bulk Density



American Environmental Network

200 Monroe Turnpike • Monroe, CT 06468 • (203) 261-4458 • Fax (203) 268-5346

September 24, 1997

Ms. Caron Koll
BLASLAND, BOUCK & LEE
6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Dear Ms. Koll :

Please find enclosed the analytical results of 8 sample(s) received at our laboratory on August 28, 1997. This report contains sections addressing the following information at a minimum:

- . sample summary
- . analytical methodology
- . state certifications
- . definition of data qualifiers and terminology
- . analytical results
- . chain-of-custody

IEA Report #7097-2082A	Purchase Order #PROJ.#10258
Project ID: MONSANTO FORMER GAS HOLDIN	

Copies of this analytical report and supporting data are maintained in our files for a minimum of five years unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory location and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact your customer service representative at (203) 261-4458 for any additional information. Thank you for utilizing our services; we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Very truly yours,

Cheryl Ann Casarea for
Jeffrey G. Curran
Laboratory Manager

JCC

cc: K. KWONG

7097-2082A
BLASLAND, BOUCK & LEE

Case Narrative

Volatile Organics - Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 8260A. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995/5972A GC/MS/DS.

Sample MW87-0-2 was analyzed twice due to results exhibiting a surrogate out of criteria. Both analyses were reported since matrix interference was proven.

Agua

TABLE VO-1.0
7097-2082A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/L.

Client Sample I.D.	Method Blank	TB082797		Quant. Limits with no Dilutio
Lab Sample I.D.	VBLKGC	972082A-07		
Method Blank I.D.	VBLKGC	VBLKGC		
Quant. Factor	1.00	1.00		
Chloromethane	U	U		10
Bromomethane	U	U		10
Vinyl Chloride	U	U		10
Chloroethane	U	U		10
Methylene Chloride	U	U		5.0
Acetone	2J	U		10
Carbon Disulfide	U	U		5.0
Vinyl Acetate	U	U		10
1,1-Dichloroethene	U	U		5.0
1,1-Dichloroethane	U	U		5.0
1,2-Dichloroethene (total)	U	U		5.0
Chloroform	U	U		5.0
1,2-Dichloroethane	U	U		5.0
2-Butanone	U	U		10
1,1,1-Trichloroethane	U	U		5.0
Carbon Tetrachloride	U	U		5.0
Bromodichloromethane	U	U		5.0
1,2-Dichloropropane	U	U		5.0
cis-1,3-Dichloropropene	U	U		5.0
Trichloroethene	U	U		5.0
Dibromochloromethane	U	U		5.0
1,1,2-Trichloroethane	U	U		5.0
Benzene	U	U		5.0
trans-1,3-Dichloropropene	U	U		5.0
Bromoform	U	U		5.0
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5.0
Toluene	U	U		5.0
1,1,2,2-Tetrachloroethane	U	U		5.0
Chlorobenzene	U	U		5.0
Ethylbenzene	U	U		5.0
Styrene	U	U		5.0
Xylene (total)	U	U		5.0
Date Received		08/28/97		
Date Extracted	N/A	N/A		
Date Analyzed	09/09/97	09/09/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

Soi

TABLE VO-1.1
7097-2082A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	SB84-0-2	SB84-6-8	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKB9	972082A-01	972082A-02	
Method Blank I.D.	VBLKB9	VBLKB9	VBLKB9	
Quant. Factor	1.00	1.08	1.11	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	U	U	10
Acetone	U	3J	2J	5.0
Carbon Disulfide	U	38	16	10
Vinyl Acetate	U	U	U	5.0
1,1-Dichloroethene	U	U	U	10
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	U	U	U	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	U	5.0
1,1,1-Trichloroethane	U	U	U	10
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	U	U	U	5.0
Dibromochloromethane	U	40	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	U	U	U	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	U	5.0
2-Hexanone	U	U	U	10
Tetrachloroethene	U	U	U	10
Toluene	U	U	U	5.0
1,1,2,2-Tetrachloroethane	U	4J	U	5.0
Chlorobenzene	U	U	U	5.0
Ethylbenzene	U	U	U	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	U	5.0
Date Received		08/28/97	08/28/97	
Date Extracted		N/A	N/A	
Date Analyzed	N/A 09/09/97	09/09/97	09/09/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

Soil

TABLE VO-1.2
7097-2082A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	SB85-1-2	SB85-6-8		Quant. Limits with no Dilution
Lab Sample I.D.	972082A-03	972082A-04		
Method Blank I.D.	VBLKB9	VBLKB9		
Quant. Factor	1.09	1.14		
Chloromethane	U	U		10
Bromomethane	U	U		10
Vinyl Chloride	U	4J		10
Chloroethane	U	U		10
Methylene Chloride	3J	U		5.0
Acetone	15	U		10
Carbon Disulfide	U	U		5.0
Vinyl Acetate	U	U		10
1,1-Dichloroethene	U	U		5.0
1,1-Dichloroethane	U	U		5.0
1,2-Dichloroethene (total)	U	U		5.0
Chloroform	U	U		5.0
1,2-Dichloroethane	U	U		5.0
2-Butanone	U	U		10
1,1,1-Trichloroethane	U	U		5.0
Carbon Tetrachloride	U	U		5.0
Bromodichloromethane	U	U		5.0
1,2-Dichloropropane	U	U		5.0
cis-1,3-Dichloropropene	U	U		5.0
Trichloroethene	100	6		5.0
Dibromochloromethane	U	U		5.0
1,1,2-Trichloroethane	U	U		5.0
Benzene	U	U		5.0
trans-1,3-Dichloropropene	U	U		5.0
Bromoform	U	U		5.0
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5.0
Toluene	10	U		5.0
1,1,2,2-Tetrachloroethane	U	U		5.0
Chlorobenzene	U	U		5.0
Ethylbenzene	U	27		5.0
Styrene	U	U		5.0
Xylene (total)	2J	.8J <		5.0
Date Received	08/28/97	08/28/97		
Date Extracted	N/A	N/A		
Date Analyzed	09/09/97	09/10/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

Soil

TABLE VO-1.3
7097-2082A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	Method Blank	MW87-0-2	MW87-0-2 RE	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKDN	972082A-05	972082A-05RE	
Method Blank I.D.	VBLKDN	VBLKDN	VBLKDN	
Quant. Factor	1.00	1.05	1.05	
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	U	1J	5.0
Acetone	U	U	U	10
Carbon Disulfide	U	U	U	5.0
Vinyl Acetate	U	U	U	10
1,1-Dichloroethene	U	U	U	5.0
1,1-Dichloroethane	U	U	U	5.0
1,2-Dichloroethene (total)	U	U	U	5.0
Chloroform	U	U	U	5.0
1,2-Dichloroethane	U	U	U	5.0
2-Butanone	U	U	5J	10
1,1,1-Trichloroethane	U	U	U	5.0
Carbon Tetrachloride	U	U	U	5.0
Bromodichloromethane	U	U	U	5.0
1,2-Dichloropropane	U	U	U	5.0
cis-1,3-Dichloropropene	U	U	U	5.0
Trichloroethene	U	.6J	.9J	5.0
Dibromochloromethane	U	U	U	5.0
1,1,2-Trichloroethane	U	U	U	5.0
Benzene	U	U	U	5.0
trans-1,3-Dichloropropene	U	U	U	5.0
Bromoform	U	U	U	5.0
4-Methyl-2-Pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	U	U	5.0
Toluene	U	1J	2J	5.0
1,1,2,2-Tetrachloroethane	U	U	U	5.0
Chlorobenzene	U	U	U	5.0
Ethylbenzene	.9J	U	2JB	5.0
Styrene	U	U	U	5.0
Xylene (total)	U	U	U	5.0
Date Received		08/28/97	08/28/97	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	09/09/97	09/09/97	09/10/97	

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

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TABLE VO-1.4
7097-2082A
BLASLAND, BOUCK & LEE
TCL VOLATILE ORGANICS + TIC'S

All values are ug/Kg dry weight basis.

Client Sample I.D.	MW87-6-8	SB134-68		Quant. Limits with n Diluti
Lab Sample I.D.	972082A-06	972082A-08		
Method Blank I.D.	VBLKDN	VBLKDN		
Quant. Factor	1.11	1.11		
Chloromethane	U	U		10
Bromomethane	U	U		10
Vinyl Chloride	U	U		10
Chloroethane	U	U		10
Methylene Chloride	U	.9J		5.0
Acetone	U	U		10
Carbon Disulfide	U	2J		5.0
Vinyl Acetate	U	U		10
1,1-Dichloroethene	U	U		5.0
1,1-Dichloroethane	U	U		5.0
1,2-Dichloroethene (total)	U	U		5.0
Chloroform	U	U		5.0
1,2-Dichloroethane	U	U		5.0
2-Butanone	5J	5J		10
1,1,1-Trichloroethane	U	U		5.0
Carbon Tetrachloride	U	U		5.0
Bromodichloromethane	U	U		5.0
1,2-Dichloropropane	U	U		5.0
cis-1,3-Dichloropropene	U	U		5.0
Trichloroethene	U	U		5.0
Dibromochloromethane	U	U		5.0
1,1,2-Trichloroethane	U	U		5.0
Benzene	U	U		5.0
trans-1,3-Dichloropropene	U	U		5.0
Bromoform	U	U		5.0
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5.0
Toluene	U	U		5.0
1,1,2,2-Tetrachloroethane	U	U		5.0
Chlorobenzene	U	U		5.0
Ethylbenzene	160B	11B		5.0
Styrene	U	U		5.0
Xylene (total)	U	U		5.0
Date Received	08/28/97	08/28/97		
Date Extracted	N/A	N/A		
Date Analyzed	09/09/97	09/09/97		

See Appendix for qualifier definitions

Note: Compound detection limit = quantitation limit x quantitation factor
 Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-2.0
7097-2082A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Aqueous

Related Method Blank: VBLKGC

Lab Sample Id: VBLKGC Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

Lab Sample Id: 972082A-07 Client Sample Id: TB082797

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/L</u>
NONE DETECTED			

See Appendix for qualifier definitions

TABLE VO-2.1
7097-2082A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Related Method Blank: VBLKB9

Lab Sample Id: VBLKB9 Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN	25.84	82J

Lab Sample Id: 972082A-01 Client Sample Id: SB84-0-2

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN	25.87	87JB
556672	CYCLOTETRASIOXANE, OCTAMETH	23.42	44JN
	UNKNOWN SILOXANE	26.29	34J

Lab Sample Id: 972082A-02 Client Sample Id: SB84-6-8

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	26.25	26J
	UNKNOWN	23.35	6J

Lab Sample Id: 972082A-03 Client Sample Id: SB85-1-2

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN SILOXANE	26.22	68J
556672	CYCLOTETRASILXOANE, OCTAMETH	23.35	46JN

Lab Sample Id: 972082A-04 Client Sample Id: SB85-6-8

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
	UNKNOWN	25.63	34J
	UNKNOWN SILOXANE	26.16	11J
556672	CYCLOTETRASIOXANE, OCTAMETH	23.26	6JN

See Appendix for qualifier definitions

TABLE VO-2.2
7097-2082A
BLASLAND, BOUCK & LEE
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Related Method Blank: VBLKDN

Lab Sample Id: VBLKDN Client Sample Id: Method Blank

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972082A-05 Client Sample Id: MW87-0-2

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
121-43-7	BORIC ACID, TRIMETHYL ESTER	10.32	5JN

Lab Sample Id: 972082A-05RE Client Sample Id: MW87-0-2RE

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972082A-06 Client Sample Id: MW87-6-8

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
NONE DETECTED			

Lab Sample Id: 972082A-08 Client Sample Id: SB134-68

<u>CAS#</u>	<u>Compound</u>	<u>RT</u>	<u>Estimated Conc., ug/Kg</u>
121-43-7	BORIC ACID, TRIMETHYL ESTER	10.80	12JN

See Appendix for qualifier definitions

ORGANICS APPENDIX

- U - Indicates that the compound was analyzed for but not detected.
- J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.
- B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.
- N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.
- S - Estimated due to surrogate outliers.
- X - Matrix spike compound.
- (1) - Cannot be separated.
- (2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.
- A - This flag indicates that a TIC is a suspected aldol condensation product.
- E - Indicates that it exceeds calibration curve range.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C - Confirmed by GC/MS.
- T - Compound present in TCLP blank.
- P - This flag is used for a pesticide/aroclor target analyte when there is a greater than 25 percent difference for detected concentrations between the two GC columns (see Form X).

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the AEN-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

AEN-Connecticut Certification Summary (as of September 1997)

State	Responsible Agency	Certification	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Human Services	Wastewater	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste	10602
North Carolina	Division of Environmental Management	Wastewater Hazardous Waste	388
North Dakota	Department of Health and Consolidated Laboratories	Non-Potable/Potable Hazardous Waste	R-138
Oklahoma	Department of Environmental Quality	General Water Quality/ Sludge Testing	9614
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Washington	Department of Ecology	Wastewater/ Hazardous Waste	2C231
West Virginia	Division of Environmental Protection	Wastewater/ Hazardous Waste	263
Wisconsin	Department of Natural Resources	Wastewater/ Hazarous Waste	998355710

7097-2082A
BLASLAND, BOUCK & LEE
SAMPLE SUMMARY

CLIENT ID	LAB ID	MATRIX	DATE COLLECTED	DATE RECEIVED
SB84-0-2	972082A-01	SOIL	08/26/97	08/28/97
SB84-6-8	972082A-02	SOIL	08/26/97	08/28/97
SB85-1-2	972082A-03	SOIL	08/26/97	08/28/97
SB85-6-8	972082A-04	SOIL	08/26/97	08/28/97
MW87-0-2	972082A-05	SOIL	08/26/97	08/28/97
MW87-6-8	972082A-06	SOIL	08/26/97	08/28/97
TB082797	972082A-07	WATER	08/26/97	08/28/97
SB134-68	972082A-08	SOIL	08/26/97	08/28/97

IEA-CT ANALYTICAL SUMMARY

Page:1

Client ID: MW87-0-2, MW87-6-8, SB134-68, SB84-0-2, SB84-6-8, SB85-1-2,
SB85-6-8, TB082797
Job Number: 7097-2082A

Date: 9/24/97

Qty	Matrix	Analysis	Description
8	None	DISK	Diskette Prep.
7	SOIL	VOA-8260A-TCL-10	TCL Volatile Organic
1	WATER	VOA-8260A-TCL-10	TCL Volatile Organic

Attachment C
Phase I Completion Statement
September 24, 1996

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

Release Tracking Number

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

(*) 1 - 10739

A. SITE LOCATION:

Site Name: (optional) Monsanto Company 1-0184 (SWDA No. 1 & 2, LWDA No. 1 & 2, Burning Pits A-D, Fiberloid Landfill, Bdg. 99 Leach Fields, Former Bdg. 44/Tank Farm E and Tank Pit 1/W. Resins Area & Bdg. 85 and remaining site
Street: 730 Worcester Street Location Aid: Waiver No. 1-0184 excluding 1-018

City/Town: Springfield, MA ZIP Code: 01151

Related Release Tracking Numbers that this Form Addresses: (*) 1-10739 through 1-10749

Tier Classification: (check one of the following) Tier IA Tier IB Tier IC Tier II Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number: _____

B. THIS FORM IS BEING USED TO: (check all that apply)

- Submit a Phase I Completion Statement, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).
- Submit a Phase II Scope of Work, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).
- Submit a final Phase II Comprehensive Site Report and Completion Statement, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).
- Submit a Phase III Remedial Action Plan and Completion Statement, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).
- Submit a Phase IV Remedy Implementation Plan, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).
- Submit an As-Built Construction Report, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).
- Submit a Phase IV Final Inspection Report and Completion Statement, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).
- Submit a periodic Phase V Inspection & Monitoring Report, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).
- Submit a final Phase V Inspection & Monitoring Report and Completion Statement, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies: _____

D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

- Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.
- The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.
- The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP. for 1-10739, 1-10741 through 1-10749.
- Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

- Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)
- The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.
- The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE



COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

1 - 10739

E. PHASE IV COMPLETION STATEMENT: (continued)

The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

Active Operation and Maintenance Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

F. PHASE V COMPLETION STATEMENT:

Specify the outcome of Phase V activities:

The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

Active Operation and Maintenance Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

G. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> if Section B indicates that a Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that a Phase II Scope of Work or a Phase IV Remedy Implementation Plan is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that an As-Built Construction Report or a Phase V Inspection and Monitoring Report is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

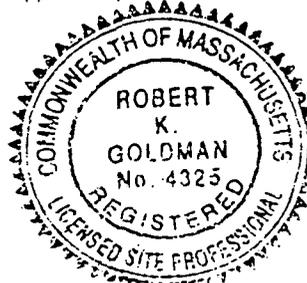
LSP Name: Robert K. Goldman, P.E. LSP #: 4325 Stamp:

Telephone: (315) 446-9120 Ext.: 228

FAX: (optional) (315) 449-4111

Signature:

Date: 9/13/96





COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number

1 - 10739

H. PERSON UNDERTAKING RESPONSE ACTION(S):

Name of Organization: Monsanto Company

Name of Contact: Edward S. Jamro Title: Manager Environmental Protection

Street: 730 Worcester Street

City/Town: Springfield State: MA ZIP Code: 01151

Telephone: (413) 730-3397 Ext.: _____ FAX: (optional) (413) 730-3299

Check here if there has been a change in the person undertaking the Response Action.

I. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTION(S): (check one)

RP or PRP Specify: Owner Operator Generator Transporter Other RP or PRP: _____

Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

Any Other Person Undertaking Response Action Specify Relationship: _____

J. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTION(S):

I, Edward S. Jamro, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Edward S. Jamro Title: Manager Environmental Protection
(signature)

For: Monsanto Company Date: 9/24/96
(print name of person or entity recorded in Section H)

Enter address of the person providing certification, if different from address recorded in Section H:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

***Attachment D
Tier II Transfer Submittal from
Monsanto Company to Queeny
Chemical Company, June 27, 1997***

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Queeny Chemical Company

800 N. Lindbergh Boulevard
St. Louis, Missouri 63167

June 27, 1997

Mr. Saadi Motamedi - Section Chief of Emergency Response
Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
436 Dwight Street
Springfield, MA 01103

Re: **Tier II Transfer Submittal- # MA-1-0184-1**
Indian Orchard Plant
730 Worcester Street
Springfield, MA 01151

Dear Mr. Motamedi:

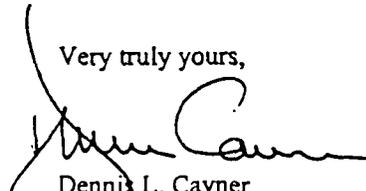
Monsanto Company ("Monsanto") is in the process of separating its chemicals business into a separate, publicly-traded company. On or about August 1, 1997, certain of Monsanto's assets, including the Indian Orchard plant, will be transferred to Queeny Chemical Company ("Queeny"), currently a wholly owned subsidiary of Monsanto. On or about September 1, 1997, the common stock of Queeny will be distributed to Monsanto shareholders and will then be publicly traded. The transaction is subject to the approval of the Monsanto shareholders and several regulatory agencies.

Monsanto's Indian Orchard plant is a non-priority MCP Tier II classified site under the MADEP Release Tracking Number (RTN) 1-0184-1; associated with the site is also linked by RTN 1-10739 through 1-10749. Monsanto is also identified as the property owner for RTN 1-11692 through 1-11694 with NOVA Chemicals, Inc. as the operator. Enclosed is a Tier II Transfer Submittal transferring the RTN's listed above to Queeny, effective as of September 1, 1997. The transaction described above will not result in any change in Indian Orchard's operations, nor will the plant contacts or phone numbers change.

Please be advised that Queeny is an interim name. The Chemicals Company expects to select and announce a permanent name sometime in July. We will notify you of the permanent name as soon as it is announced, and suggest that MADEP not change the MADEP MCP site database until the permanent name is selected.

If you have any questions concerning Indian Orchard's Tier II Transfer submittal, please contact Kelvin Kwong (413) 730-2447.

Very truly yours,



Dennis L. Cavner
Vice President

Enclosure

cc: Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
1 Winter Street
Boston, MA 02108

Certified Mail - Z 411 234 988
Return Receipt Requested

Mr. Robert Goldman P.E. LSP. Blasland, Bouck & Lee, Inc.



TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

1 - 0000184

A. DISPOSAL SITE LOCATION:

Disposal Site Name: Monsanto Company
Street: 730 Worcester Street
City/Town: Springfield, MA
ZIP Code: 01151
Related Release Tracking Numbers That This Submittal Will Address: 1-11692 thru 1-11694, 1-10739 thru 1-10749

B. THIS FORM IS BEING USED TO: (check all that apply)

- Submit a new or revised Tier Classification Submittal for a Tier I Site...
Submit a new or revised Tier Classification Submittal for a Tier II Site...
Submit a Notice that an additional Release Tracking Number(s) is (are) being linked...
List Additional Release Tracking Number(s):
Submit a Phase I Completion Statement...
Submit a Tier II Extension Submittal for Response Actions...
Submit a Tier II Extension Submittal for Response Actions taken after expiration of a Waiver...
[X] Submit a Tier II Transfer Submittal for a change in person(s) undertaking Response Actions at a Tier II Site...
Submit a Tier II Transfer Submittal for a change in person(s) undertaking Response Actions at a Waiver Site...

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

*NOTE: The Waiver expires on the effective date of this submittal and all further Response Actions must be taken as a Tier II Site.

C. TIER CLASSIFICATION SUBMITTAL:

Numerical Ranking Score for Disposal Site: (from Numerical Ranking Scoresheet)
Proposed Tier Classification of Disposal Site: (check one) Tier IA Tier IB Tier IC Tier II

Check which, if any, of the Tier I inclusionary criteria are met by the Disposal Site, pursuant to 310 CMR 40.0520:

- Groundwater is located within an Interim Wellhead Protection Area or a Zone II...
An Imminent Hazard is present at the time of Tier Classification.
Check here if this Tier Classification revises a previous submittal for this Disposal Site...
If incorporating additional Release(s) into the Disposal Site, list Release Tracking Number(s):

D. TIER II EXTENSION SUBMITTAL REQUIREMENTS:

State the expiration date of the Tier II Classification or Waiver for the Disposal Site, whichever is applicable:
Attach a statement summarizing why a Permanent or Temporary Solution has not been achieved at the Disposal Site.
A Tier II Extension is effective for a period of one year beyond the current expiration date of the Tier II Classification or Waiver.

TIER II TRANSFER SUBMITTAL REQUIREMENTS:

State the proposed effective date of the change in person(s) undertaking Response Actions at the Disposal Site: September 1, 1997
Attach a statement summarizing the reasons for the proposed change in person(s) undertaking the Response Actions.
Response Actions must be completed by the deadline applicable to the person who first filed either a Tier Classification Submittal for the Disposal Site or received a Waiver of Approvals.



TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM
Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

1 - 0000184

F. DISPOSAL SITE COMPLIANCE HISTORY SUMMARY:

- > If providing either a Tier Classification Submittal for a Tier II Site or a Tier II Extension Submittal for a Waiver Site, the person named in Section J must provide a Compliance History.
> If providing a Tier II Extension Submittal for a Tier II Site, the person named in Section J must update their Compliance History since the effective date of the Tier II Classification.
> If providing a Tier II Transfer Submittal for a Tier II or Waiver Site, the person named in Section M must provide a Compliance History.

Compliance History for (provide only one name per History): Queeny Chemical Company

Check here if there has been no change to the Compliance History of the person named above (Extension Submittal for a Tier II Site ONLY). See attached listing.

List all permits or licenses that have been issued by the Department that are relevant to this Disposal Site:

Table with 4 columns: PROGRAM, PERMIT NUMBER, PERMIT CATEGORY, FACILITY ID. Rows include Air Quality, Hazardous Waste (M.G.L. c. 21C), Solid Waste, Industrial Wastewater Management, Water Supply, Water Pollution Control/Surface Water, Water Pollution Control/Groundwater, Water Pollution Control/Sewer Connection, Wetland & Waterways.

List all other Federal, state or local permits, licenses, certifications, registrations, variances, or approvals that are relevant to this Disposal Site:

Table with 3 columns: ISSUING AUTHORITY OR PROGRAM, OR DOCUMENTATION TYPE; IDENTIFICATION NUMBER; DATE ISSUED.

needed, attach to this Transmittal Form a statement further describing the Compliance History of this Disposal Site. This statement must describe the compliance history of the person named above with the following:

- (1) DEP regulations; and
(2) other laws for the protection of health, safety, public welfare and the environment administered or enforced by any other government agency.

Such a statement should identify information such as:

- (1) actions relevant to the Disposal Site taken by the Department to enforce its requirements including, but not limited to, a Notice of Noncompliance (NON), Notice of Intent to Assess Civil Administrative Penalty (PAN), Notice of Intent to Take Response Action (NORA), and an administrative enforcement order;
(2) administrative consent orders;
(3) judicial consent judgements;
(4) similar administrative actions taken by other Federal, state or local agencies;
(5) civil or criminal actions relevant to the Disposal Site brought on behalf of the DEP or other Federal, state, or local agencies; and
(6) any additional relevant information.

For each action identified, provide the following information:

- (1) name of the issuing authority, type of action, identification number and date issued;
(2) description of noncompliance cited;
(3) current status of the matter; and
(4) final disposition, if any.



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Release Tracking Number

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

1 - 0000184

G. CERTIFICATION OF ABILITY AND WILLINGNESS:

- > If providing either a Tier II Classification Submittal or a Tier II Extension Submittal, the person who signs this certification **MUST** be the person named in Section J, or that person's agent.
- > If providing a Tier II Transfer Submittal, the person who signs this certification **MUST** be the person named in Section M, or that person's agent.

I attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/vis familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the/those Licensed Site Professional(s) employed or engaged to render Professional Services for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

By: [Signature] Title: Vice President
(signature)

For: Queeney Chemical Company Date: 6/27/97
(print name of person or entity recorded in Section J or M, as appropriate)

If you are submitting either a Tier II Extension Submittal for a Waiver Site or a Tier II Transfer Submittal for a Waiver Site, you may choose to sign the alternative Ability and Willingness Certification found in Section H in place of providing the certification in Section G and the LSP Opinion in Section I.

H. ALTERNATIVE CERTIFICATION OF ABILITY AND WILLINGNESS:

- If providing a Tier II Extension Submittal for a Waiver Site, the person who signs this certification **MUST** be the person named in Section J, or that person's agent
- > If providing a Tier II Transfer Submittal for a Waiver Site, the person who signs this certification **MUST** be the person named in Section M, or that person's agent.

I attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/vis familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the Consultant-of-Record for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

By: _____ Title: _____
(signature)

For: _____ Date: _____
(print name of person or entity recorded in Section J or M, as appropriate)

LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

- > if Section B of this form indicates that a Tier I or Tier II Classification Submittal which relies upon a previously submitted Phase I Completion Statement is being submitted, this Tier Classification Submittal has been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;
- > if Section B of this form indicates that a Phase I Completion Statement or a Tier I or Tier II Classification Submittal which does not rely upon a previously submitted Phase I Completion Statement is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

SECTION I IS CONTINUED ON THE NEXT PAGE



TIER CLASSIFICATION, TIER II EXTENSION -
TIER II TRANSFER TRANSMITTAL FORM
Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

1 - 0000184

I. LSP OPINION: (continued)

> if Section B of this form indicates that a Tier II Extension Submittal or a Tier II Transfer Submittal is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

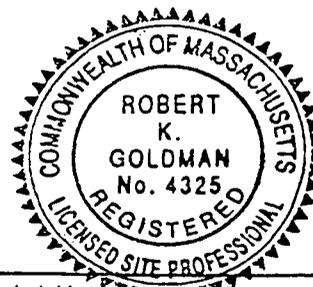
LSP Name: ROBERT K. GOLDMAN LSP #: _____ Stamp: _____

Telephone: 315-446-9120 Ext.: _____

FAX: (optional) _____

Signature: [Signature]

Date: 7/1/97



J. PERSON MAKING SUBMITTAL: (For Transfer Submittals describe person currently undertaking response actions, not transferee)

Name of Organization: Monsanto Company

Name of Contact: Jack Mayausky Title: Plant Manager

Street: 730 Worcester Street

City/Town: Springfield State: MA ZIP Code: 01151

Telephone: (413) 730-3000 Ext.: - FAX: (optional) _____

K. RELATIONSHIP TO DISPOSAL SITE OF PERSON MAKING SUBMITTAL: (check one)

RP or PRP Specify: Owner Operator Generator Transporter Other RP or PRP: _____

Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

Any Other Person Making Submittal Specify Relationship: _____

L. CERTIFICATION OF PERSON MAKING SUBMITTAL:

Jack Mayausky, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. The person or entity on whose behalf this submittal is made and is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: [Signature] Title: Plant Manager
(signature)

for: Monsanto Company Date: 6/24/97
(print name of person or entity recorded in Section J)

Enter address of the person providing certification(s), including Ability and Willingness Certification where applicable, if different from address recorded in Section J:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

1 - 0000184

Only complete and submit this page if you are providing a Tier II Transfer Submittal for a Tier II Site or a Waiver Site.

M. PERSON WHO IS TRANSFEREE:

Name of Organization: Queeny Chemical Company
Name of Contact: Dennis L. Cavner Title: Vice President
Street: 800 N. Lindbergh Blvd.
City/Town: St. Louis State: MO ZIP Code: 63167
Telephone: (314) 694-5006 Ext.: - FAX: (optional) _____

N. RELATIONSHIP TO DISPOSAL SITE OF PERSON WHO IS TRANSFEREE: (check one)

- RP or PRP Specify: Owner Operator Generator Transporter Other RP or PRP: _____
 Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
 Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
 Any Other Person Who is Transferee Specify Relationship: _____

D. CERTIFICATION OF PERSON WHO IS TRANSFEREE:

Dennis L. Cavner, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/are aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: [Signature] Title: Vice President
(signature)
For: Queeny Chemical Company Date: 6/27/97
(print name of person or entity recorded in Section M)

Enter address of the person providing certification, if different from address recorded in Section M:
Street: _____
City/Town: _____ State: _____ ZIP Code: _____
Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.

TABLE 1

CHRONOLOGY OF PREVIOUS INVESTIGATIONS
MONSANTO COMPANY
INDIAN ORCHARD PLANT

Date	Author	Title
April 1979	Monsanto Research Corp.	Eckhardt Committee Survey Report
October 1980	Monsanto Research Corp.	Chicopee River Surface Water Analyses
June 10 1981	Monsanto Research Corp.	Analysis of Springfield Surface Water Sample for Priority and Select Non-Pollutants
September 1982*	O'Brien & Gere Engineers, Inc.	Ground-Water Investigation Program Plan
December 1982*	Monsanto Plastics & Resins Co.	History of On-Site Waste Disposal Operations at Monsanto Company - Springfield and Bircham Bend Plant 1938.
February 1983*	O'Brien & Gere Engineers, Inc.	Field Investigation Report
March 10, 1983*	Monsanto Research Corp.	Assessment of Hydrogeology and Impact on Water Quality from Past Disposal Practices at the Monsanto Indian Orchard Plant Site
July 27, 1983*	Monsanto Research Corp.	Analysis of Indian Orchard Water Sampled
September 29, 1983	Monsanto Research Corp.	Analytical Results for Water Samples from Indian Orchard Plant
February 1984*	Blasland & Bouck Engineers	Remedial Investigation Plan
August 1984*	Blasland & Bouck Engineers	Phase I Report - Remedial Investigation Plan
October 1984*	Blasland & Bouck Engineers	Site Specific Compound Evaluation
December 1984*	Blasland & Bouck Engineers	Phase II Report - Remedial Investigation Plan
December 13, 1984*	A.S. Alsup & Associates	Earth Penetrating Radar Study - Indian Orchard Plant
February 1985*	Blasland & Bouck Engineers	Phase II Report - Remedial Investigation Plan Addendum
September 1986*	Blasland & Bouck Engineers	Magnetometer and Test Pit Program in Waste Disposal Areas
January 1987	Blasland & Bouck Engineers	Hazardous Waste Storage Area Investigation, letter report

TABLE 1

CHRONOLOGY OF PREVIOUS INVESTIGATIONS
MONSANTO COMPANY
INDIAN ORCHARD PLANT

Date	Author	Title
March 1987*	Blasland & Bouck Engineers	Comprehensive Site Assessment Report
September 20, 1988	Blasland & Bouck Engineers	Waste Water Equalization Facility Tank Foundation Assessment, letter report
October 1988	Blasland & Bouck Engineers	Polysar UST Area Hydrogeologic Investigation Report
November 1988	Blasland & Bouck Engineers	Drum Spill Cleanup Record
October 1989	Blasland & Bouck Engineers	Former Building 44 Hydrogeologic Investigation
August 20, 1992	Blasland & Bouck Engineers	Environmental Sampling Analytical Results, letter report
November 1992	Monsanto Chemical Company/Empire Soils	Geotechnical Investigation Proposed Tanks and Pipe Bridge, Monsanto Indian Orchard Plant
January 5, 1993	Blasland & Bouck Engineers	Monitoring Well Replacement, letter report
1985 to 1992*	Blasland & Bouck Engineers	Annual Site-Wide Ground-Water Monitoring
December 30, 1993	Envirox Company	SWMU/RCRA Closures of Two Underground Accumulation Tanks

Notes:

Investigations were conducted to address the April 12, 1984 Administrative Consent Order with the United States Environmental Protection Agency (USEPA) Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Memorandum of Understanding between the USEPA and the Massachusetts Department of Environmental Quality Engineering (DEQE).

The Indian Orchard Plant is currently regulated under USEPA Voluntary Corrective Action as of February 29, 1996, and Massachusetts Department of Environmental Protection (MADEP) Massachusetts Contingency Plan (MCP) as of Waiver Approval date November 13, 1991.

TABLE 2

CHRONOLOGY OF MCP SUBMITTALS
MONSANTO COMPANY
INDIAN ORCHARD PLANT
WAIVER NUMBER 1-0184

Date	Author	Title
July 10, 1991	Blasland, Bouck & Lee, Inc.	MCP Waiver Application.
November 13, 1991	MADEP	Waiver of Approvals (effective date).
February 2, 1993	Monsanto Company	First Annual MCP Waiver Status Report.
January 17, 1994	Blasland, Bouck & Lee, Inc.	Second Annual MCP Waiver Status Report.
May 1994	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment Work Plan, Volumes I, II and III.
May 1994	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment Quality Assurance Project Plan.
May 1994	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment Health & Safety Plan.
February 22, 1995	Monsanto Company	Third Annual MCP Waiver Status Report.
April 1996	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation/MCP Phase II Comprehensive Site Assessment Report, Volume I and II.
April 17, 1996	Monsanto Company	Fourth Annual MCP Waiver Status Report.
September 1996	Blasland, Bouck & Lee, Inc.	Supplemental RCRA Facility Investigation Risk Assessment/MCP Phase II Comprehensive Site Assessment Risk Characterization.
September 25, 1996	Blasland, Bouck & Lee, Inc.	Fifth Annual MCP Waiver Program and First Annual Voluntary RCRA Corrective Action Program Status Report.

***Attachment E
Tier II Transfer Submittal from
Queeny Chemical Company to
Solutia Inc., August 26, 1997***

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

August 26, 1997

Mr. Saadi Motamedi - Section Chief of Emergency Response
Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
436 Dwight Street
Springfield, MA 01103

Reference: **Tier II Transfer Submittal- # MA-1-0184-1**
Indian Orchard Plant
730 Worcester Street
Springfield, MA 01151

Dear Mr. Motamedi:

On June 27, 1997 we submitted the necessary paperwork (cover letter attached) to transfer the RTN's listed on the attached cover letter from the Monsanto Company to Queeny Chemical Company as a result of the separation of the Chemicals Business into a new, separate entity. At that time, we indicated that Queeny Chemical Company was an interim name and we would update you on the name and other pertinent data as soon as possible. The final name decision has been made. Please modify your records to reflect the following:

Name: Solutia Inc.
Corporate 10300 Olive Boulevard
Address: P. O. Box 66760
St. Louis, Missouri 63166-6760
Corporate (314) 674-1000
Phone:

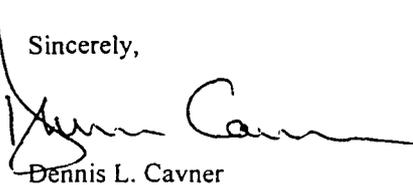
Your primary contact for this permit remains:

Kelvin Kwong
730 Worcester Street
Springfield, MA 01151
(413) 730-2447

This is only to inform you of the final name, corporate address and corporate phone number for the new corporation. All other data included in the original submission remain as submitted on June 27, 1997. This is on plain paper without letterhead since new letterhead is not yet available. Future communications should be directed to the names and addresses included in the body of the letter.

Please contact Kelvin Kwong if you have questions concerning this permit or information.

Sincerely,



Dennis L. Cavner
Vice President
Solutia Inc.



Attachment

cc: Massachusetts Department of Environmental Protection P 260 538 214
Bureau of Waste Site Cleanup
1 Winter Street
Boston, MA 02108

Mr. Robert Goldman P.E. LSP, Blasland, Bouck & Lee, Inc. P 260 538 213

***Attachment F
Numerical Ranking System
Scoresheet for RTN 1-0011901***

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Waste Site Cleanup

NUMERICAL RANKING SYSTEM SCORESHEET
(310 CMR 40.1511)

CLASSIFICATION SUBMITTAL	
Initial Submittal	Re-Classification
<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISPOSAL SITE SCORE					
II	III	IV	V	VI	TOTAL
<u>35</u>	<u>130</u>	<u>30</u>	<u>40</u>	<u>30</u>	<u>265</u>

Disposal Site Tier Classification	I	II	
Permit Category (Tier I Only)	A	B	C

I. DISPOSAL SITE INFORMATION

DEP Release Tracking Number(s)	1-0011901
DEP Disposal Site Number(s)	

UTM Coordinates	N: 4,670,260
	E: 705,050

Disposal Site Name	Indian Orchard Plant - Former Gas Holder Area		
Disposal Site Address	730 Worcester Street		
	City: Springfield, MA	Zip:	01151

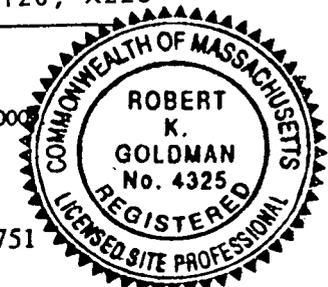
Is the Disposal Site classified Tier I because it is located within the boundaries of a Zone II or Interim Wellhead Protection Area and groundwater concentrations equal or exceed RCGW-1 at the time of Tier Classification pursuant to 310 CMR 40.0520(2)(a)1.?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Disposal Site classified Tier I because an Imminent Hazard is present at the time of Tier Classification pursuant to 310 CMR 40.0520(2)(a)2.?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

I attest under the pains and penalties of perjury that I have personally completed this Numerical Ranking System Scoresheet, and have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, and in my professional opinion and judgment based upon: (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief, this Scoresheet was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000. I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

[Signature] 4325 Date 7/1/98
Licensed Site Professional Signature LSP Registration Number

Mr. Robert K. Goldman, P.E., Blasland, Bouck & Lee, Inc. 315 446 9120, x228
LSP Name (Printed) Company Name Telephone Number

Mr. Roy P. Hart, Supervisor Environmental Protection, Solutia, Inc.
Responsible Party, Potentially Responsible Party, or Other Person who will provide certification in accordance with 310 CMR 40.0000



0.1511 (Continued)

II. EXPOSURE PATHWAYS

MEDIA	DESIGNATION			
	NONE or NOT APPLICABLE	EVIDENCE OF CONTAMINATION	POTENTIAL EXPOSURE PATHWAY	LIKELY OR CONFIRMED EXPOSURE PATHWAY
A. SOIL (Includes Sediment)	0	15	100	150
B. GROUNDWATER	0	20	100	150
C. SURFACE WATER (Includes Wetlands)	0	20	100	150
D. AIR	0	15	100	200

Note: Score only the highest value for each media, i.e., score None or Not Applicable or Evidence of Contamination or Potential Exposure Pathway or Likely or Confirmed Exposure Pathway.

I. (A - D) Summary Rationale for Section II A - D Values and Phase I Report References	
A.	Soil Samples collected from borings MW-83S, SB-72, SB-73, SB-74 and SB-77 at depths of 5 to 6 feet below ground surface and boring SB-83 from depths of 6 to 12 feet below ground surface had concentrations of vinyl chloride, 1,2 dichloroethane and/or trichloroethene above MCP Reportable Concentrations for Category RCS-2.
B.	Ground-water samples collected from monitoring wells MW-58S, MW83S, and MW-86S had concentration of ethylbenzene and vinyl chloride above MCP Reportable Concentration for Category RCGW-2.
C.	Surface water samples were collected from the Chicopee River at locations up and downstream of the project area. No VOC constituents were detected in the surface-water samples.

I.E. OHM SOURCES			
Number of OHM Sources	1	2	≥ 3
	0	25	50

SECTION II SCORE (A. + B. + C. + D. + E.)					
A.	B.	C.	D.	E.	TOTAL: (15 - 700)
15	20	0	0	0	35

Check here if Section VI has been used to amend the score for this Section of the NRS.

D. The area is covered with intact asphalt or concrete that was resurfaced in 1997. Therefore, air impact is not applicable to this area.

40.1511 (Continued)

III. DISPOSAL SITE CHARACTERISTICS

III.A. OHM TOXICITY SCORE <i>Highest OHM Toxicity Score</i> <i>From Table III A. or Worksheet III A.1. on Following Pages.</i>	
OHM Scored: <u>Vinyl Chloride (CAS No. 00075-01-4)</u>	Toxicity Score (1 - 80)
Concentration and Media: <u>2,200 ug/L - Ground Water</u>	<u>35</u>

III.B. MULTIPLE OHMs		
More Than One OHM With an OHM Toxicity Score of ≥ 30 (CAS 00100-41-4)	No	Yes
Vinyl Chloride <u>2,200 ug/L in water</u>	0	(30)

III.C. OHM MOBILITY and PERSISTENCE <i>according to 40.1514 - OHM Mobility and Persistence</i>	
OHM Scored: <u>Trichloroethene (CAS No. 00079-01-6)</u>	Score (0 - 50)
	<u>45</u>

III.D. DISPOSAL SITE HYDROGEOLOGY <i>Score according to 40.1515 - Soil Permeability</i>			
DEPTH TO GROUNDWATER (in feet)	SOIL PERMEABILITY		
	Low	Medium	High
> 25	2	4	8
10.1 - 25	4	8	12
5.1 - 10	8	12	16
0 - 5	12	16	(20)

SECTION III SCORE (A + B + C + D)				
A.	B.	C.	D.	TOTAL: (3.- 180)
<u>35</u>	<u>30</u>	<u>45</u>	<u>20</u>	<u>130</u>

Check here if Section VI has been used to amend the score for this Section of the NRS.	<input type="checkbox"/>
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40.1511 (Continued)

Table III.A. OHM TOXICITY SCORE							
OHM	CONCENTRATION (soil/sediment: µg/g; surface/groundwater µg/l)						
	≤ 99	100 - 999	1,000 - 9,999	10,000 - 100,000	> 100,000 NAPL < 0.5"	NAPL 0.5" - 12"	NAPL > 12"
Arsenic	20	30	40	50	60		
Benzene	15	25	35	45	55	65	75
Bis(2-ethoxy)phthalate	10	20	30	40	50	60	70
Cadmium	10	20	30	40	50		
Carbon Tetrachloride	20	30	40	50	60	70	80
Chlorobenzene	5	15	25	35	45	55	65
Chromium III	1	10	20	30	40		
Chromium VI	10	20	30	40	50		
Coal Tar	5	15	25	35	45	55	65
Cyanide	5	15	25	35	45		
1,1 Dichloroethane	10	20	30	40	50	60	70
1,2 Dichloroethane	10	20	30	40	50	60	70
Ethylbenzene	5	15	25	35	45	55	65
Ethylene Dibromide	20	30	40	50	60	70	80
#2 Fuel Oil (virgin product)	5	15	25	35	45	55	65
Gasoline (virgin product)	10	20	30	40	50	60	70
Lead	20	30	40	50	60		
Mercury	20	30	40	50	60	70	80
Methylene Chloride	10	20	30	40	50	60	70
Methyl Ethyl Ketone	5	15	25	35	45	55	65
Methyl Tert Butyl Ether	10	20	30	40	50	60	70
Nickel	5	15	25	35	45		
Phenol	1	10	20	30	40	50	60
PAHs	10	20	30	40	50	60	70
PCBs	20	30	40	50	60	70	80
Tetrachloroethylene	10	20	30	40	50	60	70
Toluene	1	10	20	30	40	50	60
1,1,1 Trichloroethane	5	15	25	35	45	55	65

Table III.A. OHM TOXICITY SCORE							
OHM	CONCENTRATION (soil/sediment: µg/g; surface/groundwater µg/l)						
	≤ 99	100 - 999	1,000 - 9,999	10,000 - 100,000	> 100,000 NAPL < 0.5"	NAPL 0.5" - 12"	NAPL > 12"
Trichloroethylene	15	25	35	45	55	65	75
Vinyl Chloride	15	25	35	45	55	65	75
Xylenes	1	10	20	30	40	50	60
Zinc	1	10	20	30	40		

40.1511 (Continued)

IV. HUMAN POPULATION AND LAND USES

IV.A. HUMAN POPULATION				
Residential Population Within 1/8 Mile	None 0	1 - 99 5	100 - 999 10	≥ 1,000 15
Institutions Within 500 feet	None 0		One or More 10	
On-Site Workers	None 0	1 - 99 5	100 - 999 10	≥ 1,000 15

IV.B. AQUIFERS		
Sole Source Aquifer	No 0	Yes 25
Name: _____		
Potentially Productive Aquifer	No 0	Medium or High 15

IV.C. WATER USE					
Proximity of Disposal Site to Public Drinking Water Supply Source	Not Applicable (NA) 0			Zone A 20	Zone II, IWPA, or SW Intake ≤ 400' 50
Persons Served by Public Drinking Water Supply	NA 0	25 - 999 5	1,000 - 4,999 10	5,000 - 49,999 20	≥ 50,000 25
Private Water Supplies Within 500 Feet	None 0		Commercial Industrial 10	Agriculture Residential (Not Ingested) 15	Drinking Food Processing 25
Alternative Public Water Supply Available (Viable Public Water Supply in Disposal Site Community and Public Water Connection ≤ 500 Feet from Site)	Yes 0			No 25	

SECTION IV SCORE (A + B + C)			
A. 30	B. 0	C. 0	TOTAL: (0 - 205) 30

Check here if Section VI has been used to amend the score for this Section of the NRS.	<input type="checkbox"/>
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40.1511 (Continued)

V. ECOLOGICAL POPULATION

V.A. ENVIRONMENTAL RESOURCE AREAS			
RESOURCE	LOCATION		
Area of Critical Environmental Concern	> 500' from Site 0	≤ 500' from Site 20	On-Site 30
Species of Special Concern, Threatened or Endangered Species Habitat	> 500' from Site 0	On-Site or ≤ 500' from Habitat 30	
Wetlands, Certified Vernal Pool, or Outstanding Resource Water	> 100' from Site 0	≤ 100' from Site 20	On-Site 30
Fish Habitat	> 500' from Site 0	≤ 500' from Site 20	On-Site 30
Protected Open Space (Local/State/Federal/Trustee)	> 500' from Site 0	≤ 500' from Site 20	On-Site 30

SCORE SECTION V.B. ONLY IF SECTION V.A. SCORE IS ≥ 30.

V.B. ENVIRONMENTAL TOXICITY SCORE

*Highest Environmental Toxicity Score
From Table V.B. or Worksheet V.B.I. on Following Pages.*

OHM Scored: <u>Vinyl Chloride</u>	Toxicity Score (1 - 35)
Concentration and Media: <u>2,200 ug/L - Ground Water</u>	<u>20</u>

SECTION V. SCORE (A. + B.)		
A. <u>20</u>	B. <u>20</u>	TOTAL: (0 - 185) <u>40</u>

Check here if Section VI has been used to amend the score for this Section of the NRS.	<input type="checkbox"/>
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40.1511 (Continued)

Table V.B. ENVIRONMENTAL TOXICITY SCORE					
OHM	CONCENTRATION (soil/sediment: µg/g; surface/groundwater µg/l)				
	< 1	1 - 99	100 - 999	1,000 - 9,999	≥ 10,000
Arsenic	5	10	15	20	25
Benzene	0	1	5	10	15
Bis(2-ethylhexyl)phthalate *	5	10	15	20	25
Cadmium	10	15	20	25	30
Carbon Tetrachloride	0	1	5	10	15
Chlorobenzene *	5	10	15	20	25
Chromium III	1	5	10	15	20
Chromium VI	5	10	15	20	25
Coal Tar *	5	10	15	20	25
Cyanide	5	10	15	20	25
1,1 Dichloroethane *	5	10	15	20	25
1,2 Dichloroethane	0	1	5	10	15
Ethylbenzene	0	1	5	10	15
Ethylene Dibromide *	5	10	15	20	25
#2 Fuel Oil (virgin product) *	1	5	10	15	20
Gasoline (virgin product) *	5	10	15	20	25
Lead	5	10	15	20	25
Mercury	15	20	25	30	35
Methylene Chloride *	5	10	15	20	25
Methyl Ethyl Ketone *	5	10	15	20	25
Methyl Tert Butyl Ether *	1	5	10	15	20
Nickel	1	5	10	15	20
Phenol	0	1	5	10	15
PAHs *	5	10	15	20	25
PCBs	15	20	25	30	35
Tetrachloroethylene	0	1	5	10	15
Toluene	0	1	5	10	15
1,1,1 Trichloroethane	0	1	5	10	15
Trichloroethylene	0	1	5	10	15

Table V.B.		ENVIRONMENTAL TOXICITY SCORE				
OHM		CONCENTRATION (soil/sediment: µg/g; surface/groundwater µg/l)				
		< 1	1 - 99	100 - 999	1,000 - 9,999	≥ 10,000
Vinyl Chloride	*	5	10	15	20	25
Xylenes	*	5	10	15	20	25
Zinc		1	5	10	15	20

* Scores derived by default methods 40.1516(2).

***Attachment G
MADEP Bureau of Waste Site
Cleanup Site Scoring Map***

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:

Indian Orchard Facility
730 Worcester Street
Springfield, MA 01151-1089
42 09 30n 72 31 23ew



Site Location

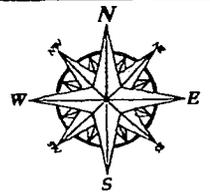
The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.



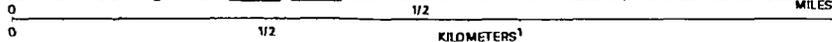
Massachusetts
Geographic
Information
Systems



Roads: Interstate, US, State, Street, Trail	EPA Designated Sole Source Aquifer	Public Water Supplies: Ground, Surface, Non Community
Boundaries: Municipal, County, DEP Region	Approved Zone 2; IWPA	Hydrography: Water Features, Public Surface Water Supply
Train; Powerline; Pipeline	Wetlands: Fresh, Salt, NHESP Wetlands Habitat	Protected Open Space; ACEC
Drainage Basins: Major, Sub	Potentially Productive Aquifers: Medium Yield, High Yield	DEP Permitted Solid Waste Facilities; Certified Vernal Pools
Streams: Perennial, Intermittent, Aqueduct	Non-Potential Drinking Water Source Area: Medium, High Yield	



SCALE 1:15000



November 19, 1997