SDMS Document
90387

SUPPORTING DOCUMENTATION

QUESTION 8

842899994

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

December 30, 1992

Paul Brustofski, Regional Environmental Engineer
Reichhold Chemical
2400 Ellis Road
Durham, NC 27703-5543

Dear Mr. Brustofski:

The New Jersey Department of Environmental Protection and Energy (Department) is charged with responding to the release or threatened release of hazardous substances and with the enforcement responsibilities under the New Jersey Spill Compensation and Control Act (N.J.S.A. 13:1E-42.1 et seq.) and the New Jersey Solid Waste Management Act (N.J.S.A. 58:10-23 et seq.). The Department has documented the release of hazardous substances at the Reichhold Chemical Co. site located at 46 Albert Avenue (Block 2448, Lot 29) in Newark, Essex County, New Jersey.

As part of an ongoing Departmental investigation of the subject site, an inspection of this site has been tentatively scheduled for 10:00 a.m. on Friday January 8, 1992. If this time or date is not convenient, please contact Joe Stefanoni at (609) 584-4280.

Sincerely,

Kenneth Kloo, Section Chief
Site Assessment Section
Bureau of Field Operations

c: Joe Stefanoni
File

Dave -
FYI
Kelly Stynes

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Bureau of Underground Storage Tank
CN-433
401 East State Street
Trenton, NJ 08625

MAR 12 1996

Reichold Chemicals, Inc.
Kelly Stynes, Project Manager-MS-400A
P.O. Box 13582
Research Triangle Park, NC 27709-3582

Patricia 3/21

Respond in 1 month to Schedule.

Re: Reichold Chemicals, Inc.
46 Albert Avenue
Newark, Essex County
Case Number # 92-11-05-1220
UST # 0226253
TMS #(s) C92-3204, C92-3205, and C92-3206

Dear Ms. Stynes:

Existing Underground Storage Tank (UST) cases requiring additional remedial investigation (RI) and remedial action (RA) pursuant to the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq. (UST Law), are assigned and reviewed by the New Jersey Department of Environmental Protection (Department), Bureau of Underground Storage Tanks (BUST) as technical staff become available to conduct these reviews. There may have been an extended period of time between the initiation of an RI/RA at this site and this Department review due to the large number of reported UST releases that require remediation.

Specifically, the Department reviews existing RI and RA work at the site for compliance with the UST Law and the "Technical Requirements for Site Remediation," N.J.A.C. 7:26B (Technical Regulations). The Department has recently undertaken such a review for the above referenced site. This correspondence contains a summary of the latest site conditions and work completed to date and details remaining remedial requirements to ensure compliance with the UST Law and the Technical Regulations. Compliance with these requirements should enable the completion of corrective action and eventual case closure.

Site History

On November 4th and 5th, 1992, three (3) USTs were removed, two (2) 500 gallon gasoline USTs, designated UST #1 and UST #3, and one (1) 500 gallon diesel UST, designated UST #2, under closure approval C92-3204, and three (3) USTs were abandoned-in-place, one (1) 500 gallon mineral spirits UST, designated UST #4, and one (1) 500 gallon V,M, & P Naptha UST, designated UST #5, under closure approval C92-3206, and one (1) 2,000 gallon #2 fuel oil UST, designated UST #6, under closure approval #C92-3205. Reportedly, during the removal of all USTs a PID was utilized to determine whether a discharge had impacted soils. However, PID readings were not included within the submission. UST #1 through UST #5, located beneath a concrete pad, were filled with water and minor amounts of the tanks original contents upon opening. Approximately 2500 gallons of liquid (total) were removed from all of the USTs.

Albert - Cancer

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Bureau of Underground Storage Tank
CN-433
401 East State Street
Trenton, NJ 08625

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UST #1 through UST #3 had several corrosion holes upon inspection after removal. Reportedly, the depth to ground water encountered during excavation for UST #1 through #3 was seven feet below ground surface (bgs). Gasoline odors were noted at the base of the excavation and a sheen was noted on the ground water surface. Soil samples for UST#1 through UST#3 within excavation #1 were collected just above the static ground water level that was previously noted as being approximately seven (7) feet bgs. Four (4) soil samples were collected for UST #1, designated T-1-1 through T-1-4, and were analyzed for volatile organics, utilizing EPA Method 8240, calibrated to include total xylenes, with a library search and lead. The results revealed benzene at 2 ppm in sample T-1-4 exceeding the Department's Impact to Ground Water Soil Cleanup Criteria, and total xylenes at 31 ppm in sample T-1-1 and at 86 ppm in sample T-1-2 exceeding the Department's Impact to Ground Water Soil Cleanup Criteria and at 1,400 ppm in sample T-1-3 and at 2,500 ppm in sample T-1-4 exceeding the Department's Impact to Ground Water and Residential Direct Contact Soil Cleanup Criteria. Lead ranged from 28.3 ppm to 337 ppm with no exceedances of the Department's Soil Cleanup Criteria. Four (4) soil samples were collected for UST #2, designated T-2-1 through T-2-4, and were analyzed for total petroleum hydrocarbons (TPH) with two (2) samples, T-2-1 and T-2-2, additionally analyzed for volatile organics, utilizing EPA Method 8240, calibrated to include total xylenes, with a forward library search due to being over the 1,000 ppm TPH threshold that requires further volatile organic analysis. The results revealed TPH ranging from 710 ppm to 2,400 ppm. The volatile organic analysis revealed ethylbenzene at 410 ppm in sample T-2-1 exceeding the Department's Impact to Ground Water Soil Cleanup Criteria and total xylenes at 160 ppm in sample T-2-2 exceeding the Department's Impact to Ground Water Soil Cleanup Criteria and at 1,800 ppm in sample T-2-1 exceeding the Department's Impact to Ground Water and Residential Direct Contact Soil Cleanup Criteria. Four (4) soil samples were collected for UST#3, designated T-3-1 through T-3-4, and were analyzed for volatile organics, calibrated to include xylenes, with a library search (VOs) and lead. The results revealed total xylenes at 25 ppm in sample T-3-4, at 97 ppm in sample T-3-3, at 230 ppm in sample T-3-2, and at 330 ppm in sample T-3-1 exceeding the Department's Impact to Ground Water Soil Cleanup Criteria. Lead ranged from 22.9 ppm to 652 ppm with sample T-3-3 at 652 ppm exceeding the Department's Residential and Non-Residential Direct Contact Soil Cleanup Criteria. The excavation for USTs #1 through #3 was lined with plastic and backfilled with the original soils and clean backfill. Reportedly, potentially impacted soil was not excavated due to its limited thickness above the water table.

T-4 Benzo(a) anthrac all clean up stand

Soil samples for UST #4 and UST #5 within excavation #2 were collected through holes cut into the bottom and sides of the USTs as these two (2) USTs were abandoned-in-place. Reportedly, corrosion holes were noted in both UST #4 and UST #5. A total of six (6) soil samples were collected for these two (2) USTs with three (3) samples collected for each UST. Both UST #4 and #5 had the soil samples analyzed for volatile organics using EPA Method 8240 calibrated for xylenes, with a library search and for base/neutral organics using EPA Method 8270, with a library search. The results for UST #4 revealed ethylbenzene at 230 ppm in sample T-4-1 exceeding the Department's Impact to Ground Water Soil Cleanup Criteria, total xylenes at 280 ppm in sample T-4-3 and at 49 ppm in sample T-4-2 exceeding the Department's Impact to Ground Water Soil Cleanup Criteria, and total xylenes in sample T-4-1 at 1,600 ppm exceeding the Department's Impact to Ground Water and Direct Contact Soil Cleanup Criteria. All base neutral results for UST #4 were below the Department's current Soil Cleanup Criteria. The results for UST #5 revealed total xylenes at 10 ppm in sample T-5-3 and at 24 ppm in sample T-5-2 exceeding the Department's Impact to Ground Water Soil Cleanup Criteria and benzo (a) anthracene at 1.2 ppm exceeding the Department's Residential Direct Contact Soil Cleanup Criteria.

0.9 ppm → receptors/ soil not likely total
est. DEP Depth disturbed (under Bldg)

Soil samples for UST #6 within excavation #3 were collected through holes cut into the bottom and side of the UST due to it being abandoned-in-place. Reportedly, no corrosion holes were observed in UST #6. A total of six (6) soil samples were collected for this UST and were analyzed for TPH and with two (2) of the six (6) samples additionally being analzyzed for volatile organics utilizing EPA Method 8240 calibrated for xylenes, with a library search (VOs). The results revealed TPH ranging from 38 ppm to 4,100 ppm with with two (2) samples, samples T-6-3 at 1,100 ppm and T-6-4 at 4,100 ppm, additionally analyzed for VOs due to being over the 1,000 ppm TPH threshold that requires further volatile organic analysis. The volatile organic analysis revealed no exceedances of the Department's current Soil Cleanup Criteria.

On January 21, 1993, one (1) monitoring well was installed in the former excavation #1 due to the discharge evidenced by the gasoline USTs. No observations during installation were included within the case narrative other than ground water was encountered during installation at 10 feet below ground surface (bgs); however, a well log that noted soil types, screening interval, and permit number, was included within Appendix C. The monitoring well was sampled on February 4, 1993 and was analyzed for volatile organics, MTBE, and TBA utilizing EPA Method 624, calibrated to include xylenes, with a forward library search and base/neutral organics utilizing EPA Method 625 with a forward library search. It

should be noted that lead was not analyzed for in the February 4, 1993 ground water sampling. The results revealed napthalene at 67 ppb and total xylenes at 3,500 ppb exceeding the Department's Ground Water Quality Standards (GWQS).

Receptor evaluations were performed in the form of a well search. A well search identified nine (9) industrial wells and forty-eight monitoring wells within a one-mile radius; however no domestic or municipal wells or NJGS case sites were identified within the one-mile radius. A well search results table and map were presented within the March 1993 submission showing the nearest downgradient industrial well located .15 miles north of the subject site; however, this particular well is installed to a depth of 359-802 feet. Reportedly, ground water flow direction is assumed to be to the north, toward the Passaic River that is approximately 1,100 feet north of the site.

On an unknown date, as noted within a November 15, 1993 submission, a second upgradient monitoring well, designated MW#2, was installed on site. Reportedly, ground water was encountered during installation at a depth of eight feet bgs with the well itself installed to a depth of twenty feet bgs. The two (2) monitoring wells were sampled on June 22, 1993 and July 15, 1993; both wells were sampled and analyzed for volatile organics, MTBE, and TBA utilizing EPA Method 624, calibrated to include xylenes, with a forward library search on June 22, 1993 and both wells were sampled and analyzed for base/neutral organics utilizing EPA Method 625 with a forward library search on July 15, 1993. The results revealed napthalene in MW#1 at 68 ppb and trichloroethene in MW#2 at 3 ppb exceeding the GWQS. However, it should be noted that the volatile organic analysis was performed by the laboratory after the holding time was exceeded as noted within the conformance/nonconformance summary included with the laboratory results.

Napthalene - 800ppm

On November 30, 1993, MW#1 and MW#2 were sampled and analyzed for volatile organics utilizing EPA Method 624, calibrated to include xylenes, with a forward library search and MTBE and TBA. The results revealed benzene at 130 ppb, ethylbenzene at 5,900 ppb, and total xylenes at 20,000 ppb in MW#1 exceeding the GWQS. It should be noted that water level measurements for this sampling event were not included within the March 1, 1994 submission. In addition, napthalene and base/neutral organics were not included in the analysis performed.

On June 30, 1995, MW#1 was sampled and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing EPA Method 602. The results revealed benzene at 120 ppb, ethylbenzene at 6,600 ppb, and total xylenes at 18,500 ppb in MW#1 exceeding the GWQS. It should be noted that water level measurements for this sampling event were not included within the January 18, 1996 submission.

Based upon a review of the remedial investigation completed to date, the following requirements shall be addressed as listed in Sections I, II and III below. The results of these remedial requirements shall be submitted as part of a Remedial Action Workplan (RAW) within ninety (90) days of the date of this letter. The March 1995 "Guide for the Submission of Remedial Action Workplans" provides the detailed information required for a complete RAW submittal.

Newark Aquifer Classification

Chloride/TDS Class 3, B aquifer

9000 3000

I. Remedial Investigation

A. General

Expand Close case if source removed & decrease in trend

1. Provide further case narrative regarding: the dimensions, specifically the depth, of the excavations; provide provide documentation showing that materials used to backfill the excavations, if any, were considered clean fill; provide statements regarding soil types encountered during excavation activities, provide the technical rationale for the choice of sample location (i.e. method of biasing), the length and location of associated piping for all USTs portrayed on a scaled site map, clarify whether any dispensers were removed and portray their location on a scaled site map, provide observations, narrative regarding the condition of, and associated PID readings for any removed piping and/or dispensers associated with all USTs.

B. Soil

1. Reichold Chemicals, Inc. shall provide further case narrative regarding the PID readings and any observations utilized during soil removal operations during the removal of UST #1 through #5. These observations and PID readings appear to have been used to make the determination regarding returning soils to there respective excavations; however, the

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readings and/or observations were not provided within any submission. Therefore, Reichold Chemicals, Inc. is required to evaluate the soils returned to the excavation as noted in #3 below. However, if Reichold Chemicals, Inc. can provide the technical rationale (PID readings and observations) for the return of the soils to the excavation , the required item #3 below should be delayed until the Department evaluates the submitted information requested here and makes a determination regarding the requirement to evaluate soils returned to the excavation.

2. Reichold Chemicals, Inc. shall delineate the horizontal and vertical extent of contamination previously detected in T-1-1 through T-1-4 for UST #1, T-2-1 and T-2-2 for UST #2, T-3-1 through T-3-4 for UST #3, T-4-1 through T-4-3 for UST #4, and T-5-2 and T-5-3 for UST #5. The samples should be analyzed for volatile organics utilizing EPA Method 8240, calibrated to include total xylenes, with a forward library search for the samples collected for the former USTs #1 through #5 areas of concern, for base/neutral organics utilizing EPA Method 8250 or 8270, with a forward library search for the samples collected for the former UST #5 area of concern, and for lead utilizing SW-846 Methods 3050 and 3051 using Inductively Coupled Argon Plasma Atomic Emission Spectrometric Method (ICAP) or Graphite Furnace for the former UST #3 area of concern. Sampling shall begin at the location where contamination was previously detected and continue out in all directions, including vertically, until the complete horizontal and vertical extent of contamination is defined. Additional information on requirements for contaminant delineation may be found in N.J.A.C. 7:26E-4.1(b) and 6.4(a)5. Field screening may be utilized to bias sample locations to areas of greatest suspected contamination, but pursuant to N.J.A.C. 7:26E-2.1(b), may not be utilized to verify clean zones. The Department's most recent general guidance on soil contaminant cleanup criteria (April 1994 Site Remediation News) may also be utilized to evaluate when delineation is complete. If contamination is to be remediated during this phase of the investigation, Reichold Chemicals, Inc. shall conduct the appropriate post-remedial sampling to confirm the effectiveness of the remedial effort. It should be noted that since some of the post-excavation soil sampling results also exceeded the Department's Direct Contact Criteria, Reichold Chemicals, Inc. should be advised that the Department may require any appropriate engineering and institutional controls on the property for the remaining elevated levels of contaminants that are above the Direct Contact Soil Cleanup Criteria (see the enclosed Declaration of Environmental Restrictions document) if remediation is not undertaken.

The Department's most recent general guidance on contaminant cleanup criteria can be found in the April, 1994, edition of the Site Remediation Newsletter. It must be remembered, however, that the actual cleanup goal at a particular site is determined by the Department on a case-by-case basis and may be different than that in the above referenced newsletter. This variation may be due to many factors, including site specific human health and environmental exposure pathways, the presence of site contaminants not addressed in the newsletter, and site specific physical characteristics.

If the person conducting a cleanup does not wish to remediate a contaminated site consistent with the newsletter, they shall submit a proposal to the Case Manager listed below that details the site specific circumstances and technical rationale for cleanup goals on a case-by-case basis.

Please note that the Ground Water Quality Standards (N.J.A.C. 7:9-6) have been adopted and appeared in the February 1, 1993, New Jersey Register. This rule adoption may impact requirements for ground water remediation and soil cleanup (i.e. where the soil may contribute contaminants to the ground water above the applicable standards) for a particular site and should be referenced and discussed with the Case Manager listed below.

3. Since all excavated soils were returned to the original excavation and post excavation soil sampling revealed compounds above the Department's most recent general guidance on contaminant cleanup levels and/or there was evidence of a discharge from the UST system(s), specifically UST #1 through UST #5, further investigation/remediation of this soil is required. One of the following options shall be completed after the preparation and Department approval of a Remedial Action Workplan, if applicable:

a. Excavate, sample and properly remediate/dispose all contaminated soils that were returned to the excavation. This should also address the previously detected contamination based upon the post-excavation sampling results. The effectiveness of this remedial measure shall be verified through post excavation sampling in accordance with N.J.A.C. 7:26E-6.4.

b. Separate and sample suspected contaminated soils that were returned to the excavation for possible reuse (see sampling requirements listed below for acceptable soil re-use sampling). Continue excavation of the areas beneath

the backfilled material (i.e. the area which formerly exhibited post excavation sample results) and confirm the effectiveness of the remedial measure with post excavation sampling in accordance with N.J.A.C. 7:26E-6.4.

c. Propose an alternate method that will remediate any contaminated soils to levels below the Department's most recent general guidance for contaminated soils. This assumes that complete delineation of the previously collected post excavation samples occurs during this phase of the investigation. This also assumes that all soil returned to the excavation are contaminated and require remediation.

As indicated, any delineation that is required shall be conducted during this phase of the investigation; remediation shall then be proposed in the Remedial Action Workplan. If remediation is conducted during this phase of the investigation, a summary of the activities conducted shall be included in the Remedial Action Workplan.

Assessment of Soil Returned to the Excavation (as referenced in item b, above):

The purpose of remedial investigation sampling is to accurately characterize the known or potentially contaminated soil. All sampling procedures and analytical methods shall conform to the Technical Requirements for Site Remediation, N.J.A.C. 7:26E, and the NJDEPE Field Sampling Procedures Manual.

The sampling strategy used shall consider site history, nature and location of other AOCs if the soil at the site is fill, the source of the contamination, and all available data and field observations. To minimize laboratory analysis requirements, field analytical methods accepted in accordance with the Technical Requirements for Site Remediation may be used to bias sample locations which are suspected to contain the greatest contamination.

The area of soil returned to the excavation ("area") should be set in an imaginary grid of 20 cubic yard lots. A minimum of two borings shall be field screened throughout the "area" in each 20 cubic yard lot for the suspected contaminants. Undisturbed soil sampling is recommended for volatile organic sample analysis. Based upon field screening results, the minimum frequency of samples for laboratory analysis is two samples for the first 100 cubic yards and one sample for each additional 100 cubic yards. Sample collection is to be biased to the highest suspected contaminant concentrations as a result of field screening/observation.

When biased sample locations are not possible because contamination is not detectable by observation, samples for analysis shall be collected at mid-depth within the "area".

If effective field analytical methods are not available, biased samples, based on field observations (visual/olfactory), shall be collected and laboratory analyzed at a frequency of one sample per 20 cubic yards for the first 100 yards of soil and one sample for each additional 100 cubic yards thereafter. A minimum of two borings shall conducted throughout the "area" in each 20 yard lot.

A higher frequency of sampling, screening and analysis may be required to characterize the soils when know and/or suspected "hotspots" of contamination exist within the "area". A lower sample frequency may be appropriate for large quantities of soil. A reduction in sample collection frequency should be based on site specific data and a specific proposal reviewed and approved by the Department.

Additional guidance is provided in the enclosed "Management of Excavated Soils" Guidance Document. Please contact the Case Manager with any questions regarding this matter.

B. Ground Water

1. Reichold Chemicals, Inc. shall provide further case narrative regarding the installation date for MW#2 and shall provide any observations made during installation of MW#1 and MW#2. In addition, Reichold Chemicals, Inc. shall resubmit monitoring well log, screening intervals, and well permit information for MW#2 as Appendix A, as identified within a November 15, 1993 submission as containing this information, was not included within the November 15, 1993 submission.

2. Reichold Chemicals, Inc. shall install additional ground water monitoring wells to fully delineate the horizontal and vertical extent of ground water contamination. Contamination shall be delineated to the Ground Water Quality Standards, N.J.A.C. 7:9-6, unless otherwise approved by the Department. At a minimum, ground water monitoring wells shall be installed downgradient of MW#1. If it is necessary to install wells off-site, Reichold Chemicals, Inc. shall provide documentation of written requests seeking access to install said monitoring wells on off-site properties within thirty (30) calendar days of receipt of this correspondence. Please be advised that N.J.S.A. 58:10B, a statute concerning site remediation, provides a cause of action for persons to obtain access to properties not owned by that person for the purpose of conducting remedial activities at that site. Please see the enclosed information on this provision of N.J.S.A. 58:10B for further information.

Reichold Chemicals, Inc. shall submit boring logs and the monitoring well construction details (Well Certification Forms A and B, enclosed) for all newly installed monitoring wells.

3. Reichold Chemicals, Inc. shall sample every monitoring well which does not contain free product and analyze the samples for volatile organics, methyl tertiary butyl ether (MTBE) and tertiary butyl alcohol (TBA) using EPA Method 624 calibrated for xylenes, with a library search, lead using EPA Method 200.7 (ICAP) or EPA 239.2 (Graphite Furnace). The SW-846 equivalent for this procedure is ICAP 3010/6010, sample prep 3050/6010 Furnace 3020/7421 sample prep 3050/2421, and napthalene utilizing EPA Method 625 or 610, and TDS and Chloride. In addition, Reichold Chemicals, Inc. shall use a slow purge to ensure that no turbidity occurs in the ground water sampling for the lead analysis. It is recommended that Reichold Chemicals, Inc. contact the assigned case manager on the lead issue.

For each sampling event, Reichold Chemicals, Inc. shall submit a table to include for each monitoring well: 1.) top of casing elevation; 2.) top of screen elevation; 3.) ground water elevation (corrected for free phase product if present); 4.) free phase product elevation (if present); and 5.) free phase product thickness (if present).

For each sampling event, Reichold Chemicals, Inc. shall construct a scaled isopleth map of free product thickness where free product exists, and scaled isopleth maps for dissolved product concentrations. Reichold Chemicals, Inc. shall submit the updated maps with each subsequent submittal.

Reichold Chemicals, Inc. shall construct and submit scaled, ground water table contour maps for each ground water sampling event. A ground water contour map reporting form, see the Department's March 1995 "Guide for the Submission of Remedial Action Workplans", shall accompany each ground water contour map submittal.

4. Reichold Chemicals, Inc. shall clarify whether ground water level measurements were collected for the November 30, 1993 and June 30, 1994 ground water sampling events. If ground water level measurements were collected for these two sampling events, Reichold Chemicals, Inc. shall submit the results of same in the case narrative of the next submission.

5. Reichold Chemicals, Inc. should be advised that on November 6, 1995, the Department proposed amendments to the Safe Drinking Water Act Rules, N.J.A.C. 7:10-1 through 12 and 15, whereby the maximum contaminant level (MCL) has been proposed as 70 ppb for MTBE. Upon promulgation, the Department will utilize the new MTBE cleanup level. Please note that upon promulgation, this change will represent an "order of magnitude" decrease allowing the Department, under P.L. 1993 c.139, to change any previously approved RAWs. In anticipation that this new MCL will be adopted and subsequently the GWQS will be amended to include this level, the Department is notifying Reichold Chemicals, Inc, to consider the proposed MCL of 70 ppb in remedial decision making and strategies. In addition, the proposed Safe Drinking Water Act Rule MCL for total xylenes is 1,000 ppb. Therefore, Reichold Chemicals Inc. may consider the proposed 1,000 ppb MCL level for xylenes in remedial strategies. In certain circumstances Reichold Chemicals, Inc. may utilize alternate delineation methods such as the establishment of a contaminant gradient in accordance with N.J.A.C. 7:26E-4.1(b)2. However until promulgation, the Department will continue to utilize 40 ppb as the ground water cleanup criteria for this site. In addition, the proposed Safe Drinking Water Act Rule MCL for naphthalene is 300 ppb. Therefore, Reichold Chemicals, Inc. may consider the proposed 300 ppb MCL for naphthalene. Until promulgation, the Department will continue to utilize 30 ppb as the ground water cleanup criteria for this site.

C. **Receptor Evaluation**

1. Please be aware that after the ground water flow direction has been established, utilizing the currently installed monitoring wells and the newly required monitoring wells for delineation, further receptor evaluation may be required.

II. **Quality Assurance**

A. All data submitted shall conform to the "Technical Requirements for Site Remediation," N.J.A.C. 7:26E, except where specifically indicated.

B. In accordance with the "Technical Requirements for Site Remediation," specifically N.J.A.C. 7:26E-3.10(b) 3, a technical overview is required for any report submission. As part of that overview, a discussion regarding the reliability of the laboratory analytical data, shall be included. Please see Appendix 2 of the March 1995 Guide for the Submission of Remedial Action Workplans.

III. **Other**

A. **Certification Requirements**

Effective April 25, 1992, all persons performing tank services must be certified per N.J.S.A. 58:10A-24.1-8. All work related to any tank service must now be conducted by, or under the on-site immediate supervision of an individual certified in the activity being conducted. All documents (permit applications, reports, proposals) submitted to BUST must be prepared and signed by a certified individual.

B. **Field Activity Notification**

Reichold Chemicals, Inc. shall notify the assigned BUST Case Manager at least 14 calendar days prior to implementation of field activities. If Reichold Chemicals, Inc. fails to initiate sampling within 30 calendar days of the receipt of this letter, any requests for an extension of the required time frames may be denied.

C. **Billing**

On April 5, 1993, the UST Fee Rule (Amendments and New Rules at N.J.A.C. 7:14B) was proposed. This rule appeared in the February 22, 1994, New Jersey Register. Effective February 22, 1994, the Department will be billing you for the Department's oversight of all work conducted at your site. Documents submitted in accordance with the "Technical Requirements for Site Remediation" (N.J.A.C. 7:26E) will help reduce the time necessary for the oversight of the above referenced site. At this time, the Department intends to process bills on a semi-annual basis. Please consult the April 5, 1993, and February 22, 1994, State Registers for details. Copies can be obtained by contacting the Office of Administrative Law at (609) 588-6500.

It should be noted that if Reichold Chemicals, Inc. completes the above requirements, and the data indicate that the remedial investigation has not been completed (i.e., contamination not completely delineated), Reichold Chemicals, Inc. shall submit a Remedial Investigation Workplan (RIW) in accordance with N.J.A.C. 7:26E-4.8 within the specified time frame. The RIW shall include a schedule of implementation of the remaining remedial investigation required and the submittal date of the RAW. Reichold Chemicals, Inc. also has the option of completing the remaining remedial investigation in accordance with N.J.A.C. 7:26E-4, followed by the submission of the RIR/RAW. If the latter option is selected, Reichold Chemicals, Inc. shall notify the Case Manager listed below, in writing, within two weeks prior to the specified time frame referenced above. This notification shall include a generic discussion of activities conducted to date and activities to be conducted, as well as a detailed schedule of implementation which includes the submission of the RIR/RAW.

Please note, pursuant to N.J.S.A. 58:10A-21 et seq. and N.J.A.C. 7:14B et seq., the owner and operator of the regulated underground storage tanks are strictly liable for compliance with these requirements. In addition, all state regulated USTs, except for heating oil USTs for on-site consumption, are regulated under 40 CFR Part 280. Non-compliance with these

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federal and state regulations exposes the tank owner and operator to the penalty and liability specified in 40 CFR Part 280, N.J.S.A. 58:10A-21 et seq. and N.J.A.C. 7:14B et seq.

If you should have any questions regarding this matter, please contact Patricia Hicks, Case Manager, of the Bureau of Underground Storage Tanks at 609-984-4892.

Sincerely,

Patricia Hicks for

William S. Hose, Unit Supervisor
Bureau of Underground Storage Tanks

enclosures:

Declaration of Environmental Restrictions document
Guide for the Submission of Remedial Action Workplans
Management of Excavated Soils document

c: Dr. Michael Festa, Essex County Health Department, w/o enclosures
Patricia Hicks, Case Manager, w/o enclosures
Mr. Jerry Hang, Vectre Corporation, w/o enclosures

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State of New Jersey
Department of Environmental Protection and Energy
Division of Environmental Safety, Health and Analytical Programs

Trenton, NJ 08625

Scott A. Weiner
Commissioner

Gerald P. Nicholls, Ph.D.
Director

JAN 13 1993

Mike Baxi, Environmental Engineer
Reichhold Chemicals, Inc.
46 Albert Avenue
Newark, NJ 07105

RE: Discharge Confirmation Report for Case No. 92-07-07-1026-43

Dear Mr. Baxi:

Thank you for your discharge confirmation report of December 29, 1992, regarding the above referenced Case Number.

I appreciate your confirmation and the opportunity to clarify the Department's rules for notification and reporting of discharges of hazardous substances.

N.J.A.C. 7:1E-1.5 defines a "Discharge" as "... the releasing, spilling, pumping, pouring, emitting, emptying or dumping of a hazardous substance into the waters or onto the lands of the State..." In your case, polyester resin spilled onto a roof surface and was, thereafter, cleaned up. This incident was a leak rather than a discharge since the polyester resin spilled onto a surface from which it was cleaned up and removed prior to its escape into the waters or onto the lands of the State.

In the future, leaks of this type onto an impermeable surface that are contained and cleaned up immediately and do not impact the environment need not be reported.

However, this confirmation report was submitted 175 days after the initial telephone notification was made. Be aware that a written confirmation report must be submitted to the Department within **30 days** of telephone notification of a discharge, as required by N.J.A.C. 7:1E-5.8(a).

Sincerely,

Beth S. Reddy, Chief
Engineering Review Section
Bureau of Discharge Prevention

c: Audrey Sherba, Princ. Env. Eng.

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Paul

bcc L. GRAHAM

Reichhold Chemicals, Inc.
Coating Polymers & Resins Division
400 Doremus Avenue
Newark, NJ 07105

REICHHOLD

N.J.D.E.P.E.
2 Babcock Place
West Orange, N.J. 07052
Attn: Mr. Arnold Schiff

July 8, 1992 RECEIVED JUL 1 6 1992

Dear Mr. Schiff,

Pursuant to our conversation of July 8th, the following is a summary of the incident which occurred on July 7th, at the Reichhold Chemicals Inc. facility, located at 46 Albert Ave., Newark, NJ.

At 7:30 am on July 7th, approximately 400 gallons of a partially reacted saturated polyester resin was released onto the roof of the production building. Because the roof is pitched, a small amount of resin dripped onto the ground below. Absorbent material was in place to capture the dripping material. All of the resin reaching the ground was contained and removed.

The incident was caused by the activation of a rupture disk during the manufacture of the above listed product. Similar to a pressure relief valve, a rupture disk is a device which is designed to release excess pressure from inside a tank, or reaction vessel.

Reichhold contacted it's spill contractor, American Industrial Marine Inc. for the removal of the spilled material from the roof and surrounding area. All of the material has been contained in drums and is awaiting disposal at an authorized TSDF.

A copy of the material safety data sheet for the spilled material is enclosed. Please note that the spilled material did not contain the solvent as listed on the MSDS. The solvent is added for thinning purposes at the end of the process.

Please contact me if you have any further questions regarding this matter.

Very Truly Yours,

Robert Naujelis

Robert Naujelis
Site Manager
Doremus Ave. Plant

(201) 589-3709
(201) 817-9173 (Facsimile)

8428910007

Reichhold Chemicals, Inc.
Coating Polymers & Resins Division
400 Doremus Avenue
Newark, NJ 07105

RECEIVED SEP 17 1991

REICHHOLD

September 10, 1991

Mr. Mario Graglia
PASSAIC VALLEY SEWERAGE COMMISSIONERS
600 Wilson Avenue
Newark, NJ 07105

Dear Mr. Graglia:

As per our telephone conversation of today, this letter is to confirm that 30 to 50 gallons of tall oil fatty acid spilled into a combined sewer from our facility located on Albert Avenue, in Newark. The spill occurred at approximately 4:30 a.m., as the result of a ruptured fill line. An MSDS is attached.

Please call me if you have any further questions regarding this matter.

Very truly yours,

Robert Naujelis
Environmental & Safety Manager

RN/glm

cc: D. Bright
M. Gasparik

(201) 589-3709
(201) 817-9173 (Facsimile)

Arizona
CHEMICAL COMPANY • 1001 East Business Highway 98 • Panama City, Florida 32401 • (904) 785-6700

MATERIAL SAFETY DATA
ACONEW 500
MSDS NO.: 6137
DATE: 2/5/90
EMERGENCY PHONE: (904)785-6700

PRODUCT IDENTIFICATION

TRADE NAME: ACONEW 500
SYNONYMS: N/A

TSCA NO.: Proprietary
CHEMICAL FAMILY: Tall Oil Fatty Acids

MOLECULAR WEIGHT: N/A

MOLECULAR FORMULA: N/A

HAZARDOUS COMPONENT

COMPONENT	%	CAS NO.	TLV	STEL
Tall Oil Fatty Acids			Not Established	

REFERENCE: ACGIH
WARNING: No Warning Statement

PHYSICAL CHARACTERISTICS

MELTING POINT: N/A

BOILING POINT: N/A

VOLATILES: N/A

WATER SOLUBILITY: Insoluble

SPECIFIC GRAVITY (WATER = 1): 0.90 Typical

VAPOR PRESSURE, mm Hg: <0.1

VAPOR DENSITY (AIR = 1): N/A

APPEARANCE AND ODOR: Pale, yellow liquid with fatty acid odor

FIRE AND EXPLOSION

FLASH POINT (CLOSED CUP): >200F

FLAMMABLE LIMITS, LEL N/A% UEL N/A%

FIRE FIGHTING: None known; however, fire fighters should wear self-contained breathing apparatus to prevent inhalation of smoke or vapors.

EXTINGUISHING MEDIA: Water, CO_2, Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS: None known
OTHER PRECAUTIONS: None known

REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: None

POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: Warm storage

HAZARDOUS DECOMPOSITION PRODUCTS: Under severe thermal degradation, carbon monoxide and low molecular weight organic compounds may be formed.

Post-it™ brand fax transmittal memo 7671 # of pages ▸ 2

To Emile Ross	From Gary
Co. Kesslitch	Co.
Dept.	Phone #
Fax # 201 589 2882	Fax #

8428910009

HEALTH HAZARDS

EFFECTS OF OVEREXPOSURE: INHALATION: Vapors may cause irritation of the respiratory tract. Remove victim to fresh air. If difficulty noted in breathing, get medical attention at once. SKIN: Prolonged or repeated skin contact may cause irritation and dermatitis. Wash affected areas with soap and water.
EYES: Contact with eyes may cause burning or tearing. Flush with water for fifteen minutes and get medical attention.
CARCINOGENICITY LISTING: N/A

SAFE HANDLING AND USE

SPILL OR LEAK PROCEDURES: Ventilate area. Absorb spill with suitable absorbent material and place in a closed container. For large spills, dike area and pump into closed containers. Prevent this material from entering waterways. Wear protective equipment during cleanup.

SPECIAL PRECAUTIONS: Avoid prolonged or repeated inhalation of heated vapors or spray mists. Avoid prolonged or repeated skin contact.

WASTE DISPOSAL: Care should be taken to ensure that the material or its containers are disposed of in an approved facility in accordance with current federal, state and local regualtions.

PERSONNEL PROTECTION INFORMATION

RESPIRATORY PROTECTION: May be required if material is used in poorly ventilated areas of if material is sprayed or heated.
VENTILATION: Local ventilation may be required if material is sprayed or heated.
PROTECTIVE GLOVES: Chemical resistant gloves should be worn to prevent prolonged or repeated skin contact.
EYE PROTECTION: Chemical goggles should be worn to prevent eye contact with spills, splashes or vapors.

OTHER PROTECTIVE EQUIPMENT: Eye wash fountain and safety shower should be vailable.

REGULATORY

The chemical components of this product are listed on the Toxic Substance Control Act Inventory.

THIS INFORMATION IS GIVEN WITHOUT ANY WARRANTY OR REPRESENTATION. WE DO NOT ASSUME ANY LEGAL RESPONSIBILITY FOR SAME, NOR DO WE GIVE PERMISSION, INDUCEMENT OR RECOMMENDATION TO PRACTICE ANY PATENTED INVENTION WITHOUT A LICENSE. IT IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION AND VERIFICATION. BEFORE USING ANY PRODUCT READ ITS LABEL. (N/A = Information Not Available)

SUPPLEMENTARY RECORD OF OCCUPATIONAL INJURIES AND ILLNESSES

To supplement the Log and Summary of Occupational Injuries and Illnesses (OSHA No. 200), each establishment must maintain a record of each recordable occupational injury or illness. Worker's compensation, insurance, or other reports are acceptable as records if they contain all facts listed below or are supplemented to do so. If no suitable report is made for other purposes, this form (SRA No. 101) or an OSHA No. 101, may be used or the necessary facts can be listed on a separate plain sheet of paper. These records must also be available in the establishment without delay and at reasonable times for examination by representatives of the Department of Labor and the Department of Health and Human Services, and States accorded jurisdiction under the Act. The records must be maintained for a period of not less than five years following the end of the calendar year to which they relate.

Such records must contain at least the following facts:

1) **About the employer**--name, mail address, and location if different from mail address.

2) **About the injured or ill employee**--name, social security number, home address, age, sex, occupation, and department.

3) **About the accident or exposure to occupational illness**--place of accident or exposure, whether it was on employer's premises, what the employee was doing when injured, and how the accident occurred.

4) **About the occupational injury or illness**--description of the injury or illness, including part of body affected; name of the object or substance which directly injured the employee; and date of injury or diagnosis of illness.

5) **Other**--name and address of physician; if hospitalized, name and address of hospital; date of report; and name and position of person preparing the report.

SEE DEFINITIONS ON THE BACK OF OSHA FORM 200.

*A copy of this completed form is to be sent to the Corporate Safety Manager for each recordable injury or illness.

SUPPLEMENTARY RECORD OF OCCUPATIONAL INJURIES AND ILLNESSES

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3) **About the accident or exposure to occupational illness**--place of accident or exposure, whether it was on employer's premises, what the employee was doing when injured, and how the accident occurred.

4) **About the occupational injury or illness**--description of the injury or illness, including part of body affected; name of the object or substance which directly injured the employee; and date of injury or diagnosis of illness.

5) **Other**--name and address of physician; if hospitalized, name and address of hospital; date of report; and name and position of person preparing the report.

SEE DEFINITIONS ON THE BACK OF OSHA FORM 200.

*A copy of this completed form is to be sent to the Corporate Safety Manager for each recordable injury or illness.

2. Sample location map(s), including:

i. All sample locations, sample depth and contaminant concentration shall also be plotted on the map;

ii. Map scale and orientation;

iii. Field identification numbers for all samples, and

iv. If more than one map is submitted, maps shall be presented as overlays, keyed to the base map in (d)1 above; sample locations may be superimposed on the site or area of concern map in (d)1 above;

3. If applicable, a map of the distribution of surface water, structure and airborne contaminants, including sample location numbers and contaminant concentrations; and

4. Photos may be submitted to document the location of all soil and sediment sample locations.

SUBCHAPTER 4. REMEDIAL INVESTIGATIONS

7:26E-4.1 Remedial investigation requirements

(a) The purposes of a remedial investigation are to:

1. Delineate the horizontal and vertical extent of contaminants in all media at the site pursuant to (b) below;

2. Determine the general surface and subsurface characteristics of the site, including, without limitation, the depth to ground water;

3. Identify the migration paths and actual or potential receptors of contaminants on or through air, soil, bedrock, sediment, ground water, surface water, and structures at a contaminated site;

4. Collect and evaluate all data necessary to evaluate remedial action alternatives, including, without limitation:

i. Treatability studies, bench scale studies and pilot scale studies (these studies may be conducted pursuant to EPA 540/2-89/058 "Guide for Conducting Treatability Studies Under CERCLA"). These studies shall be initiated as soon as the general extent of contamination is known, usually after the first delineation phase and, at a minimum, these studies shall be initiated by the end of the second delineation phase; and

ii. A feasibility study if required pursuant to N.J.A.C. 7:26E-5.1;

5. Collect and evaluate all data necessary to evaluate the ecological impacts of the contaminants pursuant to N.J.A.C. 7:26D-5;

6. Collect all data necessary to develop permit limitations for any discharge to an environmental medium which may be required for any remedial action alternative under consideration;

7. Characterize all natural resource damages, including the nature and extent of injury or damage to flora and fauna, caused by the potential contaminants at the site; and

8. Identify containment and/or stabilization activities to prevent contaminant exposure to onsite receptors and to prevent the offsite migration of contaminants while remedial alternatives are being evaluated.

(b) The delineation of the horizontal and vertical limits of contamination for all media shall be conducted as part of the remedial investigation. Delineation samples shall be biased to identify any migration paths of the contaminant. Samples shall be biased based on professional judgment, area history, discolored soil, stressed vegetation, drainage patterns, field instrument measurements, odor and other field indicators. If soil samples within the saturated zone are required to identify the vertical limit of contamination, a sample of the saturated soil shall be collected, if sample recovery is possible, and analyzed. Delineation shall be accomplished by either:

1. Presentation of sample data that indicates contamination is below the applicable cleanup standard pursuant to N.J.A.C. 7:26D. This may be accomplished after a remedial action has been implemented; or

2. By establishment of a contaminant gradient as follows:

i. Contaminant levels decrease by:

(1) Ten percent or more between the initial characterization sample and each of two sequential delineation samples; or

(2) A factor of five or more between the initial characterization sample and a single delineation sample; and

ii. Once a contaminant gradient has been established, the approximate limits of contamination may be reasonably estimated by extrapolation.

7:26E-4.2 Remedial investigation of building interiors

(a) The remedial investigation shall include an investigation c building interiors which may contain contaminants above the ap cable building interior cleanup standards pursuant to N.J.A.C. 7:

(b) The remedial investigation of each building shall be condu pursuant to N.J.A.C. 7:26E-4.1 and according to:

1. The quality assurance and quality control requirem pursuant to N.J.A.C. 7:26E-2; and

2. The technical requirements for a building investiga pursuant to N.J.A.C. 7:26E-3.5.

7:26E-4.3 Remedial investigation of soil

(a) The remedial investigation shall include an investigation o soil which may contain contaminants above the applicable cleanup standards pursuant to N.J.A.C. 7:26D.

(b) The remedial investigation of the soil shall be conducted the purposes of a remedial investigation pursuant to N.J.A 7:26E-4.1 according to:

1. The quality assurance and quality control requireme pursuant to N.J.A.C. 7:26E-2; and

2. The technical requirements for soil investigation pursuant N.J.A.C. 7:26E-3.6.

7:26E-4.4 Remedial investigation of ground water

(a) A remedial investigation of ground water for an area concern shall be conducted if:

1. A ground water sample previously collected from that area concern contains a contaminant above the applicable ground wa cleanup standard;

2. A soil sample collected from that area of concern within t feet of the saturated zone or bedrock contains a contaminant abo the applicable subsurface soil cleanup standard;

3. A soil sample collected in the area of concern anywhere in t soil column contains a contaminant above the applicable subsurfa soil cleanup standard and the contaminant is not going to be activ treated or removed; or

4. Any contaminant in an area of concern has a water solubi greater than 100 milligrams per liter as listed in a peer review reference; and all of the soil between the contaminant and t saturated zone is less than 15 percent silt and clay, except as follow

i. A ground water sample may not be necessary in a remed investigation for a particular area of concern if the pers responsible for conducting the remediation documents that grou water contamination from the discharge is unlikely based on t following criteria:

(1) The date and duration of the discharge is known;

(2) The identity and the volume of the contaminants are know

(3) The date the remediation in response to the single dischar was completed;

(4) Post remediation sampling data establish that the remediatio meets all applicable cleanup standards at the time of the remedi investigation; and

(5) Any other data or information that is relevant to the de termination of the likelihood of ground water contamination.

(b) The remedial investigation of ground water shall be conducte for the purposes of a remedial investigation pursuant to N.J.A.C 7:26E-4.1 according to:

1. The quality assurance and quality control requiremen pursuant to N.J.A.C. 7:26E-2; and

2. The requirements in (c) through (i) below.

(c) Ground water samples shall be taken pursuant to acceptabl professional methods, such as those described in the NJDEPE Fiel Sampling Procedures Manual in effect as of the date the sample were taken. The person responsible for conducting the investigatio may implement an alternate sampling method not described in th Manual, subject to the Department's review of documentatio pursuant to N.J.A.C. 7:26E-1.6(c).

(d) All ground water sampling points shall be located in:

1. The excavation of a tank which is the source of the contami nants, if possible; or

2. The expected downgradient flow direction of the area of con cern and within 10 feet of the area of concern; ground water flow

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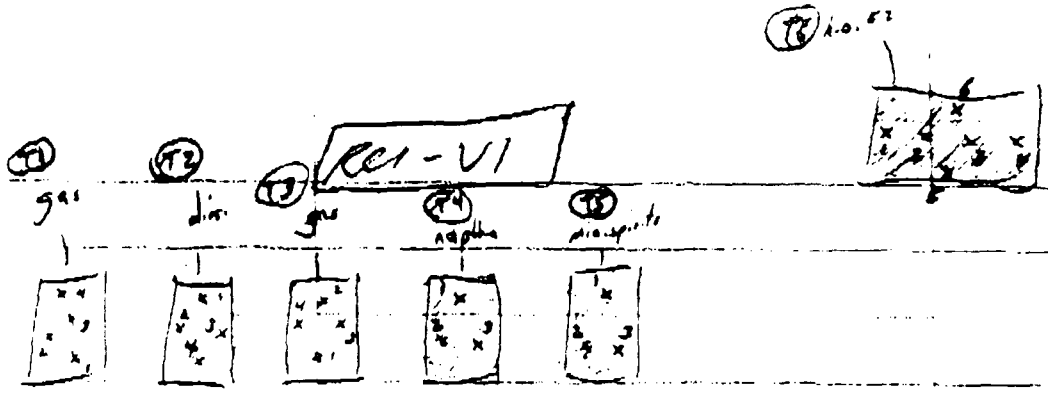

[redacted] (Heating Oil & Diesel USTs)

TPH (Tot. Petrol. Hydrocarbons samples collected from T2 & T6)
If greater than 1000 ppm, must analyze for VOC+15 on 25% of sam

T2-1	1200	[redacted] ppm	analyzed for VOs	T6-1	38 ppm
T2-2	2400	[redacted]		T6-2	39
T2-3		710		T6-3	1100 [redacted] analyzed for VOs
T2-4		930		T6-4	4100 [redacted]
				T6-5	400
				T6-6	51

VOs

	T2-1	T2-2	T6-3	T6-4	Cleanup Std
Toluene	59 ppm	U	U	.68 ppm	500 pp
Ethylbenzene	[redacted] 410	10	U	1.60	100
Xylenes	[redacted] 1800	[redacted] 160	U	2.80	10
Non-targeted	610.2	171.9	1.65	49.6	N/A

[redacted] T2 [redacted] is significantly above NJDEPE Cleanup Stds for ethylbenzene & xylenes.
T6 is below Cleanup Stds.

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[redacted] (UMP Naptha & Mineral Spirits)

VOs	T4-1	T4-2	T4-3	T5-1	T5-2	T5-3		Cleanup Std
Toluene	U	U	U	2.1 ppm	U	U	(1000)	500
Chlorobenzene	U	U	U	U	U	3 [redacted]	(37)	1
Ethylbenzene	23 [redacted] ppm	4.9 ppm	32 ppm	.88	3	1.8	(1000)	100
Xylenes	[redacted]	[redacted]	[redacted]	3.9	[redacted]	12 [redacted]	(360)	10
Non-targeted	1000 0	49 14	280 0	15	24 71	470	(N/A)	N/A
BNs								
Naphthalene	3.7	1.4	3.7	.84	2	27	(230)	100
Acenaphthene	U	U	U	.08	.05	1.2	(3400)	100
Fluorene	U	.05	U	.11	.07	1.9	(2300)	100
Phenanthrene	.09	.29	.12	.49	.41	8.4	—	—
Anthracene	U	U	U	.08	.07	1.1	(10,000)	500
Fluoranthene	.10	.26	.13	.55	.43	5.4	(2300)	500
Pyrene	.08	.20	.13	.48	.36	4.7	(1700)	500
Benzo(a)anthracene	.04	.08	U	.27	.18	1.2	(.66)	500
Chrysene	.04	.07	.08	.29	.21	1.4	(.66)	500
Bis(2-E)phthalate	U	.19	.21	U	.22	U	(49)	100
Benzo(b)fluoranthene	U	U	U	.23	.18	.93	(.66)	500
Benzo(a) pyrene	U	U	U	.20	.15	.57	(.66)	100
Indeno(123 cd)pyrene	U	U	U	.12	.09	U	(.66)	500
Dibenz(a,h)anthracene	U	U	U	U	U	U	(.66)	500
Benzo(ghi)perylene	U	U	U	.09	.07	U	(.66)	500
Non-targeted	100.0	74.1	52	10.1	71.1	407	(N/A)	N/A

surface

subsurface

8428910015

[redacted] (Gasoline USTs)

VOs	T1-1	T1+2	T1-3	T1-4	Cleanup Std
Benzene	U	U	U	[redacted] ppm	1 ppm
Toluene	1.4 ppm	2.9 ppm	85 ppm	110	500
Ethylbenzene	6	17	[redacted]	[redacted]	100
Xylenes	[redacted]	[redacted]	[redacted]	[redacted]	10
Non-target	31 0	86 134	1400 334	434	N/A

	T3-1	T3-2	T3-3	T3-4	Cleanup Std
Benzene	U	U	U	U	1 ppm
Toluene	5.2	6.5	U	U	500
Ethylbenzene	23	34	7.7	U	100
Xylenes	330	230	97	25	10
Non-target	216	62	232	167.9	N/A

8428910016

Accredited Laboratories, Inc.
Foot of Pershing Avenue, P.O. Box 369
Carteret, New Jersey 07008-0369
Telephone: (908) 541-2025

ANALYTICAL DATA REPORT

for

Reichold Chemicals, Inc.
46 Albert Avenue
Newark, NJ 07105

Project: Sample Site #1

ACCREDITED LABORATORIES CASE No.: 3338
DATE RECEIVED: 5/25/93

Client Description	Laboratory Sample #
Site #1	9304141

Accredited Laboratories, Inc. New Jersey Certification Number 12486. This data has been reviewed and accepted by:

Yun-shen Lee, Ph.D. 6/21/93
Technical Director

YSL:jp

ACCREDITED LABORATORIES, INC.
BNA ORGANIC ANALYSIS DATA

CASE NUMBER	3338	MATRIX	Soil
SAMPLE NUMBER	9304141	DILUTION FACTOR	1
DATA FILE	>82285	DATE EXTRACTED	06/02/93
CLIENT NAME	RC	DATE ANALYZED	06/14/93
FIELD ID	SITE #1	ANALYZED BY	PAUL

CAS #	COMPOUND	UG/KG	MDL	CAS #	COMPOUND	UG/KG	MD
108952	Phenol	U	390	59507	4-Chloro-3-methylphenol	U	39
95578	2-Chlorophenol	U	390	88062	2,4,6-Trichlorophenol	U	39
95487	2-Methylphenol	U	390	95954	2,4,5-Trichlorophenol	U	190
108394	3&4-Methylphenol	U	390	51285	2,4-Dinitrophenol	U	190
88755	2-Nitrophenol	U	390	100027	4-Nitrophenol	U	190
105679	2,4-Dimethylphenol	U	390	534521	4,6-Dinitro-2-methylphenol	U	190
120832	2,4-Dichlorophenol	U	390	87865	Pentachlorophenol	U	190
111444	bis(-2-Chloroethyl)Ether	U	390	121142	2,4-Dinitrotoluene	U	39
541731	1,3-Dichlorobenzene	U	390	84662	Diethylphthalate	U	39
106467	1,4-Dichlorobenzene	U	390	7005723	4-Chlorophenyl-phenylether	U	39
100516	Benzyl Alcohol	U	390	86737	Fluorene	U	39
95501	1,2-Dichlorobenzene	U	390	100016	4-Nitroaniline	U	190
108601	bis(2-Chloroisopropyl)ether	U	390	86306	N-Nitrosodiphenylamine	U	39
621647	N-Nitroso-Di-n-propylamine	U	390	101553	4-Bromophenyl-phenylether	U	39
67721	Hexachloroethane	U	390	118741	Hexachlorobenzene	U	39
98953	Nitrobenzene	U	390	85018	Phenanthrene	65(J)	39
78591	Isophorone	U	390	120127	Anthracene	U	39
65850	Benzoic Acid	U	1900	84742	Di-n-Butylphthalate	55(J)	39
111911	bis(-2-Chloroethoxy)Methane	U	390	206440	Fluoranthene	U	39
120821	1,2,4-Trichlorobenzene	U	390	129000	Pyrene	U	39
91203	Naphthalene	260(J)	390	85687	Butylbenzylphthalate	U	39
106478	4-Chloroaniline	U	390	91941	3,3'-Dichlorobenzidine	U	77
87683	Hexachlorobutadiene	U	390	56553	Benzo(a)Anthracene	U	39
91576	2-Methylnaphthalene	160(J)	390	117817	Bis(2-Ethylhexyl)Phthalate	3900	39
77474	Hexachlorocyclopentadiene	U	390	218019	Chrysene	U	39
91587	2-Chloronaphthalene	U	390	117840	Di-n-octyl phthalate	U	39
88744	2-Nitroaniline	U	1900	205992	Benzo(b)fluoranthene	U	39
131113	Dimethyl Phthalate	U	390	207089	Benzo(k)Fluoranthene	U	39
208968	Acenaphthylene	U	390	50328	Benzo(a)Pyrene	U	39
99092	3-Nitroaniline	U	1900	193395	Indeno(1,2,3-cd)Pyrene	U	39
83329	Acenaphthene	U	390	53703	Dibenzo(a,h)Anthracene	U	39
132649	Dibenzofuran	U	390	191242	Benzo(g,h,i)Perylene	U	39
606202	2,6-Dinitrotoluene	U	390	62759	N-Nitrosodimethylamine	U	39

SURROGATE COMPOUNDS	RECOVERY	LIMITS	STATUS
Nitrobenzene-d5	73 %	23-120	OK
2-Fluorobiphenyl	99 %	30-115	OK
Terphenyl-d14	208 %	18-137	OUT
Phenol-d5	35 %	24-113	OK
2-Fluorophenol	86 %	25-121	OK
2,4,6-Tribromophenol	46 %	19-122	OK

Percent Solid of 86.2 is used for all target compounds.

(J) Indicates detected below MDL
(U) Indicates compound analyzed for but not detected
(B) Indicates analyte found in both the blank and the sa

** 3-Methylphenol and 4-Methylphenol can not be separated by the method applied

8428910019

ACCREDITED LABORATORIES, INC
PESTICIDE ANALYSIS DATA

CASE NUMBER	3338	MATRIX	Soil
SAMPLE NUMBER	9304141	DILUTION FACTOR	1
DATA FILE	>G3715	DATE EXTRACTED	05/27/93
CLIENT NAME	RC	DATE ANALYZED	05/28/93
FIELD ID	SITE #1	ANALYZED BY	CLIFF

COMPOUND	UG/KG	MDL
A-BHC	U	1.93
B-BHC	7.28	1.93
Lindane	U	1.93
D-BHC	U	1.93
Heptachlor	U	1.93
Aldrin	U	1.93
Heptachlor Epoxide	U	1.93
Endosulfan I	U	1.93
A-Chlordane	U	1.93
G-Chlordane	U	1.93
Dieldrin	U	3.87
DDE	U	3.87
Endrin	17.6	3.87
Endosulfan II	U	3.87
DDD	U	3.87
Endrin Aldehyde	U	3.87
Endosulfan Sulfate	U	3.87
4,4'-DDT	U	3.87
Endrin Ketone	U	3.87
Methoxychlor	U	19.3
Toxaphene	U	38.7

Percent Solid of 86.2 is used for all Target compounds.

(J) Indicates detected below MDL
(U) Indicates compound analyzed for but not detected

ACCREDITED LABORATORIES INC.

INORGANIC ANALYSIS DATA SHEET

FIELD ID.

SITE #1

Client : RC
Case No.: 3338
Matrix (soil/water): SOIL

Lab Sample ID: 9304141
Date Received: 05/25/93

% Solids: 86.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	M	
7429-90-5	Aluminum	7330		P	
7440-36-0	Antimony	28.0		P	31*
7440-38-2	Arsenic	4.8		F	
7440-39-3	Barium	1590		P	600*
7440-41-7	Beryllium	0.53	B	P	
7440-43-9	Cadmium	3.5		P	1*
7440-70-2	Calcium	1680		P	
7440-47-3	Chromium	43.6		P	
7440-48-4	Cobalt	53.1		P	
7440-50-8	Copper	62.8		P	
7439-89-6	Iron	15200		P	
7439-92-1	Lead	1030		P	100*
7439-95-4	Magnesium	2160		P	
7439-96-5	Manganese	276		P	
7439-97-6	Mercury	0.78		CV	
7440-02-0	Nickel	16.2		P	
7440-09-7	Potassium	470		P	
7782-49-2	Selenium	0.35	B	F	
7440-22-4	Silver	8.2		P	
7440-23-5	Sodium	503		P	
7440-28-0	Thallium	17.5	U	P	2*
7440-62-2	Vanadium	17.3		P	
7440-66-6	Zinc	2100		P	1500*

* Proposed Residential Surface Cleanup Standards.

Comments:

Qualifiers:

B -- greater than the IDL but less than the MDL
U -- less than the IDL
P -- analyzed by ICP
CV -- analyzed by cold vapor
F -- analyzed by GFA
A -- analyzed by flame AA
NR -- analysis not requested

Accredited Laboratories, Inc.
Total Cyanide

Client: RC
Case #: 3338
Analyst: APZ

Matrix: Soil
Date Received: 05/25/93
Date Distilled: 05/25/93
Date Analyzed: 05/26/93

Field #	Sample #	Result mg/kg	MDL mg/kg
SITE #1	9304141	ND	0.23

Method Blank:	< 0.20
Percent Spike Recovery:	76.0
RPD of Duplicate Samples:	0.00
Quality Control Number:	930511CN

Accredited Laboratories, Inc.
Foot of Pershing Avenue, P.O. Box 369
Carteret, New Jersey 07008-0369
Telephone: (908) 541-2025
A Subsidiary of **AMAX**

CHAIN OF CUSTODY FORM

Page ____

Client: Reichhold chemicals Inc.
Address: 46 ALBERT AVE
City: Newark, NJ 07105
State, Zip: NJ, 07105

Project: Sample site #1
Contact: Mike Baxi
Phone: 201-465-2192
Fax: 201-589-2898

P.O. Number ____

**M = Matrix (A)=Aqueous (S)=Soil (G)=Sludge (P)=Potable Water (O)=Oil (F)=Filter (K)=Solid (X)=Other ____

* C = No. Containers

Deliverables (circle one): (STD) Reduced Regulatory ECRA CLP I CLP II

Turnaround: 2-3 wks (if blank, std applies)

ALI Sample No.	Field ID	C*	M**	Date/Time SAMPLED	Sample Description	Analyses
[illegible]		4	S	5/21/93	9:43AM Site #1 Soil	BNA
						PEST
						TAL METALS/CN

Person(s) Assuming Responsibility for Sampling: Print ____ Sign ____

Relinquished By: print	Relinquished By: sign	Received By: print	Received By: sign	Organization	Date	Time	Reason
Mike Baxi	Mike Baxi	T. HEMSEL	T. Hemsel	ALI	5/25/93	10:00 AM	TRANSPORT TO L
T. HEMSEL	T. Hemsel	K Bayer	K Bayer	ALI	5/25/93	10:30 AM	ANALYSIS

Comments: ____

ALI CASE NO. ____

Jul 01,93 9:36 P.07
TEL No.
8428910022
UROPA BUS.

93-3-19-1136-39

ATTACHMENT 1
RCI NOTIFICATION LOG SHEET

AGENCY NOTIFIED	DATE/TIME NOTIFIED	PERSON CONTACTED	RCI CONTACT
NATIONAL RESPONSE CENTER (800-424-8802)	3/19/92 11:36 AM	Operator #21	Mike Bu[illegible]
CHEMTREC (800-424-9300)			
LOCAL FIRE DEPARTMENT			
SERC			
LEPC Bob Swanley	3/19/92 11:30 AM		M Bu[illegible]
CLEANUP CONTRACTOR			
American Industrial Maine	3/19/92 11:25 AM	Anderson	—
CORPORATE NOTIFICATIONS			
Regulatory Affairs			
Legal			
Communications			
VP, Operations			
Other			

8428910023

REICHHOLD

interoffice communication

TO: L. Graham - R.T.P.

cc: M. Gasparik - Newark/A
N. Prato - R.T.P.
A. Vickers - R.T.P.

FROM: Paul A. Brustofski

LOCATION: R.T.P.

DATE: July 26, 1993

SUBJECT: Newark/Albert Ave
Preliminary Assessment

We have received NJDEPE's soil sample results collected from five sampling points along the Cornelia Street fenceline on May 21, 1993 as part of the state's investigation of previous spills.

In a January 7, 1993 letter, NJDEPE asserted authority under the Spill Act to examine the drum storage area on the northeast portion of the property where several spills were noted during a 1978 NJDEPE inspection. The inspector who noted the spills was probably referring to some hardened resin on the sidewalk in this area, still in evidence today.

As shown on the attached table, only metals were identified at levels which exceed the state's cleanup standards. Reichhold collected split samples at the S-2 location to verify the results obtained by the state. Reichhold's results are in general agreement with the state's, except for selenium which was detected by Reichhold's outside laboratory at a value of only 0.35 ppm at S-2, which is below both the residential and non-residential cleanup standards.

The NJDEPE case manager told me that metals are reviewed on a case by case basis, taking into account the prevalence of background levels of metals in the soils in this region and the nature of operations at a facility. Since operations at the Albert Ave site would not be expected to contribute to metals in the soil, I don't believe the state will make an issue out of the metals in this case. In the unlikely event that NJDEPE requires additional action, Reichhold would be in a position to rebut the selenium values obtained by the state's contract laboratory.

Upon review of the data, the state will issue a Site Inspection Report recommending no further action or requiring further delineation and/or cleanup. This could take another 6 months according to the case manager due to the department's backlog. I suggest we take no further action until NJDEPE issues its report.

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

July 2, 1993

Mr. Mike Baxi
Reichhold Chemicals, Inc.
46-58 Albert Avenue
Newark, New Jersey 07105

Dear Mr. Baxi:

Pursuant to the requirements of N.J.S.A. 13:1D-9(d), the Department of Environmental Protection and Energy, is providing a copy of the analytical report relative to the sampling performed at your facility on May 21, 1993. A quality assurance evaluation of the data has not been performed by the Department.

This report contains analytical data for the following:

Sample #	Test Report #	Sample Location
SA0521359 (S-1)	1688701	See attached site map for sample locations
SA0521360 (S-2)	1688702	
SA0521360 (S-2MS)	1688703	
SA0521360 (S-2MSD)	1688704	
SA0521361 (S-3)	1688705	
SA0521362 (S-4)	1688706	
SA0521363 (S-5)	1688707	
SA0521364 (FB-T)*	1688708	

Sample #	Test Report #	Sample Location
SA05213865 (FB-SS)**	1688709	

Please review the enclosed report and contact Michael DiGiore at (609)584-4280 if you have any questions.

Sincerely,

Kenneth Kloo, Section Chief
Bureau of Field Operations
Site Assessment

* FB-T = Field Blank - Trowel

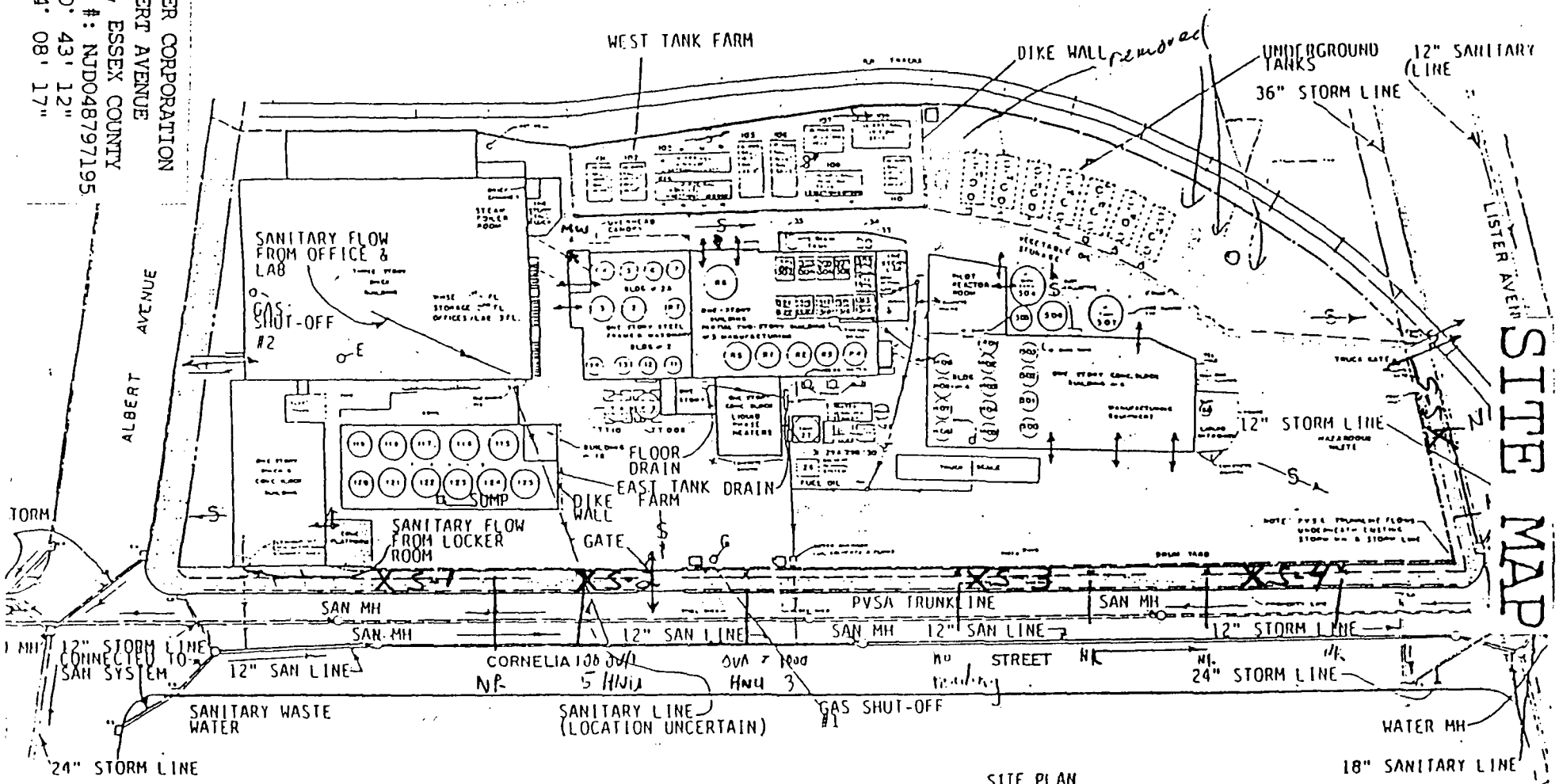
** FB-SS = Field Blank - Split Spoon

Enclosure
c: Michael DiGiore

8428910026

8428910027

CELLOMER CORPORATION
46 ALBERT AVENUE
NEWARK, ESSEX COUNTY
EPA ID #: NJD048797195
LAT: 40° 43' 12"
LON: 74° 08' 17"



LEGEND
E ELECTRICAL DISCONNECT
G GAS DISCONNECT
H FIRE HYDRANT
SLOPE FOR DRAINAGE
ACCESS

X = SAMPLE LOCATIONS

MAP 2

SITE PLAN
UTILITIES, STORM & SANITARY SEWER
AND PROCESS WASTE WATER LINES
REICHHOLD CHEMICALS, INC.

10/1/89
SCALE: 1" = 65 FT

MELVIN WOLKSTEIN, PE
NJ LIC. NO. 16866

8428910028

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

Project No.: 9320088
Log in No. : 16887
P.O. No. : 89630
Date : June 24, 1993

SUMMARY DATA REPORT
PACKAGE FOR

NJDEPE

300 Horizon Center

Robbinsville, NJ 08691

ATTN: Frank Sorce
REF: Riechold Chemical

LABORATORY NUMBER	SAMPLE IDENTIFICATION	TYPE OF SAMPLE

SEE NEXT PAGE

WE CERTIFY THAT THIS REPORT IS A TRUE REPORT OF RESULTS OBTAINED FROM OUR TESTS OF THIS MATERIAL.

RESPECTFULLY SUBMITTED,
NYTEST ENVIRONMENTAL INC.

REMO GIGANTE
EXEC. VICE PRESIDENT

NYS Lab ID. #10195
NJ Cert. #73469
dg

Report on sample(s) furnished by client applies to sample(s). Report on sample(s) obtained by us applies only to lot sampled. Information contained herein is not to be used for reproduction except by special permission. Sample(s) will be retained for thirty days maximum after date of report unless specifically requested otherwise by client. In the event that there are portions or parts of sample(s) remaining after Nytest has completed the required tests, Nytest shall have the option of returning such sample(s) to the client at the client's expense.

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

NYTEST ENVIRONMENTAL Inc.

LABORATORY NUMBER	SAMPLE IDENTIFICATION	TYPE OF SAMPLE
1688701	S-1	Soil
1688702	S-2	Soil
1688703	S-2MS	Soil
1688704	S-2MSD	Soil
1688705	S-3	Soil
1688706	S-4	Soil
1688707	S-5	Soil
1688708	FB-T	Water
1688709	FB-SS	Water

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Form IV	71 - 102
Form VIII	103 - 116

SDG Narrative

nytest environmental inc

SDG Narrative

Log In No.: 16887

VOLATILE FRACTION

System Monitoring Compounds

Samples S-1DL and S-2DL had all recoveries diluted out due to the high dilution of the samples. All other recoveries met QC criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Sample I15 from another client was utilized for the low level soil MS/MSD. All spike recoveries and RPDs were within QC limits. Sample S-2 was utilized for the medium level soil MS/MSD. All spike recoveries were within QC limits. Three (3) out of five (5) RPDs were outside the advisory QC limits.

Method Blanks

Methylene Chloride was detected in VBLKD53 and VBLK51 at a concentration within QC limits. No target compounds were detected in VBLKD51. Methylene Chloride and Acetone were detected in VBLKG78, VBLKG81 and VBLKG83 at concentrations within QC limits. Methylene Chloride, Acetone and Xylene were detected in VBLKG77 at concentrations within QC limits. One TIC was detected in VBLKG77, VBLKG78, VBLKG81 and VBLKG83.

Calibrations

The initial and continuing calibrations passed QC criteria.

Internal Standards

I15MSD had all responses outside QC limits. All responses were within QC limits in the unspiked sample and the MS. No further action was required. All retention times and all other area responses were within QC limits.

Samples

All samples were analyzed as per EPA CLP (3/90). S-1, S-2, S-1MS and S-1MSD were all analyzed as medium level soils at 20ul due to the nature of the sample matrix. Target compounds exceeded the calibration range of the instrument in S-1 and S-2. Both were reanalyzed at 5ul as S-1DL and S-2DL respectively. These runs were one day outside holding time. No further problems were encountered.

nytest environmental inc.

SDG Narrative

Log In No.: 16887

SEMIVOLATILE FRACTION

Surrogates
S-1, S-3, S-4 and S-5 had recoveries outside QC limits. These samples were reextracted outside holding time and all recoveries were within QC limits. Both sets of data are included for each sample. All other recoveries met QC criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)
Sample S-2 was utilized for the MS/MSD. All spike recoveries were within QC limits for the MS/MSD. One out of eleven RPDs were outside the advisory QC limits.

Method Blanks
No target compounds were detected in SBLK42 or SBLK62. Seven TICs were detected in SBLK42 and one in SBLK62.

Calibrations
The initial and continuing calibrations passed QC criteria.

Internal Standards
All retention times and area responses were within QC limits.

Samples
S-1, S-3 and S-4 were analyzed at 1:2 dilutions along with the reextracted analysis of these samples. All samples were analyzed as per EPA CLP (3/90).

nytest environmental inc

SDG Narrative

Log In No.: 16887

PESTICIDE/PCB FRACTION

Surrogates
DCB recovery on column DB-608 was above advisory QC limits for samples S-1, S-3 and S-4DL. All other recoveries met QC criteria.

Matrix Spike/Matrix Spike Duplicate(MS/MSD)
Sample S-2 was utilized for the MS/MSD. Recoveries of Heptachlor and 4,4'-DDT were outside QC limits for the MSD. All other recoveries and RPD values were within QC limits.

Method Blanks
No target compounds were detected in PBLK37.

Calibrations
All initial and continuing calibrations passed QC criteria.

Samples
All samples were analyzed as per EPA CLP (3/90). All samples received GPC cleanup. Based on screening analysis,all samples were analyzed at dilutions to meet baseline requirements. Sample S-4 was reanalyzed at a 1:20 dilution for quantitation of Aroclor 1254. Due to a GPC malfunction, all samples were lost during cleanup. The remaining 1ml of the samples extract was diluted to 10ml. The final volume was 0.5ml instead of 5.0ml, resulting in no dilution. No other problems were encountered.

GC/MS Confirmation
Aroclor 1254 was confirmed as a Semivolatile TIC for sample S-4.

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

Remo Gigante, Exec. VP

Form I

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB-SS

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1688709

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M1419

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. ____ Date Analyzed: 05/24/93

GC Column: CAP ID; 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	16	B
67-64-1	Acetone	19	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000007

8428910037

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB-SS

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1688709

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M1419

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. ____ Date Analyzed: 05/24/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

0000008

8428910038

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB-T

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1688708

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M1418

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. ____ Date Analyzed: 05/24/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	14	B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000009

8428910039

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB-T

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1688708

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M1418

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. ____ Date Analyzed: 05/24/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

0000010

8428910040

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

I15

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1693520

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2312

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. 14 Date Analyzed: 05/28/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	7	BJ
67-64-1	Acetone	9	BJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

0000011

8428910041

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

I15

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16935 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1693520

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2312

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. 14 Date Analyzed: 05/28/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	8.13	7	JB

0000012

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 4.0 (g/mL) G Lab File ID: D5534

Level: (low/med) MED Date Received: 05/21/93

% Moisture: not dec. 16 Date Analyzed: 05/28/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 5.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	7100	U
74-83-9	Bromomethane	7100	U
75-01-4	Vinyl Chloride	7100	U
75-00-3	Chloroethane	7100	U
75-09-2	Methylene Chloride	7100	J
67-64-1	Acetone	7100	U
75-15-0	Carbon Disulfide	7100	U
75-35-4	1,1-Dichloroethene	7100	U
75-34-3	1,1-Dichloroethane	7100	U
540-59-0	1,2-Dichloroethene (total)	7100	U
67-66-3	Chloroform	7100	U
107-06-2	1,2-Dichloroethane	7100	U
78-93-3	2-Butanone	7100	U
71-55-6	1,1,1-Trichloroethane	7100	U
56-23-5	Carbon Tetrachloride	7100	U
75-27-4	Bromodichloromethane	7100	U
78-87-5	1,2-Dichloropropane	7100	U
10061-01-5	cis-1,3-Dichloropropene	7100	U
79-01-6	Trichloroethene	7100	U
124-48-1	Dibromochloromethane	7100	U
79-00-5	1,1,2-Trichloroethane	7100	U
71-43-2	Benzene	7100	U
10061-02-6	trans-1,3-Dichloropropene	7100	U
75-25-2	Bromoform	7100	U
108-10-1	4-Methyl-2-Pentanone	7100	U
591-78-6	2-Hexanone	7100	U
127-18-4	Tetrachloroethene	7100	U
79-34-5	1,1,2,2-Tetrachloroethane	7100	U
108-88-3	Toluene	4500	J
108-90-7	Chlorobenzene	7100	U
100-41-4	Ethylbenzene	61000	
100-42-5	Styrene	7100	U
1330-20-7	Xylene (total)	450000	E

0000013

8428910043

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-1

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 4.0 (g/mL) G Lab File ID: D5534

Level: (low/med) MED Date Received: 05/21/93

% Moisture: not dec. 16 Date Analyzed: 05/28/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 5.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.17	8200	J
2.	C8H16 HYDROCARBON	26.57	5700	J
3.	UNKNOWN	28.27	12000	J
4.	UNKNOWN	29.67	11000	J
5.	UNKNOWN ALKANE	30.60	31000	J
6.	UNKNOWN	31.53	5800	J
7.	UNKNOWN	34.27	13000	J
8.	UNKNOWN	34.83	5400	J
9.	UNKNOWN ALKANE	35.20	11000	J
10.	UNKNOWN	36.23	12000	J

0000014

8428910044

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1DL

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 4.0 (g/mL) G Lab File ID: D5544

Level: (low/med) MED Date Received: 05/21/93

% Moisture: not dec. 16 Date Analyzed: 06/01/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 20.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	29000	U
74-83-9	Bromomethane	29000	U
75-01-4	Vinyl Chloride	29000	U
75-00-3	Chloroethane	29000	U
75-09-2	Methylene Chloride	17000	BDJ
67-64-1	Acetone	29000	U
75-15-0	Carbon Disulfide	29000	U
75-35-4	1,1-Dichloroethene	29000	U
75-34-3	1,1-Dichloroethane	29000	U
540-59-0	1,2-Dichloroethene (total)	29000	U
67-66-3	Chloroform	29000	U
107-06-2	1,2-Dichloroethane	29000	U
78-93-3	2-Butanone	29000	U
71-55-6	1,1,1-Trichloroethane	29000	U
56-23-5	Carbon Tetrachloride	29000	U
75-27-4	Bromodichloromethane	29000	U
78-87-5	1,2-Dichloropropane	29000	U
10061-01-5	cis-1,3-Dichloropropene	29000	U
79-01-6	Trichloroethene	29000	U
124-48-1	Dibromochloromethane	29000	U
79-00-5	1,1,2-Trichloroethane	29000	U
71-43-2	Benzene	29000	U
10061-02-6	trans-1,3-Dichloropropene	29000	U
75-25-2	Bromoform	29000	U
108-10-1	4-Methyl-2-Pentanone	29000	U
591-78-6	2-Hexanone	29000	U
127-18-4	Tetrachloroethene	29000	U
79-34-5	1,1,2,2-Tetrachloroethane	29000	U
108-88-3	Toluene	4200	DJ
108-90-7	Chlorobenzene	29000	U
100-41-4	Ethylbenzene	51000	D
100-42-5	Styrene	29000	U
1330-20-7	Xylene (total)	390000	D

0000015

8428910045

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-1DL

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 4.0 (g/mL) G Lab File ID: D5544

Level: (low/med) MED Date Received: 05/21/93

% Moisture: not dec. 16 Date Analyzed: 06/01/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 20.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	28.43	16000	J
2.	UNKNOWN	30.80	32000	J
3.	UNKNOWN	34.50	19000	J

0000016

8428910046

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-2

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688702

Sample wt/vol: 4.0 (g/mL) G Lab File ID: D5535

Level: (low/med) MED Date Received: 05/21/93

% Moisture: not dec. 16 Date Analyzed: 05/28/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 5.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	7100	U
74-83-9	Bromomethane	7100	U
75-01-4	Vinyl Chloride	7100	U
75-00-3	Chloroethane	7100	U
75-09-2	Methylene Chloride	4500	J
67-64-1	Acetone	7100	U
75-15-0	Carbon Disulfide	7100	U
75-35-4	1,1-Dichloroethene	7100	U
75-34-3	1,1-Dichloroethane	7100	U
540-59-0	1,2-Dichloroethene (total)	7100	U
67-66-3	Chloroform	7100	U
107-06-2	1,2-Dichloroethane	7100	U
78-93-3	2-Butanone	7100	U
71-55-6	1,1,1-Trichloroethane	7100	U
56-23-5	Carbon Tetrachloride	7100	U
75-27-4	Bromodichloromethane	7100	U
78-87-5	1,2-Dichloropropane	7100	U
10061-01-5	cis-1,3-Dichloropropene	7100	U
79-01-6	Trichloroethene	7100	U
124-48-1	Dibromochloromethane	7100	U
79-00-5	1,1,2-Trichloroethane	7100	U
71-43-2	Benzene	7100	U
10061-02-6	trans-1,3-Dichloropropene	7100	U
75-25-2	Bromoform	7100	U
108-10-1	4-Methyl-2-Pentanone	7100	U
591-78-6	2-Hexanone	7100	U
127-18-4	Tetrachloroethene	7100	U
79-34-5	1,1,2,2-Tetrachloroethane	7100	U
108-88-3	Toluene	5800	J
108-90-7	Chlorobenzene	7100	U
100-41-4	Ethylbenzene	43000	
100-42-5	Styrene	7100	U
1330-20-7	Xylene (total)	460000	E

0000017

8428910047

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-2

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688702

Sample wt/vol: 4.0 (g/mL) G Lab File ID: D5535

Level: (low/med) MED Date Received: 05/21/93

% Moisture: not dec. 16 Date Analyzed: 05/28/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 5.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.13	26000	J
2.	UNKNOWN	28.43	4400	J
3.	UNKNOWN	29.83	4100	J
4.	UNKNOWN CYCLIC	30.63	6900	J
5.	UNKNOWN AROMATIC	31.23	10000	J
6.	UNKNOWN	34.60	8300	J
7.	UNKNOWN	35.00	5000	J

0000018

8428910048

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-2DL

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688702

Sample wt/vol: 4.0 (g/mL) G Lab File ID: D5545

Level: (low/med) MED Date Received: 05/21/93

% Moisture: not dec. 16 Date Analyzed: 06/01/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 20.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	29000	U
74-83-9	Bromomethane	29000	U
75-01-4	Vinyl Chloride	29000	U
75-00-3	Chloroethane	29000	U
75-09-2	Methylene Chloride	22000	BDJ
67-64-1	Acetone	29000	U
75-15-0	Carbon Disulfide	29000	U
75-35-4	1,1-Dichloroethene	29000	U
75-34-3	1,1-Dichloroethane	29000	U
540-59-0	1,2-Dichloroethene (total)	29000	U
67-66-3	Chloroform	29000	U
107-06-2	1,2-Dichloroethane	29000	U
78-93-3	2-Butanone	29000	U
71-55-6	1,1,1-Trichloroethane	29000	U
56-23-5	Carbon Tetrachloride	29000	U
75-27-4	Bromodichloromethane	29000	U
78-87-5	1,2-Dichloropropane	29000	U
10061-01-5	cis-1,3-Dichloropropene	29000	U
79-01-6	Trichloroethene	29000	U
124-48-1	Dibromochloromethane	29000	U
79-00-5	1,1,2-Trichloroethane	29000	U
71-43-2	Benzene	29000	U
10061-02-6	trans-1,3-Dichloropropene	29000	U
75-25-2	Bromoform	29000	U
108-10-1	4-Methyl-2-Pentanone	29000	U
591-78-6	2-Hexanone	29000	U
127-18-4	Tetrachloroethene	29000	U
79-34-5	1,1,2,2-Tetrachloroethane	29000	U
108-88-3	Toluene	5100	DJ
108-90-7	Chlorobenzene	29000	U
100-41-4	Ethylbenzene	35000	D
100-42-5	Styrene	29000	U
1330-20-7	Xylene (total)	350000	D

0000019

8428910049

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-2DL

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688702

Sample wt/vol: 4.0 (g/mL) G Lab File ID: D5545

Level: (low/med) MED Date Received: 05/21/93

% Moisture: not dec. 16 Date Analyzed: 06/01/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 20.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

0000020

8428910050

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2271

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. 13 Date Analyzed: 05/26/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	17	B
67-64-1	Acetone	17	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	2	BJ

0000021

8428910051

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-3

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2271

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. 13 Date Analyzed: 05/26/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

0000022

8428910052

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2279

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. 26 Date Analyzed: 05/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	20	B
67-64-1	Acetone	14	B
75-15-0	Carbon Disulfide	14	U
75-35-4	1,1-Dichloroethene	14	U
75-34-3	1,1-Dichloroethane	14	U
540-59-0	1,2-Dichloroethene (total)	14	U
67-66-3	Chloroform	14	U
107-06-2	1,2-Dichloroethane	14	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon Tetrachloride	14	U
75-27-4	Bromodichloromethane	14	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
79-01-6	Trichloroethene	14	U
124-48-1	Dibromochloromethane	14	U
79-00-5	1,1,2-Trichloroethane	14	U
71-43-2	Benzene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
108-88-3	Toluene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
100-42-5	Styrene	14	U
1330-20-7	Xylene (total)	2	J

0000023

8428910053

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-4

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2279

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. 26 Date Analyzed: 05/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	8.32	9	JB

0000024

8428910054

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2280

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. 11 Date Analyzed: 05/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	14	B
67-64-1	Acetone	12	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

0000025

8428910055

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-5

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2280

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: not dec. 11 Date Analyzed: 05/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	8.30	6	JB

0000026

8428910056

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5384

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/07/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	790	U
111-44-4	bis(2-Chloroethyl)Ether	790	U
95-57-8	2-Chlorophenol	790	U
541-73-1	1,3-Dichlorobenzene	790	U
106-46-7	1,4-Dichlorobenzene	790	U
95-50-1	1,2-Dichlorobenzene	790	U
95-48-7	2-Methylphenol	790	U
108-60-1	2,2'-oxybis(1-Chloropropane)	790	U
106-44-5	4-Methylphenol	790	U
621-64-7	N-Nitroso-di-n-propylamine	790	U
67-72-1	Hexachloroethane	790	U
98-95-3	Nitrobenzene	790	U
78-59-1	Isophorone	790	U
88-75-5	2-Nitrophenol	790	U
105-67-9	2,4-Dimethylphenol	790	U
111-91-1	bis(2-Chloroethoxy)methane	790	U
120-83-2	2,4-Dichlorophenol	790	U
120-82-1	1,2,4-Trichlorobenzene	790	U
91-20-3	Naphthalene	2000	
106-47-8	4-Chloroaniline	790	U
87-68-3	Hexachlorobutadiene	790	U
59-50-7	4-Chloro-3-methylphenol	790	U
91-57-6	2-Methylnaphthalene	1400	
77-47-4	Hexachlorocyclopentadiene	790	U
88-06-2	2,4,6-Trichlorophenol	790	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	790	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethylphthalate	790	U
208-96-8	Acenaphthylene	790	U
606-20-2	2,6-Dinitrotoluene	790	U
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	790	U

0000027

8428910057

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5384

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/07/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	790	U
121-14-2	2,4-Dinitrotoluene	790	U
84-66-2	Diethylphthalate	790	U
7005-72-3	4-Chlorophenyl-phenylether	790	U
86-73-7	Fluorene	790	U
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	790	U
101-55-3	4-Bromophenyl-phenylether	790	U
118-74-1	Hexachlorobenzene	790	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	790	U
120-12-7	Anthracene	790	U
86-74-8	Carbazole	790	U
84-74-2	Di-n-Butylphthalate	790	U
206-44-0	Fluoranthene	81	J
129-00-0	Pyrene	790	U
85-68-7	Butylbenzylphthalate	790	U
91-94-1	3,3'-Dichlorobenzidine	790	U
56-55-3	Benzo(a)anthracene	790	U
218-01-9	Chrysene	140	J
117-81-7	bis(2-Ethylhexyl)phthalate	980	
117-84-0	Di-n-octylphthalate	110	J
205-99-2	Benzo(b)fluoranthene	170	J
207-08-9	Benzo(k)fluoranthene	150	J
50-32-8	Benzo(a)pyrene	790	U
193-39-5	Indeno(1,2,3-cd)pyrene	790	U
53-70-3	Dibenz(a,h)anthracene	790	U
191-24-2	Benzo(g,h,i)perylene	790	U

0000028

8428910058

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-1

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5384

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/07/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.3

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.81	420	J
2.	UNKNOWN CYCLOALKANE	8.03	860	J
3.	UNKNOWN	8.15	490	JB
4.	UNKNOWN	8.29	730	J
5.	UNKNOWN	8.50	2300	J
6.	UNKNOWN	8.66	1700	J
7.	UNKNOWN	8.92	1400	J
8.	UNKNOWN ALKANE	9.05	2200	J
9.	UNKNOWN ALKANE	9.80	6900	J
10.	UNKNOWN ALKANE	10.23	2900	J
11.	UNKNOWN ALKANE	10.33	2200	J
12.	UNKNOWN ALKANE	10.43	880	J
13.	UNKNOWN ALKANE	10.86	5200	J
14.	UNKNOWN ALKANE	11.27	730	J
15.	C10H14 AROMATIC HYDROCARBON	11.39	1500	J
16.	UNKNOWN ALKANE	11.65	4500	J
17.	UNKNOWN ALKANE	11.92	450	J
18.	C10H14 AROMATIC HYDROCARBON	12.06	1100	J
19.	UNKNOWN ALKANE	13.55	260	J
20.	UNKNOWN ALKANE	14.49	220	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5618

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	790	U
111-44-4	bis(2-Chloroethyl)Ether	790	U
95-57-8	2-Chlorophenol	790	U
541-73-1	1,3-Dichlorobenzene	790	U
106-46-7	1,4-Dichlorobenzene	790	U
95-50-1	1,2-Dichlorobenzene	790	U
95-48-7	2-Methylphenol	790	U
108-60-1	2,2'-oxybis(1-Chloropropane)	790	U
106-44-5	4-Methylphenol	790	U
621-64-7	N-Nitroso-di-n-propylamine	790	U
67-72-1	Hexachloroethane	790	U
98-95-3	Nitrobenzene	790	U
78-59-1	Isophorone	1200	
88-75-5	2-Nitrophenol	790	U
105-67-9	2,4-Dimethylphenol	790	U
111-91-1	bis(2-Chloroethoxy)methane	790	U
120-83-2	2,4-Dichlorophenol	790	U
120-82-1	1,2,4-Trichlorobenzene	790	U
91-20-3	Naphthalene	350	J
106-47-8	4-Chloroaniline	790	U
87-68-3	Hexachlorobutadiene	790	U
59-50-7	4-Chloro-3-methylphenol	790	U
91-57-6	2-Methylnaphthalene	310	J
77-47-4	Hexachlorocyclopentadiene	790	U
88-06-2	2,4,6-Trichlorophenol	790	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	790	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethylphthalate	790	U
208-96-8	Acenaphthylene	790	U
606-20-2	2,6-Dinitrotoluene	790	U
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	790	U

0000030

8428910060

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5618

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	790	U
121-14-2	2,4-Dinitrotoluene	790	U
84-66-2	Diethylphthalate	790	U
7005-72-3	4-Chlorophenyl-phenylether	790	U
86-73-7	Fluorene	790	U
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	790	U
101-55-3	4-Bromophenyl-phenylether	790	U
118-74-1	Hexachlorobenzene	790	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	790	U
120-12-7	Anthracene	790	U
86-74-8	Carbazole	790	U
84-74-2	Di-n-Butylphthalate	790	U
206-44-0	Fluoranthene	790	U
129-00-0	Pyrene	790	U
85-68-7	Butylbenzylphthalate	790	U
91-94-1	3,3'-Dichlorobenzidine	790	U
56-55-3	Benzo(a)anthracene	790	U
218-01-9	Chrysene	790	U
117-81-7	bis(2-Ethylhexyl)phthalate	960	
117-84-0	Di-n-octylphthalate	790	U
205-99-2	Benzo(b)fluoranthene	790	U
207-08-9	Benzo(k)fluoranthene	790	U
50-32-8	Benzo(a)pyrene	790	U
193-39-5	Indeno(1,2,3-cd)pyrene	790	U
53-70-3	Dibenz(a,h)anthracene	790	U
191-24-2	Benzo(g,h,i)perylene	790	U

0000031

8428910061

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-1RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: FS618

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.3

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.54	1500	JA
2.	UNKNOWN CYCLOALKANE	7.70	1400	J
3.	UNKNOWN ALKANE	7.92	960	J
4.	UNKNOWN CYCLOALKANE	8.20	680	J
5.	UNKNOWN ALKANE	8.39	2000	J
6.	UNKNOWN ALKANE	8.55	1700	J
7.	UNKNOWN ALKANE	8.82	1200	J
8.	UNKNOWN ALKANE	9.00	4200	J
9.	UNKNOWN ALKANE	10.12	2500	J
10.	UNKNOWN ALKANE	10.22	1200	J
11.	UNKNOWN ALKANE	10.32	900	J
12.	UNKNOWN ALKANE	10.81	1700	J
13.	UNKNOWN ALKANE	10.87	2800	J
14.	UNKNOWN ALKANE	11.14	650	J
15.	UNKNOWN ALKANE	11.53	4900	J
16.	UNKNOWN ALKANE	11.81	670	J
17.	UNKNOWN	11.93	1100	J
18.	UNKNOWN ALKANE	12.44	540	J
19.	UNKNOWN ALKANE	12.52	250	J
20.	UNKNOWN	12.61	580	J
21.	UNKNOWN ALKANE	12.71	560	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-2

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688702

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5385

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/07/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)Ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
95-48-7	2-Methylphenol	390	U
108-60-1	2,2'-oxybis(1-Chloropropane)	390	U
106-44-5	4-Methylphenol	390	U
621-64-7	N-Nitroso-di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	100	J
111-91-1	bis(2-Chloroethoxy)methane	390	U
120-83-2	2,4-Dichlorophenol	40	J
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	460	
106-47-8	4-Chloroaniline	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-methylphenol	390	U
91-57-6	2-Methylnaphthalene	69	J
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
95-95-4	2,4,5-Trichlorophenol	530	J
91-58-7	2-Chloronaphthalene	390	U
88-74-4	2-Nitroaniline	950	U
131-11-3	Dimethylphthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U
99-09-2	3-Nitroaniline	950	U
83-32-9	Acenaphthene	390	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-2

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688702

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5385

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/07/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	950	U
100-02-7	4-Nitrophenol	950	U
132-64-9	Dibenzofuran	390	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U
86-73-7	Fluorene	390	U
100-01-6	4-Nitroaniline	950	U
534-52-1	4,6-Dinitro-2-methylphenol	950	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	950	U
85-01-8	Phenanthrene	41	J
120-12-7	Anthracene	390	U
86-74-8	Carbazole	390	U
84-74-2	Di-n-Butylphthalate	390	U
206-44-0	Fluoranthene	390	U
129-00-0	Pyrene	390	U
85-68-7	Butylbenzylphthalate	390	U
91-94-1	3,3'-Dichlorobenzidine	390	U
56-55-3	Benzo(a)anthracene	390	U
218-01-9	Chrysene	390	U
117-81-7	bis(2-Ethylhexyl)phthalate	530	
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo(b)fluoranthene	390	U
207-08-9	Benzo(k)fluoranthene	390	U
50-32-8	Benzo(a)pyrene	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	390	U
53-70-3	Dibenz(a,h)anthracene	390	U
191-24-2	Benzo(g,h,i)perylene	390	U

0000034

8428910064

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-2

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688702

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5385

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 16 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/07/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.18	1100	J
2.	UNKNOWN	8.51	6600	J
3.	UNKNOWN ALKANE	8.67	620	J
4.	UNKNOWN ALKANE	8.93	1300	J
5.	UNKNOWN ALKANE	9.06	2700	J
6.	UNKNOWN CYCLOALKANE	9.56	820	J
7.	UNKNOWN CYCLOALKANE	9.81	860	J
8.	UNKNOWN ALKANE	10.24	910	J
9.	UNKNOWN ALKANE	10.32	1100	J
10.	UNKNOWN ALKANE	10.87	1800	J
11.	UNKNOWN ALKANE	10.99	1800	J
12.	C10H14 AROMATIC HYDROCARBON	11.38	1000	J
13.	C10H14 AROMATIC HYDROCARBON	12.07	450	J
14.	UNKNOWN ALKANE	12.56	540	J
15.	UNKNOWN	14.29	920	J
16.	UNKNOWN	14.58	1300	J
17.	UNKNOWN	23.81	710	J
18.	UNKNOWN	23.97	410	J
19.	UNKNOWN AROMATIC	24.55	1100	J
20.	UNKNOWN	25.18	3400	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5402

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	760	U
111-44-4	bis(2-Chloroethyl)Ether	760	U
95-57-8	2-Chlorophenol	760	U
541-73-1	1,3-Dichlorobenzene	760	U
106-46-7	1,4-Dichlorobenzene	760	U
95-50-1	1,2-Dichlorobenzene	760	U
95-48-7	2-Methylphenol	760	U
108-60-1	2,2'-oxybis(1-Chloropropane)	760	U
106-44-5	4-Methylphenol	760	U
621-64-7	N-Nitroso-di-n-propylamine	760	U
67-72-1	Hexachloroethane	760	U
98-95-3	Nitrobenzene	760	U
78-59-1	Isophorone	760	U
88-75-5	2-Nitrophenol	760	U
105-67-9	2,4-Dimethylphenol	760	U
111-91-1	bis(2-Chloroethoxy)methane	760	U
120-83-2	2,4-Dichlorophenol	760	U
120-82-1	1,2,4-Trichlorobenzene	760	U
91-20-3	Naphthalene	760	U
106-47-8	4-Chloroaniline	760	U
87-68-3	Hexachlorobutadiene	760	U
59-50-7	4-Chloro-3-methylphenol	760	U
91-57-6	2-Methylnaphthalene	760	U
77-47-4	Hexachlorocyclopentadiene	760	U
88-06-2	2,4,6-Trichlorophenol	760	U
95-95-4	2,4,5-Trichlorophenol	160	J
91-58-7	2-Chloronaphthalene	760	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethylphthalate	760	U
208-96-8	Acenaphthylene	760	U
606-20-2	2,6-Dinitrotoluene	760	U
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	760	U

0000036

8428910066

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5402

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	760	U
121-14-2	2,4-Dinitrotoluene	760	U
84-66-2	Diethylphthalate	270	J
7005-72-3	4-Chlorophenyl-phenylether	760	U
86-73-7	Fluorene	760	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	760	U
101-55-3	4-Bromophenyl-phenylether	760	U
118-74-1	Hexachlorobenzene	200	J
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	120	J
120-12-7	Anthracene	760	U
86-74-8	Carbazole	760	U
84-74-2	Di-n-Butylphthalate	760	U
206-44-0	Fluoranthene	200	J
129-00-0	Pyrene	210	J
85-68-7	Butylbenzylphthalate	760	U
91-94-1	3,3'-Dichlorobenzidine	760	U
56-55-3	Benzo(a)anthracene	760	U
218-01-9	Chrysene	190	J
117-81-7	bis(2-Ethylhexyl)phthalate	1000	
117-84-0	Di-n-octylphthalate	760	U
205-99-2	Benzo(b)fluoranthene	140	J
207-08-9	Benzo(k)fluoranthene	760	U
50-32-8	Benzo(a)pyrene	760	U
193-39-5	Indeno(1,2,3-cd)pyrene	760	U
53-70-3	Dibenz(a,h)anthracene	760	U
191-24-2	Benzo(g,h,i)perylene	760	U

0000037

8428910067

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-3

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5402

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.7

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.57	620	J
2.	UNKNOWN	7.83	550	J
3.	UNKNOWN	8.06	2300	J
4.	UNKNOWN	8.14	1600	JB
5.	UNKNOWN	8.77	500	J
6.	UNKNOWN	8.93	650	J
7.	UNKNOWN	9.13	490	J
8.	UNKNOWN	9.24	340	J
9.	UNKNOWN	9.54	360	J
10.	UNKNOWN	9.93	730	JB
11.	UNKNOWN	14.25	310	J
12.	UNKNOWN	15.37	600	J
13.	UNKNOWN	16.69	270	J
14.	UNKNOWN ACID	23.13	670	J
15.	UNKNOWN ALKANE	23.56	160	J
16.	UNKNOWN	23.93	310	J
17.	UNKNOWN ALKANE	24.58	270	J
18.	UNKNOWN	24.87	210	J
19.	UNKNOWN ALKANE	26.50	1000	J
20.	UNKNOWN ALKANE	28.83	980	J

0000038

8428910068

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5619

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	760	U
111-44-4	bis(2-Chloroethyl)Ether	760	U
95-57-8	2-Chlorophenol	760	U
541-73-1	1,3-Dichlorobenzene	760	U
106-46-7	1,4-Dichlorobenzene	760	U
95-50-1	1,2-Dichlorobenzene	760	U
95-48-7	2-Methylphenol	760	U
108-60-1	2,2'-oxybis(1-Chloropropane)	760	U
106-44-5	4-Methylphenol	760	U
621-64-7	N-Nitroso-di-n-propylamine	760	U
67-72-1	Hexachloroethane	760	U
98-95-3	Nitrobenzene	760	U
78-59-1	Isophorone	760	U
88-75-5	2-Nitrophenol	760	U
105-67-9	2,4-Dimethylphenol	760	U
111-91-1	bis(2-Chloroethoxy)methane	760	U
120-83-2	2,4-Dichlorophenol	760	U
120-82-1	1,2,4-Trichlorobenzene	760	U
91-20-3	Naphthalene	760	U
106-47-8	4-Chloroaniline	760	U
87-68-3	Hexachlorobutadiene	760	U
59-50-7	4-Chloro-3-methylphenol	760	U
91-57-6	2-Methylnaphthalene	760	U
77-47-4	Hexachlorocyclopentadiene	760	U
88-06-2	2,4,6-Trichlorophenol	760	U
95-95-4	2,4,5-Trichlorophenol	120	J
91-58-7	2-Chloronaphthalene	760	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethylphthalate	760	U
208-96-8	Acenaphthylene	760	U
606-20-2	2,6-Dinitrotoluene	760	U
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	760	U

0000039

8428910069

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5619

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	760	U
121-14-2	2,4-Dinitrotoluene	760	U
84-66-2	Diethylphthalate	760	U
7005-72-3	4-Chlorophenyl-phenylether	760	U
86-73-7	Fluorene	760	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	760	U
101-55-3	4-Bromophenyl-phenylether	760	U
118-74-1	Hexachlorobenzene	170	J
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	760	U
120-12-7	Anthracene	760	U
86-74-8	Carbazole	760	U
84-74-2	Di-n-Butylphthalate	760	U
206-44-0	Fluoranthene	150	J
129-00-0	Pyrene	120	J
85-68-7	Butylbenzylphthalate	760	U
91-94-1	3,3'-Dichlorobenzidine	760	U
56-55-3	Benzo(a)anthracene	760	U
218-01-9	Chrysene	140	J
117-81-7	bis(2-Ethylhexyl)phthalate	830	
117-84-0	Di-n-octylphthalate	760	U
205-99-2	Benzo(b)fluoranthene	760	U
207-08-9	Benzo(k)fluoranthene	760	U
50-32-8	Benzo(a)pyrene	760	U
193-39-5	Indeno(1,2,3-cd)pyrene	760	U
53-70-3	Dibenz(a,h)anthracene	760	U
191-24-2	Benzo(g,h,i)perylene	760	U

0000040

8428910070

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-3RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5619

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.7

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.71	720	J
2.	UNKNOWN	7.48	470	J
3.	UNKNOWN	7.70	600	J
4.	UNKNOWN	7.95	2900	J
5.	UNKNOWN	8.94	270	J
6.	UNKNOWN	9.06	620	J
7.	UNKNOWN	10.69	380	J
8.	UNKNOWN	11.58	220	J
9.	SUBSTITUTED PHENOL	14.77	550	J
10.	UNKNOWN	16.58	410	J
11.	UNKNOWN ALKANE	22.37	200	J
12.	UNKNOWN ACID	23.00	830	JB
13.	UNKNOWN	23.79	240	J
14.	UNKNOWN ALKANE	24.44	200	J
15.	UNKNOWN	24.71	180	J
16.	UNKNOWN ACID	25.03	240	J
17.	UNKNOWN AROMATIC	25.95	560	J
18.	UNKNOWN ALKANE	26.33	610	J
19.	UNKNOWN ALKANE	28.58	470	J
20.	UNKNOWN ALKANE	36.45	690	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5403

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 26 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	890	U
111-44-4	bis(2-Chloroethyl)Ether	890	U
95-57-8	2-Chlorophenol	890	U
541-73-1	1,3-Dichlorobenzene	890	U
106-46-7	1,4-Dichlorobenzene	890	U
95-50-1	1,2-Dichlorobenzene	890	U
95-48-7	2-Methylphenol	890	U
108-60-1	2,2'-oxybis(1-Chloropropane)	890	U
106-44-5	4-Methylphenol	890	U
621-64-7	N-Nitroso-di-n-propylamine	890	U
67-72-1	Hexachloroethane	890	U
98-95-3	Nitrobenzene	890	U
78-59-1	Isophorone	890	U
88-75-5	2-Nitrophenol	890	U
105-67-9	2,4-Dimethylphenol	890	U
111-91-1	bis(2-Chloroethoxy)methane	890	U
120-83-2	2,4-Dichlorophenol	890	U
120-82-1	1,2,4-Trichlorobenzene	890	U
91-20-3	Naphthalene	890	U
106-47-8	4-Chloroaniline	890	U
87-68-3	Hexachlorobutadiene	890	U
59-50-7	4-Chloro-3-methylphenol	890	U
91-57-6	2-Methylnaphthalene	890	U
77-47-4	Hexachlorocyclopentadiene	890	U
88-06-2	2,4,6-Trichlorophenol	890	U
95-95-4	2,4,5-Trichlorophenol	2200	U
91-58-7	2-Chloronaphthalene	890	U
88-74-4	2-Nitroaniline	2200	U
131-11-3	Dimethylphthalate	890	U
208-96-8	Acenaphthylene	890	U
606-20-2	2,6-Dinitrotoluene	890	U
99-09-2	3-Nitroaniline	2200	U
83-32-9	Acenaphthene	890	U

0000042

8428910072

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5403

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 26 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	2200	U
132-64-9	Dibenzofuran	890	U
121-14-2	2,4-Dinitrotoluene	890	U
84-66-2	Diethylphthalate	890	U
7005-72-3	4-Chlorophenyl-phenylether	890	U
86-73-7	Fluorene	890	U
100-01-6	4-Nitroaniline	2200	U
534-52-1	4,6-Dinitro-2-methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	890	U
101-55-3	4-Bromophenyl-phenylether	890	U
118-74-1	Hexachlorobenzene	890	U
87-86-5	Pentachlorophenol	2200	U
85-01-8	Phenanthrene	240	J
120-12-7	Anthracene	890	U
86-74-8	Carbazole	890	U
84-74-2	Di-n-Butylphthalate	890	U
206-44-0	Fluoranthene	310	J
129-00-0	Pyrene	320	J
85-68-7	Butylbenzylphthalate	890	U
91-94-1	3,3'-Dichlorobenzidine	890	U
56-55-3	Benzo(a)anthracene	120	J
218-01-9	Chrysene	380	J
117-81-7	bis(2-Ethylhexyl)phthalate	660	J
117-84-0	Di-n-octylphthalate	290	J
205-99-2	Benzo(b)fluoranthene	400	J
207-08-9	Benzo(k)fluoranthene	250	J
50-32-8	Benzo(a)pyrene	890	U
193-39-5	Indeno(1,2,3-cd)pyrene	890	U
53-70-3	Dibenz(a,h)anthracene	890	U
191-24-2	Benzo(g,h,i)perylene	890	U

0000043

8428910073

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-4

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5403

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 26 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.80	4400	J
2.	UNKNOWN	7.56	1000	J
3.	UNKNOWN	7.82	690	J
4.	UNKNOWN	8.06	8600	J
5.	UNKNOWN	8.15	140000	J
6.	UNKNOWN	8.75	780	J
7.	UNKNOWN	9.14	690	J
8.	UNKNOWN	9.75	660	J
9.	UNKNOWN	9.93	760	J
10.	UNKNOWN	10.44	1900	J
11.	UNKNOWN ACID	12.72	430	J
12.	UNKNOWN	13.00	660	J
13.	UNKNOWN ACID	13.12	780	J
14.	UNKNOWN ACID	14.26	450	J
15.	UNKNOWN	15.38	650	J
16.	UNKNOWN ACID	23.15	1200	J
17.	UNKNOWN AROMATIC	23.45	450	J
18.	UNKNOWN AROMATIC	23.92	1100	J
19.	UNKNOWN AROMATIC	25.33	480	J
20.	UNKNOWN AROMATIC	26.12	4700	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5620

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 26 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	890	U
111-44-4	bis(2-Chloroethyl)Ether	890	U
95-57-8	2-Chlorophenol	890	U
541-73-1	1,3-Dichlorobenzene	890	U
106-46-7	1,4-Dichlorobenzene	890	U
95-50-1	1,2-Dichlorobenzene	890	U
95-48-7	2-Methylphenol	890	U
108-60-1	2,2'-oxybis(1-Chloropropane)	890	U
106-44-5	4-Methylphenol	890	U
621-64-7	N-Nitroso-di-n-propylamine	600	J
67-72-1	Hexachloroethane	890	U
98-95-3	Nitrobenzene	890	U
78-59-1	Isophorone	890	U
88-75-5	2-Nitrophenol	890	U
105-67-9	2,4-Dimethylphenol	890	U
111-91-1	bis(2-Chloroethoxy)methane	890	U
120-83-2	2,4-Dichlorophenol	890	U
120-82-1	1,2,4-Trichlorobenzene	890	U
91-20-3	Naphthalene	890	U
106-47-8	4-Chloroaniline	890	U
87-68-3	Hexachlorobutadiene	890	U
59-50-7	4-Chloro-3-methylphenol	890	U
91-57-6	2-Methylnaphthalene	890	U
77-47-4	Hexachlorocyclopentadiene	890	U
88-06-2	2,4,6-Trichlorophenol	890	U
95-95-4	2,4,5-Trichlorophenol	2200	U
91-58-7	2-Chloronaphthalene	890	U
88-74-4	2-Nitroaniline	2200	U
131-11-3	Dimethylphthalate	890	U
208-96-8	Acenaphthylene	890	U
606-20-2	2,6-Dinitrotoluene	890	U
99-09-2	3-Nitroaniline	2200	U
83-32-9	Acenaphthene	890	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5620

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 26 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	2200	U
132-64-9	Dibenzofuran	890	U
121-14-2	2,4-Dinitrotoluene	890	U
84-66-2	Diethylphthalate	890	U
7005-72-3	4-Chlorophenyl-phenylether	890	U
86-73-7	Fluorene	890	U
100-01-6	4-Nitroaniline	2200	U
534-52-1	4,6-Dinitro-2-methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	890	U
101-55-3	4-Bromophenyl-phenylether	890	U
118-74-1	Hexachlorobenzene	890	U
87-86-5	Pentachlorophenol	2200	U
85-01-8	Phenanthrene	130	J
120-12-7	Anthracene	890	U
86-74-8	Carbazole	890	U
84-74-2	Di-n-Butylphthalate	890	U
206-44-0	Fluoranthene	260	J
129-00-0	Pyrene	170	J
85-68-7	Butylbenzylphthalate	890	U
91-94-1	3,3'-Dichlorobenzidine	890	U
56-55-3	Benzo(a)anthracene	110	J
218-01-9	Chrysene	260	J
117-81-7	bis(2-Ethylhexyl)phthalate	1100	
117-84-0	Di-n-octylphthalate	190	J
205-99-2	Benzo(b)fluoranthene	240	J
207-08-9	Benzo(k)fluoranthene	120	J
50-32-8	Benzo(a)pyrene	890	U
193-39-5	Indeno(1,2,3-cd)pyrene	890	U
53-70-3	Dibenz(a,h)anthracene	890	U
191-24-2	Benzo(g,h,i)perylene	890	U

0000046

8428910076

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-4RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5620

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 26 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.54	15000	JA
2.	UNKNOWN	7.97	2600	J
3.	UNKNOWN	10.33	1200	J
4.	UNKNOWN	12.90	380	J
5.	UNKNOWN	13.02	580	J
6.	SUBSTITUTED PHENOL	14.77	670	J
7.	UNKNOWN	16.93	230	J
8.	UNKNOWN ACID	23.00	1600	JB
9.	UNKNOWN	23.43	240	J
10.	UNKNOWN AROMATIC	23.77	850	J
11.	UNKNOWN	24.10	270	J
12.	UNKNOWN ACID	25.04	550	J
13.	UNKNOWN AROMATIC	25.16	530	J
14.	UNKNOWN AROMATIC	25.28	260	J
15.	UNKNOWN AROMATIC	25.95	1800	J
16.	UNKNOWN	26.21	510	J
17.	UNKNOWN AROMATIC	26.47	1700	J
18.	UNKNOWN AROMATIC	26.96	580	J
19.	UNKNOWN AROMATIC	27.10	730	J
20.	UNKNOWN AROMATIC	27.67	920	J
21.	UNKNOWN	28.82	530	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5404

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 11 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	900	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	900	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
99-09-2	3-Nitroaniline	900	U
83-32-9	Acenaphthene	370	U

0000048

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5404

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 11 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	900	U
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	900	U
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	370	U
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)anthracene	370	U
218-01-9	Chrysene	370	U
117-81-7	bis(2-Ethylhexyl)phthalate	54	J
117-84-0	Di-n-octylphthalate	370	U
205-99-2	Benzo(b)fluoranthene	370	U
207-08-9	Benzo(k)fluoranthene	370	U
50-32-8	Benzo(a)pyrene	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	370	U
53-70-3	Dibenz(a,h)anthracene	370	U
191-24-2	Benzo(g,h,i)perylene	370	U

0000049

8428910079

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-5

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5404

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 11 decanted: (Y/N) N Date Extracted: 05/26/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.80	500	J
2.	UNKNOWN	6.88	490	J
3.	UNKNOWN	7.57	300	J
4.	UNKNOWN	7.83	82	J
5.	UNKNOWN	8.16	1700	JB
6.	UNKNOWN	8.50	160	JB
7.	UNKNOWN	8.75	420	JB
8.	UNKNOWN	8.95	330	JB
9.	UNKNOWN	9.03	190	J
10.	UNKNOWN	9.15	180	J
11.	UNKNOWN	9.54	170	J
12.	UNKNOWN	9.92	630	JB
13.	UNKNOWN	11.41	220	J
14.	UNKNOWN AROMATIC	12.36	200	JB
15.	UNKNOWN AROMATIC	14.48	170	J
16.	UNKNOWN	14.70	160	J
17.	UNKNOWN	15.43	110	J
18.	UNKNOWN AROMATIC	21.18	120	J
19.	UNKNOWN ACID	23.13	430	J
20.	UNKNOWN	28.85	300	J

0000050

8428910080

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5621

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 11 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	900	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	900	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
99-09-2	3-Nitroaniline	900	U
83-32-9	Acenaphthene	370	U

0000051

8428910081

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5621

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 11 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	900	U
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	900	U
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	370	U
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)anthracene	370	U
218-01-9	Chrysene	370	U
117-81-7	bis(2-Ethylhexyl)phthalate	83	J
117-84-0	Di-n-octylphthalate	370	U
205-99-2	Benzo(b)fluoranthene	370	U
207-08-9	Benzo(k)fluoranthene	370	U
50-32-8	Benzo(a)pyrene	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	370	U
53-70-3	Dibenz(a,h)anthracene	370	U
191-24-2	Benzo(g,h,i)perylene	370	U

0000052

8428910082

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S-5RE

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F5621

Level: (low/med) LOW Date Received: 05/21/93

% Moisture: 11 decanted: (Y/N) N Date Extracted: 06/10/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/18/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.46	140	J
2.	UNKNOWN	7.93	710	J
3.	UNKNOWN	8.26	100	J
4.	UNKNOWN	9.03	170	J
5.	UNKNOWN ACID	20.75	80	J
6.	UNKNOWN ACID	22.98	530	JB
7.	UNKNOWN AROMATIC	23.75	99	J

0000053

8428910083

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1

Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 16 decanted: (Y/N) N Date Received: 05/21/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/26/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/12/93

Injection Volume: 1.00 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.3 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	10	U
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	20	U
72-55-9	4,4'-DDE	20	U
72-20-8	Endrin	20	U
33213-65-9	Endosulfan II	20	U
72-54-8	4,4'-DDD	20	U
1031-07-8	Endosulfan sulfate	20	U
50-29-3	4,4'-DDT	30	P
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20	U
7421-93-4	Endrin aldehyde	20	U
5103-71-9	alpha-Chlordane	10	U
5103-74-2	gamma-Chlordane	10	U
8001-35-2	Toxaphene	1000	U
12674-11-2	Aroclor-1016	200	U
11104-28-2	Aroclor-1221	400	U
11141-16-5	Aroclor-1232	200	U
53469-21-9	Aroclor-1242	200	U
12672-29-6	Aroclor-1248	200	U
11097-69-1	Aroclor-1254	980	P
11096-82-5	Aroclor-1260	200	U

0000054

8428910084

PESTICIDE ORGANICS 1D ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-2

Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688702

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 16 decanted: (Y/N) N Date Received: 05/21/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/26/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/12/93

Injection Volume: 1.00 (uL) Dilution Factor: 3.00

GPC Cleanup: (Y/N) Y pH: 7.1 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	6.1	U
319-85-7	beta-BHC	6.1	U
319-86-8	delta-BHC	6.1	U
58-89-9	gamma-BHC (Lindane)	6.1	U
76-44-8	Heptachlor	6.1	U
309-00-2	Aldrin	6.1	U
1024-57-3	Heptachlor epoxide	6.1	U
959-98-8	Endosulfan I	6.1	U
60-57-1	Dieldrin	12	U
72-55-9	4,4'-DDE	12	U
72-20-8	Endrin	12	U
33213-65-9	Endosulfan II	12	U
72-54-8	4,4'-DDD	12	U
1031-07-8	Endosulfan sulfate	12	U
50-29-3	4,4'-DDT	12	U
72-43-5	Methoxychlor	61	U
53494-70-5	Endrin ketone	12	U
7421-93-4	Endrin aldehyde	12	U
5103-71-9	alpha-Chlordane	6.1	U
5103-74-2	gamma-Chlordane	6.1	U
8001-35-2	Toxaphene	610	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	240	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	450	
11096-82-5	Aroclor-1260	120	U

0000055

8428910085

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688705

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 13 decanted: (Y/N) N Date Received: 05/21/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/26/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/10/93

Injection Volume: 1.00 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.7 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.8	U
319-85-7	beta-BHC	12	P
319-86-8	delta-BHC	9.8	U
58-89-9	gamma-BHC (Lindane)	9.8	U
76-44-8	Heptachlor	9.8	U
309-00-2	Aldrin	9.8	U
1024-57-3	Heptachlor epoxide	9.8	U
959-98-8	Endosulfan I	9.8	U
60-57-1	Dieldrin	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	19	U
33213-65-9	Endosulfan II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	Endosulfan sulfate	19	U
50-29-3	4,4'-DDT	120	P
72-43-5	Methoxychlor	98	U
53494-70-5	Endrin ketone	19	U
7421-93-4	Endrin aldehyde	24	P
5103-71-9	alpha-Chlordane	9.8	U
5103-74-2	gamma-Chlordane	9.8	U
8001-35-2	Toxaphene	980	U
12674-11-2	Aroclor-1016	190	U
11104-28-2	Aroclor-1221	390	U
11141-16-5	Aroclor-1232	190	U
53469-21-9	Aroclor-1242	190	U
12672-29-6	Aroclor-1248	190	U
11097-69-1	Aroclor-1254	2000	
11096-82-5	Aroclor-1260	190	U

PESTICIDE ORGANICS 1D ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 26 decanted: (Y/N) N Date Received: 05/21/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/26/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/10/93

Injection Volume: 1.00 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.2 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	19	P
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	11	U
1024-57-3	Heptachlor epoxide	11	U
959-98-8	Endosulfan I	11	U
60-57-1	Dieldrin	22	U
72-55-9	4,4'-DDE	22	U
72-20-8	Endrin	22	U
33213-65-9	Endosulfan II	22	U
72-54-8	4,4'-DDD	22	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	22	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	22	U
7421-93-4	Endrin aldehyde	22	U
5103-71-9	alpha-Chlordane	11	U
5103-74-2	gamma-Chlordane	11	U
8001-35-2	Toxaphene	1100	U
12674-11-2	Aroclor-1016	220	U
11104-28-2	Aroclor-1221	450	U
11141-16-5	Aroclor-1232	220	U
53469-21-9	Aroclor-1242	220	U
12672-29-6	Aroclor-1248	220	U
11097-69-1	Aroclor-1254	220	U
11096-82-5	Aroclor-1260	220	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4DL

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688706DL

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 26 decanted: (Y/N) N Date Received: 05/21/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/26/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/15/93

Injection Volume: 1.00 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 7.2 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	46	U
319-85-7	beta-BHC	46	U
319-86-8	delta-BHC	46	U
58-89-9	gamma-BHC (Lindane)	46	U
76-44-8	Heptachlor	46	U
309-00-2	Aldrin	46	U
1024-57-3	Heptachlor epoxide	46	U
959-98-8	Endosulfan I	46	U
60-57-1	Dieldrin	89	U
72-55-9	4,4'-DDE	89	U
72-20-8	Endrin	89	U
33213-65-9	Endosulfan II	89	U
72-54-8	4,4'-DDD	89	U
1031-07-8	Endosulfan sulfate	89	U
50-29-3	4,4'-DDT	89	U
72-43-5	Methoxychlor	460	U
53494-70-5	Endrin ketone	89	U
7421-93-4	Endrin aldehyde	89	U
5103-71-9	alpha-Chlordane	46	U
5103-74-2	gamma-Chlordane	46	U
8001-35-2	Toxaphene	4600	U
12674-11-2	Aroclor-1016	890	U
11104-28-2	Aroclor-1221	1800	U
11141-16-5	Aroclor-1232	890	U
53469-21-9	Aroclor-1242	890	U
12672-29-6	Aroclor-1248	890	U
11097-69-1	Aroclor-1254	9200	C
11096-82-5	Aroclor-1260	890	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5

Lab Name: NYTEST ENV INC Contract: 9320088

Lab Code: NYTEST Case No.: 16887 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1688707

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 11 decanted: (Y/N) N Date Received: 05/21/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/26/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/10/93

Injection Volume: 1.00 (uL) Dilution Factor: 3.00

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	5.7	U
319-85-7	beta-BHC	5.7	U
319-86-8	delta-BHC	5.7	U
58-89-9	gamma-BHC (Lindane)	5.7	U
76-44-8	Heptachlor	5.7	U
309-00-2	Aldrin	5.7	U
1024-57-3	Heptachlor epoxide	5.7	U
959-98-8	Endosulfan I	5.7	U
60-57-1	Dieldrin	11	U
72-55-9	4,4'-DDE	11	U
72-20-8	Endrin	11	U
33213-65-9	Endosulfan II	11	U
72-54-8	4,4'-DDD	11	U
1031-07-8	Endosulfan sulfate	11	U
50-29-3	4,4'-DDT	11	U
72-43-5	Methoxychlor	57	U
53494-70-5	Endrin ketone	11	U
7421-93-4	Endrin aldehyde	11	U
5103-71-9	alpha-Chlordane	5.7	U
5103-74-2	gamma-Chlordane	5.7	U
8001-35-2	Toxaphene	570	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	230	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	480	
11096-82-5	Aroclor-1260	110	U

nytest environmental inc.

Inorganic Data

0001332

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9320088___

Lab Code: 73469_ Case No.: 16887 SAS No.: _____ SDG No.:278___

SOW No.: 3/90_

EPA Sample No.	Lab Sample ID
_S-1XXX_____	__688701_____
_S-2XXX_____	__688702_____
_S-2XXXD_____	__688703D_____
_S-2XXXS_____	__688704S_____
_S-3XXX_____	__688705_____
_S-4XXX_____	__688706_____
_S-5XXX_____	__688707_____

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

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

Signature: Lori Beyer Name: Lori Beyer

Date: 6/28/93 Title: Document Control Officer

Laboratory Chronicle

Client Name : NJDEPE

Login No. : 16887

Date Received : 05/21/93

Sample ID : AS PER CHAIN OF CUSTODY

Laboratory Number	Sample Identification

SEE REPORT COVER PAGE

Inorganics :

1. Metals	06/04/93 to 06/14/93
2. Cyanides	06/02/93
3. Phenols	NR

Other Analysis: NR

Total Organic Carbons :

Extraction : NR

Analysis : NR

0001334

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nytest environmental inc.

Method Qualifiers for Inorganics

FORM I-IN includes fields for three types of results qualifiers. These qualifiers must be completed as follows:

* C (Concentration) qualifier -- Enter "B" if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL). If the analyte was analyzed for but not detected, a "U" must be entered.

* Q qualifier -- Specified entries and their meanings are as follows:

  E - The reported value is estimated because of the presence of interference.

  M - Duplicate precision not met (CV > 20%).

  N - Spiked sample recovery not within control limits.

  S - The reported value was determined by Method of Standard Addition (MSA).

  W - Post-digestion spike for Furnace AA analysis is out of control limits (85 - 115%), while sample absorbance is less than 50% of spike absorbance.

  * - Duplicate analysis not within control limits.

  + - Correlation Coefficient for the MSA is less than 0.995.

  Entering "S", "W" or "+" is mutually exclusive.

* M (Method) qualifier - enter:

  - "P" for ICP
  - "A" for Flame AA
  - "F" for Furnace AA
  - "CV" for Cold Vapor AA
  - "AV" for Automated Cold Vapor AA
  - "AS" for Semi-Automated Spectrophotometric
  - "C" for Manual Spectrophotometric
  - "T" for Titrimetric
  - "NR" if the analyte is not required to be analyzed.

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-1XXX

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9320088___

Lab Code: 73469_ Case No.: 16887_ SAS No.: _____ SDG No.: 278___

Matrix (soil/water): SOIL_ Lab Sample ID: 688701____

Level (low/med): LOW__ Date Received: 05/21/93

% Solids: _83.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	14100			P
7440-36-0	Antimony_	18.6		N	P
7440-38-2	Arsenic__	4.0			F
7440-39-3	Barium___	926			P
7440-41-7	Beryllium	0.64	B		P
7440-43-9	Cadmium__	1.2	B		P
7440-70-2	Calcium__	1820			P
7440-47-3	Chromium_	52.5			P
7440-48-4	Cobalt___	52.3			P
7440-50-8	Copper___	69.4		N*	P
7439-89-6	Iron_____	22500			P
7439-92-1	Lead_____	2040		*	F
7439-95-4	Magnesium	3140			P
7439-96-5	Manganese	494		*	P
7439-97-6	Mercury__	0.79		N	CV
7440-02-0	Nickel___	26.0		*	P
7440-09-7	Potassium	1270			P
7782-49-2	Selenium_	1.2	U	W	F
7440-22-4	Silver___	1.6	U	N	P
7440-23-5	Sodium___	399	B		P
7440-28-0	Thallium_	1.2	U		F
7440-62-2	Vanadium_	31.4			P
7440-66-6	Zinc_____	2320			P
5955-70-0	Cyanide__	0.50	U		AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: P._YELLOW Clarity After: CLEAR_ Artifacts: _____

Comments:

S-1

PB_RUN_AT_200X_DILUTION

FORM I - IN

ILMO2.1

0001340

8428910094

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-2XXX

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9320088___

Lab Code: 73469_ Case No.: 16887_ SAS No.: _____ SDG No.: 278___

Matrix (soil/water): SOIL_ Lab Sample ID: 688702____

Level (low/med): LOW__ Date Received: 05/21/93

% Solids: _84.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	10700			P
7440-36-0	Antimony_	14.3	U	N	P
7440-38-2	Arsenic__	2.9			F
7440-39-3	Barium___	63.2			P
7440-41-7	Beryllium	0.27	B		P
7440-43-9	Cadmium__	1.2	U		P
7440-70-2	Calcium__	1150	B		P
7440-47-3	Chromium_	26.1			P
7440-48-4	Cobalt___	9.3	B		P
7440-50-8	Copper___	46.9		N*	P
7439-89-6	Iron_____	17700			P
7439-92-1	Lead_____	37.6		*	F
7439-95-4	Magnesium	2200			P
7439-96-5	Manganese	490		*	P
7439-97-6	Mercury__	0.26		N	CV
7440-02-0	Nickel___	21.8		*	P
7440-09-7	Potassium	539	B		P
7782-49-2	Selenium_	1.2	U		F
7440-22-4	Silver___	1.5	U	N	P
7440-23-5	Sodium___	231	U		P
7440-28-0	Thallium_	1.2	U		F
7440-62-2	Vanadium_	31.2			P
7440-66-6	Zinc_____	1010			P
5955-70-0	Cyanide__	0.39	U		AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: P._YELLOW Clarity After: CLEAR_ Artifacts: _____

Comments:
S-2
PB_RUN_AT_4X_DILUTION

FORM I - IN

ILMO2.1

0001341

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U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-3XXX

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9320088___

Lab Code: 73469_ Case No.: 16887_ SAS No.: _____ SDG No.: 278___

Matrix (soil/water): SOIL_ Lab Sample ID: 688705____

Level (low/med): LOW__ Date Received: 05/21/93

% Solids: _86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	9200			P
7440-36-0	Antimony_	13.8	U	N	P
7440-38-2	Arsenic__	6.3			F
7440-39-3	Barium___	87.3			P
7440-41-7	Beryllium	0.66	B		P
7440-43-9	Cadmium__	1.1	U		P
7440-70-2	Calcium__	2920			P
7440-47-3	Chromium_	48.4			P
7440-48-4	Cobalt___	20.2			P
7440-50-8	Copper___	122		N*	P
7439-89-6	Iron_____	32900			P
7439-92-1	Lead____	241		*	F
7439-95-4	Magnesium	3780			P
7439-96-5	Manganese	729		*	P
7439-97-6	Mercury__	0.41		N	CV
7440-02-0	Nickel___	32.5		*	P
7440-09-7	Potassium	1560			P
7782-49-2	Selenium_	1.2	U	W	F
7440-22-4	Silver___	1.9	B	N	P
7440-23-5	Sodium___	449	B		P
7440-28-0	Thallium_	1.2	U	W	F
7440-62-2	Vanadium_	51.4			P
7440-66-6	Zinc_____	1570			P
5955-70-0	Cyanide__	0.63	U		AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: P._YELLOW Clarity After: CLEAR_ Artifacts: _____

Comments:
S-3
PB_RUN_AT_20X_DILUTION

FORM I - IN

0001342 ILMO2.1

8428910096

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-4XXX

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9320088___

Lab Code: 73469_ Case No.: 16887_ SAS No.: _____ SDG No.: 278___

Matrix (soil/water): SOIL_ Lab Sample ID: 688706____

Level (low/med): LOW__ Date Received: 05/21/93

% Solids: _74.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	9530			P
7440-36-0	Antimony_	16.1	U	N	P
7440-38-2	Arsenic__	26.5		S	F
7440-39-3	Barium___	224			P
7440-41-7	Beryllium	0.62	B		P
7440-43-9	Cadmium__	1.3	U		P
7440-70-2	Calcium__	1810			P
7440-47-3	Chromium_	56.6			P
7440-48-4	Cobalt___	32.4			P
7440-50-8	Copper___	172		N*	P
7439-89-6	Iron_____	40600			P
7439-92-1	Lead_____	436		*	F
7439-95-4	Magnesium	2300			P
7439-96-5	Manganese	1870		*	P
7439-97-6	Mercury__	1.2		N	CV
7440-02-0	Nickel___	17.5		*	P
7440-09-7	Potassium	1310	B		P
7782-49-2	Selenium_	1.3	U	W	F
7440-22-4	Silver___	1.9	B	N	P
7440-23-5	Sodium___	384	B		P
7440-28-0	Thallium_	1.3	U	W	F
7440-62-2	Vanadium_	45.6			P
7440-66-6	Zinc_____	3290			P
5955-70-0	Cyanide__	0.54			AS

Color Before: BLACK____ Clarity Before: _____ Texture: MEDIUM

Color After: P._YELLOW Clarity After: CLEAR_ Artifacts: _____

Comments:

S-4

PB_RUN_AT_40X_DILUTION

AS_AT_A_4X_DILUTION.

FORM I - IN

ILMO2.1

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-5XXX

Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9320088___

Lab Code: 73469_ Case No.: 16887_ SAS No.: _____ SDG No.: 278___

Matrix (soil/water): SOIL_ Lab Sample ID: 688707____

Level (low/med): LOW__ Date Received: 05/21/93

% Solids: _89.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4490			P
7440-36-0	Antimony	13.5	U	N	P
7440-38-2	Arsenic	1.1	U	W	F
7440-39-3	Barium	37.0	B		P
7440-41-7	Beryllium	0.26	B		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	944	B		P
7440-47-3	Chromium	9.7			P
7440-48-4	Cobalt	6.2	B		P
7440-50-8	Copper	13.8		N*	P
7439-89-6	Iron	12100			P
7439-92-1	Lead	18.1		S*	F
7439-95-4	Magnesium	2290			P
7439-96-5	Manganese	369		*	P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	9.3		*	P
7440-09-7	Potassium	813	B		P
7782-49-2	Selenium	1.1	U		F
7440-22-4	Silver	1.5	U	N	P
7440-23-5	Sodium	218	U		P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	12.7			P
7440-66-6	Zinc	81.3			P
5955-70-0	Cyanide	0.39	U		AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

S-5

PB_RUN_AT_4X_DILUTION

FORM I - IN

ILMO2.1

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Reichhold Chemicals, Inc.
Corporate Headquarters
PO Box 13582
Research Triangle Park, NC 27709-3582

F- Albert - Vit

November 15, 1993

REICHHOLD

Mr. Dan Bello
State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 029
Trenton, NJ 08625-0029

RE: Remedial Investigation Addendum Report
Reichhold Chemicals, Inc.
46 Albert Avenue
Newark, New Jersey 07105
Facility Registration No. 0226253
Closure Approval Nos. C-92-3204, C-92-3205, C-92-3206
NJDEPE Case No. 92-11-5-1220-55

Dear Mr. Bello:

Attached is a letter from Vectre Corporation summarizing recent groundwater data collected at the referenced site. Analytical results are also included.

This data supplements the initial Remedial Investigation Report (RIR) submitted in March 1993. Based on the detection of xylene in the groundwater reported in the RIR, a second round of groundwater samples was collected on June 22, 1993 from MW-1, the monitoring well in the immediate vicinity of the former underground storage tanks. An initial groundwater sample was collected from a new monitoring well, MW-2, to measure the possible contribution of contaminants from the upgradient direction.

As stated in the Vectre's September 20, 1993 letter, xylene concentrations at MW-1 have decreased to below NJDEPE groundwater cleanup standards, and no constituents were detected at MW-2 above the cleanup standards. Therefore, all constituents in both wells were below NJDEPE cleanup standards on June 22.

Reichhold proposes to collect one additional sample from MW-1 and MW-2 during the fourth quarter of 1993 to determine whether concentrations of xylene have remained below the state's cleanup standards. The results of this sampling will be provided to your office upon receipt.

Tel: (919) 990-7500
Fax: (919) 990-7711

Please contact me at (919) 990-7836 if you have any questions regarding this matter.

Sincerely,

Paul Brustofski

Encls.

cc: M. Baxi - RCI/Newark
L. Graham - RCI/RTP
J. Haug - Vectre/Lafayette

8428910100

VECTRE CORPORATION
"Environmental Integrity with Efficiency"

P.O. Box 930
Lafayette, New Jersey 07848-0930
(201) 383-2500
Fax: (201) 579-0025

September 20, 1993

Mr. Paul Brustofsky
Regional Environmental Engineer
Reichhold Chemicals Inc.
P.O. Box 13582
Research Triangle Park, NC 27709-3582

Re: Remedial Investigation Addendum Report for
46 Albert Avenue
Newark, New Jersey
NJDEPE Case #92-11-05-1220-55

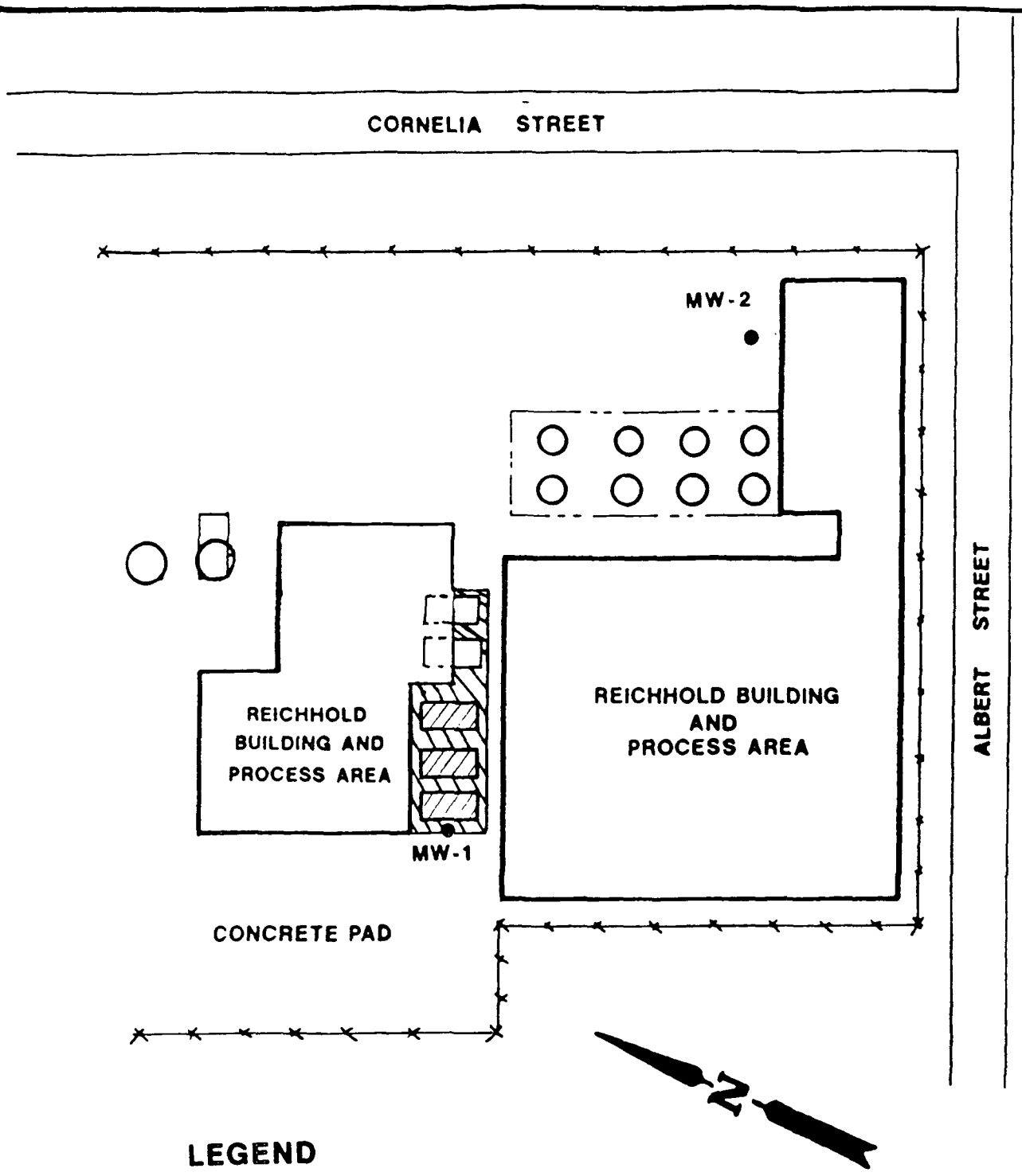
Dear Mr. Brustofsky:

This letter summarizes the results of groundwater sampling conducted during June and July 1993 at the Reichhold facility at 46 Albert Avenue, Newark. As outlined in the recommendations section of Vectre's Remedial Investigation Report (UST Closure), submitted to the NJDEPE in March 1993, Vectre personnel collected a second groundwater sample from MW-1 and an initial sample from monitoring well MW-2, which had been installed in the inferred upgradient direction of the former USTs (Figure 1).

The purpose of this investigation was to determine whether or not xylenes and naphthalene, reported in the Remedial Investigation Report at concentrations exceeding NJDEPE proposed groundwater cleanup standards, could be attributed to a regional groundwater contamination problem. To that end, a groundwater sample was collected from the upgradient monitoring well, MW-2. A description of the monitoring well installation and groundwater sample collection procedures along with the presentation of analytical results and a discussion of conclusions and recommendations follows.

Monitoring Well Installation

Monitoring well MW-2 was installed upgradient of the previously removed or abandoned USTs at Reichhold on December 23, 1992. Drilling was conducted by Summit Drilling Company, Inc., a New Jersey licensed well driller, under the supervision of Vectre Corporation personnel. Monitoring well MW-2 was drilled to a depth of 20 feet using an auger rig. Groundwater was encountered at a depth of approximately 8.0 feet, and the well was developed by bailing. A copy of the NJDEPE well permit and Vectre's soil log are included in Appendix A.



LEGEND

- UST (REMOVED 11/92)
- UST (ABANDONED 11/92)
- ABOVEGROUND STORAGE TANK
- MW-1 ● MONITORING WELL
- FENCE
- BACKFILL
- CONCRETE WALL

REICHHOLD CHEMICALS
NEWARK, NEW JERSEY

SCALE: 1" = 50'		
FIGURE NUMBER	PROJECT NUMBER RCI-V2	VECTRE CORPORATION

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The upper five feet of the lithology consists of mixed gravel, sand, and clay fill material. Beneath the fill, rocks are comprised of reddish-brown to brown sandy clays from 5 to 9 feet depth and silty clays from 9 to 20 feet depth.

Groundwater Sample Collection and Water Table Depth Measurements

Groundwater samples were collected from both MW-1 and MW-2 on June 22 and July 15, 1993. On both sampling occasions the sampler wore protective clothing and collected the samples according to procedures detailed in the NJDEPE Field Sampling Procedures Manual published in May, 1992. The samples collected on June 22 were transported to ICM Laboratories, a New Jersey certified laboratory, and analyzed for targeted volatile organic compounds (VOCs), including MTBE and TBA, with a forward library search of 10 non-targeted peaks. The samples collected on July 15 were also transported to ICM but analyzed for targeted base neutral compounds (BNs) with a forward library search of 15 non-targeted peaks. Appropriate QA/QC field and trip blank samples were obtained and analyzed. Results are discussed in the next section.

Water table depths were measured from the top of the PVC well casing at the time of sample collection on June 22. Recorded water table depths were 10.25 feet in MW-1 and 8.5 feet in MW-2. The elevations of the wells were not surveyed for this investigation, but visual observations indicate that the area between the two monitoring wells is relatively level. Groundwater depth measurements suggest that the direction of flow is probably to the north or northwest as initially inferred from topographic maps. Since the well elevations are not surveyed, no groundwater contour maps were prepared for this report.

Groundwater Analytical Results

Analytical results for the groundwater samples are summarized in Table 1 and a copy of the full laboratory report is found in Appendix B. Included in Table 1 for comparison purposes are analytical results for a groundwater sample collected from MW-1 during the previous investigation.

Results demonstrate that between February 4 and June 22 of this year, concentrations of naphthalene in MW-1 have remained nearly constant (67 and 68 μg/l, respectively). Regulations promulgated in Technical Requirements for Site Remediation (NJAC 7:26E), adopted on June 7, 1993, cite as "applicable remediation standards" for groundwater the concentration criteria specified in New Jersey's Groundwater Quality Standards (NJAC 7:9-6). Within this regulatory framework, no remediation standard has been established for naphthalene.

Total xylenes in the same well dropped dramatically during the same period from 3,500 to 35 μg/l and are presently below the remediation standard of 40 μg/l. Results for MW-2 reported no compounds at concentrations above detection limits. These data suggest that groundwater in MW-2, the upgradient well, does not contain compounds associated with the contents of the USTs, and which were detected in MW-1.

TABLE 1. Groundwater Analytical Results for Monitoring Wells
VOC and BN Concentrations in micrograms per liter (μg/l)

COMPOUND	MW-1	MW-1	MW-2	NJDEPE Groundwater Quality Std.
Date Sampled	2-4-93	6-22-93	6-22-93.	.....
Targeted VOCs	.....	.....	.....	.....
Trichloroethene	U (250)	U (5)	3J (5)	1
Xylenes (total)	3,500 (250)	35 (5)	U (5)	40
Non-Targeted VOCs	0	0	60	NE
Date sampled	2-4-93	7-15-93	7-15-93	.....
Targeted BNs	.....	.....	.....	.....
Naphthalene	67 (5)	68 (5)	2J (5)	NE
Fluorene	3J (5)	U (5)	U (5)	300
Phenanthrene	5J (5)	1J (5)	U (5)	NE
Pyrene	1J (5)	U (5)	U (5)	200
Bis(2-ethylhexyl) phthalate	U (5)	3J (5)	U (5)	3
Non-Targeted BNs	2,778	2,700	143	NE

U: Analyzed for but not detected.
J: Compound detected but is less than specified detection limit.
NE: Cleanup standard has not yet been established.
(--): Minimum detection limit given in parentheses.

Findings/Recommendations

Based upon the information geenerated during this investigation, the following conclusions can be drawn:

- Groundwater flows in a northerly directtion.
- Analytical results of samples collected from MW-2, the upgradient monitoring well, indicate that groundwater is not impacted by compounds associated with the former USTs.
- The concentration of xylenes in MW-1 from 2-4-93 to 6-22-93 dropped to 35 μg/l, below the NJDEPE remediation standard of 40 μg/l.
- The concentration of naphthalene in MW-1 from 2-4-93 to 7-15-93 has remained nearly the same (67 μg/l and 68 μg/l, respectively), however no remediation standard has been established for the compound.

Based upon these conclusions, Vectre recommends the following actions:

- Analytical results of groundwater samples collected from MW-1 and MW-2 in June and July, 1993 report no compounds exceeding remediation standards established by New Jersey legislative rule. Vectre recommends that Reichhold submit, as a Remedial Investigation Addendum Report, the analytical results of the second round of groundwater sampling from MW-1 to the NJDEPE.

If you have any questions please do not hesitate to call me at (201) 383-2500. Thank you.

Sincerely,
VECTRE CORPORATION

Jerry L. Haug
Project Manager

Enclosures

cc: Mike Baxi, Reichhold Chemical

320.9309B

8428910105

LD CHEMICALS, INC.

interoffice communication

TO: M. Gasparik

cc: M. Baxi
A. Dieffenbach

FROM: Eric Lau

LOCATION: Newark/Albert

DATE: May 28, 1993

SUBJECT: Incident Investigation: Phthalic tank overflow Doremus

On May 26, 1993, about 5:30 pm, molten phthalic was being loaded into a phthalic holding tank from railroad tank car numbered ECUX411021. The material overflowed the tank. Some material was released to the side and top of the tank, containment dike, and slight dusting was found on the railroad loading area. The pumping was immediately halted.

The incident investigation started on the next morning at 9:00am. After two days of fact finding among regular assignments, reviewed reasons for overflowing the tank.

Facts:

1. The maximum capacity of the tank is 29,500 gallons.

2. According to the phthalic shipping and receiving log, on April 05,'93, 4,539 gallons of material was transported to Albert Ave. However, the bill of lading was never found for this matter. On April 06, 1993, a shipment of phthalic arrived from Doremus with bill of lading stating 4,539 gallons.

   Both numbers (2 X 4,539 gals) were subtracted from the inventory. Actually, only one load should have been subtracted. Hence, leaving 4,539 gallons unaccounted for in the tank.

3. Miscommunication between Exxon and Albert Ave., and Doremus Ave.. On May 12. 1993, actually 18,430 gallons were transferred from railcar numbered ECUX411014 into the phthalic tank. Documentation indicated only 15,000 gallons. A revision noticed from Exxon received but was unnoticed. Hence, leaving 3,430 gallons unaccounted for in the tank.

   Total Unaccounted amount in the tank 4,539 + 3,430 = 7,969 gallons

8428910106

4. On May 26, 1993, inventory indicates only 3,718 gallons in the tank but in reality it is:

   unaccounted amount + inventory = 11,687 gallons

   On the same day, a 19,048-gallon load was being pump into the tank. Which resulted in a overflow.

   19,048 + 11,687 = 30,735 gallons which greater than 29,500 gallons.

   The remaining material in the railcar was about 1471 gallons.

Recommendation:

- Repair level gauge with preventive manitenance
- Establish better communication with Exxon for changes
- Doremus Ave. should develop better inventory system
- Empty phthalic tank prior to loading from railroad car (Art D.)

Investigation Team:

Art Dieffenbach

Mike Baxi

Eric Lau

From: EXXON COMPUTING SERVICES CO. Tlx: 7607600
To: FAX 1-2015892898

MESSAGE FOR MESSAGE CENTER

ADDR: 674 2015892898
SEQ # : APR15.0002

Posted: Thu, Apr 15, 1993 2:55 PM EDT Msg: BPJD-1023-6652/20
From: (O:ECI.EXMOPEC, SN:Exmail, FN:Adm, SITE:EXXON1)
To: MESSAGE CENTER (TLX:2015892898, ANS:NONE, AC:674)
Subj: TWXSWR 0135018

QP FPMAIL(FPWILD)
.HOEKBJS 1022107
BT
CHARGE_TO_ID: HOUECA(XCCCABLE)
SUBJECT: TWXSWR 0135018
FROM: EXXON CHEMICAL PAD 04/15/93 13:57

TO: REICHHOLD CHEMICALS INC
390 DOREMUS AVE
EUSA NO 3994253003
NEWARK NJ 07105

ATTENTION: L.MACKEY/M.GASPARIK

THIS IS TO CONFIRM THE FOLLOWING SHIPMENT:

SHIPPED: 04/15/93 LOAD DATE: 04/12/93

SHIPPING FROM: BATON ROUGE LA

YOUR ORDER NO.: 88014-REL 20 B/L #: 540707

EXXON ORDER NO.: 417952P LINE-01 RELEASE-001

PRODUCT DESC: PHTHALIC AN MOLTEN

WEIGHT: 184,300 LBS. 18,430 GALS.

RAILCAR NUMBER: ECUX411014 T/C OUTAGE: 10.7%

ROUTING: IC/EFHAM/CR

THANK YOU FOR YOUR ORDER. FOR QUESTIONS CALL: 1-800-231-6633
EXXON CHEM HOU
*USERID FPMAIL(FPWILD)
; US 0001149 0415931456 HOUHCC OPEC

8428910108

From: EXXON COMPUTING SERVICES CO. Tlx: 7607600
To: FAX 1-2015892898

MESSAGE FOR MESSAGE CENTER

ADDR: 674 2015892898
SEQ # : APR15.0001

Posted: Thu, Apr 15, 1993 7:16 AM EDT Msg: GPJD-1023-5955/20
From: (O:ECI.EXMOPEC, SN:Exmail, FN:Adm, SITE:EXXON1)
To: MESSAGE CENTER (TLX:2015892898, ANS:NONE, AC:674)
Subj: TWXSWR 0134796

QP FPMAIL(FPWILD)
.HOEKBJS 1022107
BT
CHARGE_TO_ID: HOUECA(XCCCABLE)
SUBJECT: TWXSWR 0134796
FROM: EXXON CHEMICAL PAD 04/15/93 06:16

TO: REICHHOLD CHEMICALS INC
390 DOREMUS AVE
EUSA NO 3994253003
NEWARK NJ 07105

ATTENTION: ~~L.MACKEY/M.GASPARIK~~ GAIL McMORROW

THIS IS TO CONFIRM THE FOLLOWING SHIPMENT:

SHIPPED: 04/15/93 LOAD DATE: 04/12/93

SHIPPING FROM: BATON ROUGE LA

YOUR ORDER NO.: 88014-REL 20 B/L #: 540707

EXXON ORDER NO.: 417952P LINE-01 RELEASE-001

PRODUCT DESC: PHTHALIC AN MOLTEN

WEIGHT: 150,000 LBS. 15,000 GALS.

RAILCAR NUMBER: ECUX411014 T/C OUTAGE: 27.3%

ROUTING: IC/EFHAM/CR

THANK YOU FOR YOUR ORDER. FOR QUESTIONS CALL: 1-800-231-6633
EXXON CHEM HOU
*USERID FPMAIL(FPWILD)
; US 0000415 0415930717 HOUHCC OPEC

8428910109

RAIGHT BILL OF LADING - SHORT FORM

NAL NOT NEGOTIABLE

15/93 13:57:42

DELIVERY DATE mo. day. yr.	DELIVERY TIME hr. min.	SHIPMENT ID NO. (B/L NO.)
		540707

OF CARRIER	SELLER'S ORDER NO.	CUSTOMER'S ORDER NO.
/[redacted]AM/CR	417952P	88014-REL 20

VED, [redacted]ct to the classifications and tariffs in effect on the date of the issue of this Bill of Lading

EXXON CHEMICAL AMERICAS (SUPPLIER CODE 004) AT BATON ROUGE LA 70805 — SHIPPING DATE 04/15/93

L NO. .0707

CONSIGNED TO
REICHHOLD CHEMICALS INC

0 DOREMUS AVE

ISA NO 3994253003

ZIP: 07105

STATE: NJ — SL&C LFVC Shprs. Load Consig Unload.

WARK

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

PER

GROSS

TARE

NET

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination. It is mutually agreed as to, each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all of the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns. If delivery is made by seller's truck or into vehicle of buyer, Bill of Lading provisions are not applicable and this document will serve as a delivery receipt.

PLACARDS OFFERED

CARRIER SIGNATURE

scription and weight indicated on this bill of lading are correct. Subject to verification by the Western Weighing and Inspection
according to agreement. Shippers imprint in lieu of stamp, not a part of bill of lading approved by the Interstate Commerce
ision.
shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or
r's weight"

DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS

FREIGHT WEIGHT (SUB. TO CORR.)

RDOUS SUBSTANCE, LIQUID, NOS / PHTHALIC ANHYDRIDE/ ORM-E, NA 9188 RQ
RT-CLASS; PHTHALIC ANHYDRIDE
:01 REL:001
T/[redacted]
G: [redacted]
COEFF: .000001

ORD. QTY.:	19000G	GRADE:	91495000	PROD DESCR:	PHTHALIC AN MOLTEN		
NET WT:	184300	GROSS WT:	257800	EMPTY WT:	73500		184300
NET GAL:	18430	GROSS GAL:	18435	SHELL CAP:	20634		
LBS/GAL STD TEMP:	10.000	LOAD TEMP:	335	LBS/GAL LOAD TEMP:	9.9970		
INNAGE:	7' 9 3/4"	OUTAGE:	10.7%				
		VEH NO:	ECUX4II014				

RIER INSTRUCTIONS: 15 DAY TRIPLEASE ON T/C - PER PRICE LETTER.
TANKCAR TRIPLEASED TO CONSIGNEE

CHEMICAL EMERGENCY - SPILL, FIRE, EXPOSURE, OR ACCIDENT, CALL CHEMTREC 800-424-9300 DAY OR NIGHT

r certifies that the cargo tank supplied for this shipment is a proper container, as required in part 173, for the transportation of the commodity in the bill of lading or other shipping paper.

to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable
tions of the Department of Transportation. Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor,
onsignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

XXON CHEMICAL AMERICAS, A DIVISION OF EXXON CHEMICAL COMPANY
DIVISION OF EXXON CORPORATION SHIPPER
[redacted] Office Address of Shipper; P.O. Box 4259, Houston, Texas 77210-4259 Per

[redacted] be prepaid, write or stamp "To Be Prepaid." PREPAID

PER

signature here acknowledges only the amount prepaid.)

Forward prepaid freight bills to:
EXXON CHEMICAL AMERICAS
ACCOUNTS PAYABLE
PO BOX 4259 HOUSTON TX 77210

CARRIER

PER

WHEN FREIGHT IS PREPAID SEND SHIPPING NOTICE WITH INVOICE

COPY 2

8428910110

PAGE 1 PC 51688

EXXON CHEMICAL AMERICAS

a division of Exxon Chemical Company
a division of Exxon Corporation
TAX ID: 13-5409005

EXXON CHEMICAL

INVOICE DATE	INVOICE NUMBER
04/15/93	D0G598

TOTAL AMOUNT DUE: $59,897.50

PAYMENT CODE/TERMS: L /NET 30 DAYS FM SHP DATE

REMIT TO: EXXON CHEMICAL AMERICAS
P. O. BOX 100481
ATLANTA, GEORGIA 30384

ENSURE YOU USE ABOVE REMIT TO
D-U-N-S 05-625-9286

REFERENCE INVOICE NUMBER ON REMITTANCE

BILL TO:
REICHHOLD CHEMICALS INC
46 ALBERT AVENUE
NEWARK NJ 07105

DELIVER TO:
REICHHOLD CHEMICALS INC
390 DOREMUS AVE
EUSA NO 3994253003
NEWARK NJ 07105

A/R CUSTOMER CODE:	0664206V007Y	0664210	FREIGHT TERMS:	PREPAID
SELLER ORDER NO:	417952P		TITLE TRANSFER:	FOB/ORIGIN
CUSTOMER ORDER NO:	88014-REL 20		SHIP FROM:	004 BTRGE LA
CARRIER:	IC/EFHAM/CK		BILL OF LADING:	540707
GENERATED FREIGHT TYPE:	2		MODE CODE/DESCRIPTION:	A/TANK CAR

SHIP DATE	PRODUCT CODE	PRODUCT DESCRIPTION	NO OF PKGS	MFA	VEHICLE/ PKG DESC	UNIT PRICE	UNIT	SHIP QUANTITY	UNIT	AMOUNT
04/15	91495	PHTHALIC AN MOLTE	1	N	ECUX41101T4	$0.325000	LBS	184300	LBS	$59,897.50
		LESS COMPETITIVE ALLOWANCE				$0.020000	LBS	184300	LBS	$3,686.00CR
		PLUS FREIGHT FROM BATON ROUGE LA TO NEWARK NJ				$2.000000	CWT	184300	LBS	$3,686.00
						TOTAL				$59,897.50

THIS INVOICE MAY BE SUBJECT TO LATER ADJUSTMENT

RECEIVED
APR 20 1993
By_____

ADDRESS INQUIRIES TO:
INTERMEDIATES CUSTOMER SERVICE
P.O. BOX 3272
HOUSTON TEXAS, 77253-3272
PHONE: (800) 231-6633
FAX: (713) 870-6462

INVOICE SUBJECT TO TERMS AND CONDITIONS ON REVERSE SIDE

FOR INFORMATION ON ELECTRONIC PAYMENT
PLEASE CONTACT CREDIT MANAGER AT (713) 870-6630

THANK YOU FOR YOUR BUSINESS

ORIGINAL

OTHR

8428910111

SHIPPED	SUPPLIER	ETA	T/C#	WEIGHT	YARD		PLANT			
					IN	CALLED	ARRIVED	UNLOADED	MOVED	
			UTLX650791	185,570			11/1/92	12/4/92	12/7/92	
			ECUX411017	186,600			11/9/92	12/10/92		
			ECUX412013	185,900			12/15/92	12/23/92	12/30/92	
12/3/92	Koppers		UTLX650740	182,000	12/10/92	12/29/92	12/30/92	2/8/92	2/10/93	called 2/8/93
	Koppers		UTLX650744	194,900	12/22/92	12/29/92	12/30/92	1/11/93	1/29/93	waiting for paper
	EXXON		ECUX412009	185679	12/17/92	12/29/92	12/30/92	2/1/93	2/3/93	
	Koppers		UTLX650741	183,800	12/28/92	12/29/92	12/30/92	2/12/93	2/17/93	
2/12/93	~~EXXON~~		~~ECUX412003~~	~~188,000~~	~~2/22/93~~	~~2/22/93~~				
	EXXON		ECUX412003	187840	2/22/93	2/22/93	2/24/93	3/1/93	3/3/93	
	EXXON		ECUX412008	186340	2/23/93	2/23/93	2/24/93	3/10/93	3/12/93	
3/2/93	EXXON		ECUX411007	184220	3/10/93	3/10/93	3/12/93	3/18/93	3/23/93	called 3/18/93
3-5-93	EXXON		ECUX411014	186000	3/17/93	3/17/93	3/23/93	3/29/93	3/31/93	called 3/29/93
3/22/93	EXXON		ECU412005	186000	3/30/93	3/31/93	3/31/93	4/20/93	4/23/93	4/21/93 called
3/16/93	EXXON		ECUX411022	188,580	3/23/93	3/24/93	3/29/93	4/5/93	4/7/93	called 4/5/93 DENNIS
4/8/93	EXXON		ECUX411009	182,600	4/16/93	4/16/93	4/19/93	5/3/93	5-5-93	
~~4/15/93~~	~~EXXON~~		ECUX411014	150,000	4/26/93	4/26/93	5-3-93	5-12-93	5-14-93	
~~5/12/93~~	~~EXXON~~		~~ECUX411017~~							
5-18-93	EXXON		ECUX411021	190480	5-18-93	5-18-93	5-18-93			
5-17-93	EXXON		ECUX-411011	186,060						

8428910112

REICHHOLD CHEMICALS, Inc.

NEWARK, N.J.

RECEIVING REPORT

No. 013006802

Received From Exxon

Date 4/26 1993

Car EEUX411014

Frt. Pro. No.

P.O. No. 88014 R20

CODE	QUANTITY ORDERED	QUANTITY RECEIVED	ARTICLES AND DESCRIPTION
02640		~~150,000~~ #	Phthalic
		184300 #	Anhydride
403 (R006)			
2			

Purpose Storage for Albert AVE

Signed By [signature]

Rec'g. Clerk

8428910113

PHTHALIC TANK SHIPPING & RECIVING Start 29,500 LG

DATE	L/UN	WEIGHT	GALLONS	PREVIOUS	BALANCE
1/19/93	L	45,500 ✓	4,504	29,500	24,995
1/20/93	L	45,300 ✓	4,485	24,995	20,510
1/21/93	L	45,200 ✓	4,475	20,510	16,035
1/22/93	L	42,740 ✓	4,232	16,035	11,803
1/25/93	L	44,980 ✓	4,453	11,803	7,350
1/27/93	L	45,000 ✓	4,455	7,350	2,894
2/1/93	TR/TK2	95,400 ✓			
2/1/93	TR 2	168,296#	PUMPED TO TANK	→	16,663 GAL
2/2/93	L	45,480 ✓	4,503	16,663	12,160
2/3/93	L	45,380 ✓	4,493	12,160	7,667
2/5/93	L	45,280 ✓	4,483	7,667	3,184
2/8/93	L	44,760 ✓	3203 / 1229 RR	32350	
2/8/93	UN?	169587?	"PUMPED OF	RR CAR"	169587#
					16,791 GAL
2/9/93	L	45,400 ✓	4495	16,791	12,296
2/10/93	L	45,520 ✓	4507	12,296	7,789
2/11/93	L	45,500 ✓	4505	7,789	3,284
2/12/93	L	45,120 ✓			
2/12/93	UN?	176325	17,458	—	17,458
2/17	L	45,740 ✓	4529	17,458	12,929
2/19	L	45,520 ✓	4507	12,929	8,422
2/26	L	45,500 ✓	4505	8422	3,917
3/1	L	45,580 ✓	2279	← RR CAR	
3/1	UN?	16,4,821	16319	—	16,319
3/3	L	45540 ✓	4509	16319	11,810
3/5	L 42860	45760 ✓	4531	11810	7,279
3/9	L	~~78520~~ ~~42520~~	~~38543~~ ~~4210~~	~~7279~~	~~3436~~
3/9	L	45620 ✓ 42520	4210	7279	3069
3/10	UN ✓	186,340	186.34	—	21703

8428910114

PHTHALIC TANK SHIPPING & RECIVING

DATE	L/UN	WEIGHT	GALLONS	PREVIOUS	BALANCE
3/12/93	L	45,580 ✓	4558	21703	17145
[illegible]	L	45460 ✓	4546	17145	12599
3/17/93	L	44600 ✓	4460	12599	8139
3/18/93	L	45760 ✓ (45720)	4576	8139	3563
3/18/93	UL RR	184220	18422	3563	21985
3/22	L	45,920 ✓	4,547	21985	17,438
3/24	L	45,900 ✓	4,545	17,438	12,893
3/25	L	45,800 ✓	4,535	12,893	8,358
3/26	L	45,680 ✓	4,523	8,358	3835
3/26	L	45,660 ✓	4,521	3,835	-686
3/29	L	[illegible] ✓	651		—
3/29	UN	147621	14,616	-0-	14,616
3/30	L	43660 ✓ (45780)	4,323	14,616	10,293
4/2	L	45,960 ✓	4,550	10,293	5,743
4/5	L	45,840	4,539	5,743	1,204
4/5	UN	188,580 ✓	18858	1,204	20,062
4/6	L	45,840 ✓	4539	20,062	15,523
4/8	L	45,740 ✓	4529	15,523	10,994
4/16	L	46,140 ✓	4568	10,994	6426
4/19	L	45,780 ✓	4533	6426	1893
4/20	UN ✓	186,000	18415	1893	20308
4/22	L	44460 ✓	4402	20308	15,906
4/23	L	44480 ✓ (45480)	4403	15,906	11,503
4/27	L	45720 ✓	4527	11,503	6,976
4/30	L	46200 ✓	4620	6976	2356
5/3	UN RR ✓	182,600	18,620 (18679)	-0-	18620 (18679)
5/3	L	45,340 ✓	4489	20,976 (20435)	16487 (15946)
5/6	L	45300 ✓	4485	16487	~~12002~~ (11461)
5/10	L	45,400 ✓	4495	12002	7507 (6966)

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PHTHALIC TANK SHIPPING & RECIVING

DATE	L/UN	WEIGHT	GALLONS	PREVIOUS	BALANCE
5/11/93	L	45940 ✓	4585	7507	~~2922~~ 2381
5/12/93	UNLOAD R/R	150 [illegible]	14950	2922	17772 17232
5/18/93	L	45520 ✓	4507	17772	13265 12725
5/21/93	L	45480 ✓	4503	13265	~~8762~~ 4552 8222
5/24/93	L	45500 ✓	4504	8762	~~4528~~ ~~4258~~ [redacted]
5/24/93	UNL				29,500
[illegible]			3000	[illegible]	

8428910116

REMEDIAL INVESTIGATION REPORT

FOR

REICHHOLD CHEMICALS INC.
46 ALBERT AVENUE
NEWARK, NEW JERSEY 07104

NJDEPE UST # 0226253
NJDEPE BUST CASE # 92-11-5-1220-55

PREPARED BY:

VECTRE CORPORATION
P.O. BOX 930
LAFAYETTE, NEW JERSEY 07848

MARCH 1993

8428910117

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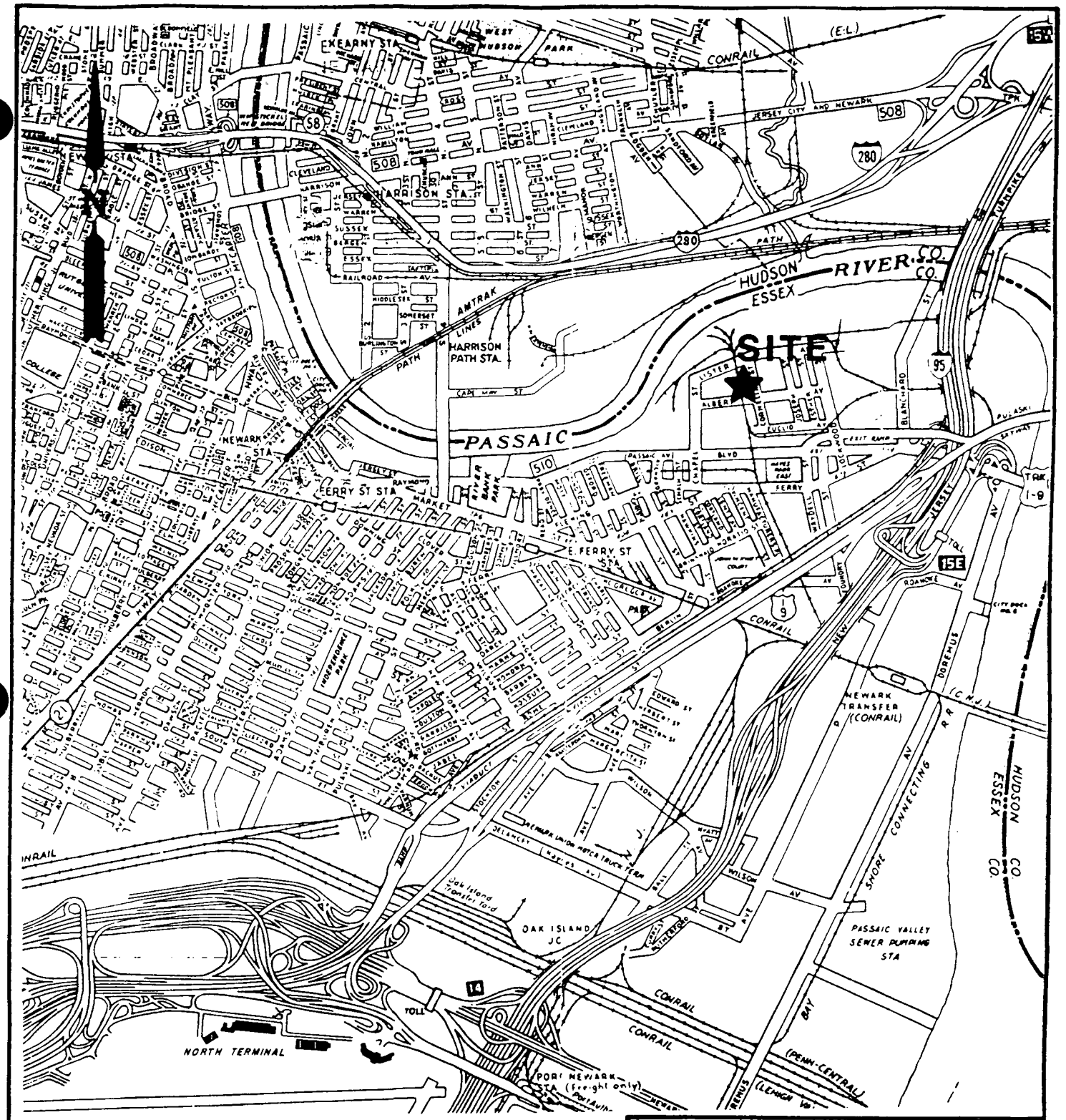
1.0 INTRODUCTION

Vectre Corporation was retained by Reichhold Chemicals, Inc. to implement the closure of six underground storage tanks (UST # 0226253) at their facility at 46 Albert Avenue; Newark, Essex County, New Jersey (Figure 1). The activities were divided into three excavations, based on location and similarity of closure treatment. Three closure plans and closure applications were submitted to the New Jersey Department of Environmental Protection and Energy (NJDEPE) in June 1992. Tank Closure approvals were granted by the NJDEPE on September 15, 1992. Copies of Closure approval documents TMS #C-92-3204 to 3206 are found in Appendix A, as are local permits which were required by the City of Newark.

Closure activities were completed in November 1992 for the six underground storage tanks (USTs) and consisted of removal of three 500 gallon tanks (2 gasoline and 1 diesel) in Excavation 1, abandonment-in-place of two 500 gallon tanks (1 mineral spirits and 1 V,M,&P Naptha) in Excavation 2, and abandonment-in-place of one 2,000 gallon #2 heating oil tank in Excavation 3 (Figure 2). During the removal of one of the gasoline USTs, evidence of product discharge was detected and notification to the NJDEPE Bureau of Underground Storage Tanks (BUST) Hotline was made. BUST Case # 92-11-5-1220-55 was assigned to the Reichhold facility.



APPROXIMATE SCALES

0 1000 2000 3000 4000 5000 Feet

0 200 400 600 800 1000 Meters

1 Kilometer

LOCATION MAP

REICHHOLD CHEMICALS, INC.
46 ALBERT AVENUE
NEWARK, NEW JERSEY 07105

SCALE AS SHOWN

FIGURE NO.	PROJECT NO.
1	RCI-VI

VECTRE CORPORATION

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2.0 TECHNICAL OVERVIEW

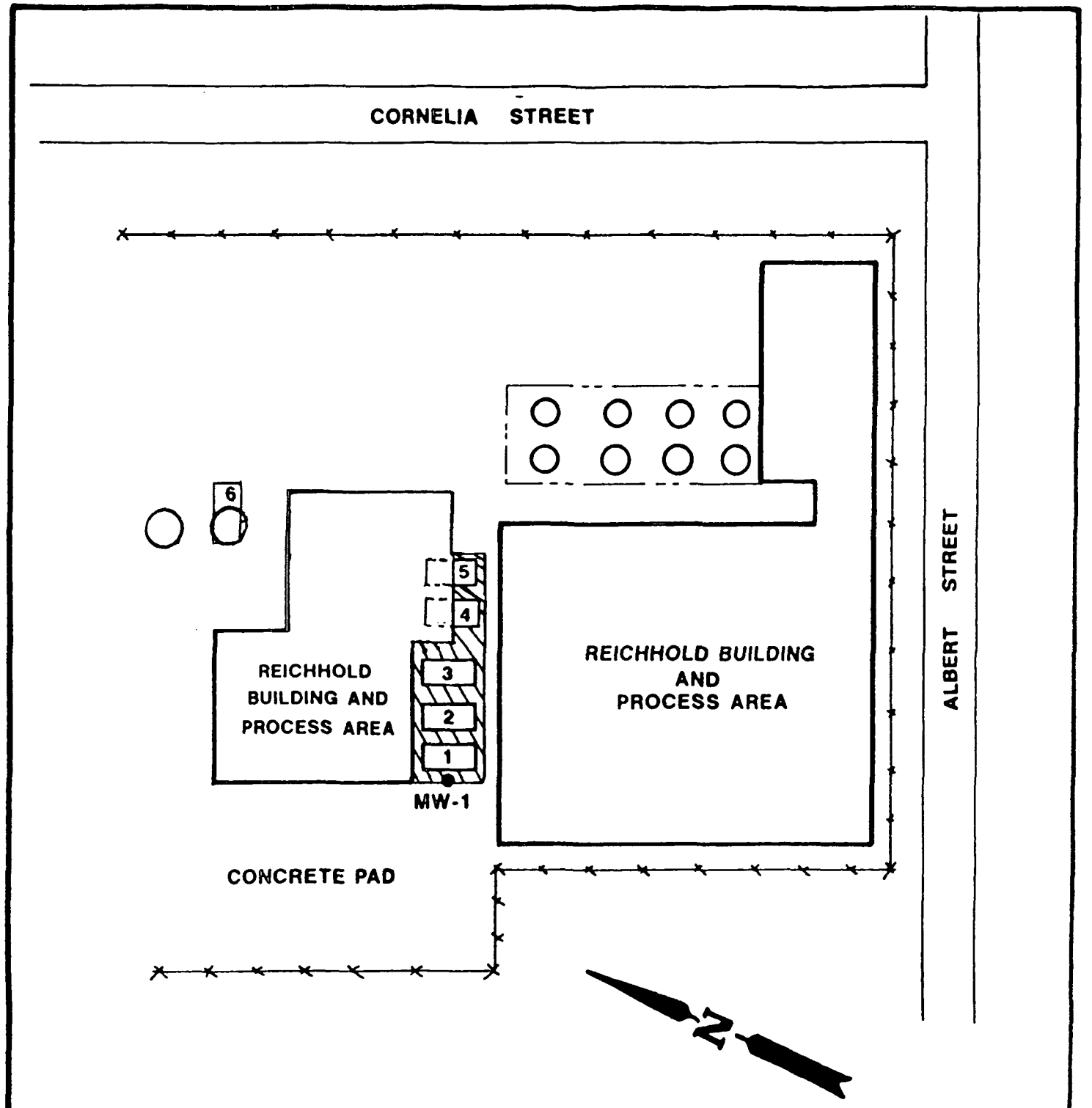
2.1 Tank Closure

Tank decommissioning and site assessment procedures for the six USTs were performed on November 4 and 5, 1992. Tank cleaning, removal or abandonment, and excavation/backfilling activities were carried out by Alternative Remedial Solutions, Inc. of Northvale, New Jersey under the supervision Vectre Corporation field personnel. Table 1, below, summarizes information concerning the USTs and Figure 2 illustrates their locations.

TABLE 1. Underground Storage Tank (UST) Information

EXCAVATION	TANK #	NJDEPE UST ID #	SIZE (gal)	CONTENTS
One	1	PO23	500	Gasoline
One	2	PO24	500	Diesel
One	3	PO25	500	Gasoline
Two	4	PO26	500	Mineral Spirits
Two	5	PO27	500	V,M & P Naptha
Three	6	----	2,000	# 2 Heating Oil

Concrete and soil was excavated above USTs 1 through 5 to expose the tops of the tanks and allow entry. After sufficient



LEGEND

- 1 — UNDERGROUND STORAGE TANK
- ○ — ABOVE GROUND STORAGE TANK
- MW-1 ● — MONITORING WELL
- FENCE
- BACKFILL
- CONCRETE WALL

SITE PLAN		
REICHHOLD CHEMICALS NEWARK, NEW JERSEY		
SCALE: 1" = 50'		VECTRE CORPORATION
FIGURE NUMBER 2	PROJECT NUMBER RCI-V1	

8428910124

soil had been removed, a hole was cut at the top of each tank using a non-sparking air chisel. A manway enabled access to UST 6. During the excavation activities a portable photoionization detector (PID) was used to detect volatile organic vapors, if present, to help determine whether or not soil had been impacted.

USTs 1 through 5 were filled with water mixed with minor amounts of the tank's original contents. The contents of the tanks were pumped to a water truck, tested for hazardous waste characteristics, and transported to another Reichhold facility for disposal under the direction of Reichhold Chemical personnel. Approximately 2500 gallons of liquid were removed from the tanks.

After the USTs had been emptied, ARS personnel completed tank cleaning procedures. The tasks performed during this phase included draining of piping, purging with dry ice, and cleaning the insides of all tanks of surficial residue. The residual products were containerized into drums for on-site storage and later disposal. On December 30, 1992 the drums were transported under manifest to and disposed of at Cycle Chem, Inc. in Elizabeth, New Jersey. Copies of the manifests are included in Appendix A of this report.

USTs 1 through 3 were removed from Excavation One by use of a backhoe. Several corrosion holes were noted upon inspection after the tanks had been removed from the excavation.

The NJDEPE Hotline was telephoned by Reichhold personnel to report that a potential discharge had occurred. The Reichhold facility was assigned Case # 92-11-5-1220-55. The tanks were transported to Naporano Iron & Metal Company in Newark by ARS and disposed of as scrap metal.

During removal activities the depth to water table was noted to be at the base of the excavation (approximately 7 feet). Gasoline odors were noted at the base of the excavation and some iridescence was observed on the surface of the water. After Vectre personnel had conducted site assessment post excavation soil sampling, the excavation was lined with plastic and backfilled with both the previously excavated soil and certified clean backfill. Potentially impacted soil was not excavated due to its limited thickness above the water table, and due to minimal working area at the surface. A copy of the backfill receipt is included in Appendix A.

Abandonment-in-place procedures were completed by filling USTs 4 through 6 with cement after site assessment through-the-tank soil sampling had been conducted. Backfill was needed to cover USTs 4 and 5; UST 6 was cemented through the manway to the surface of the Reichhold lot. Corrosion holes were noted in both USTs 4 and 5, however none were detected in UST 6.

2.2 Site Assessment Soil Sampling

Post excavation soil samples were collected just above the water table (approximate depth of 7 feet) in Excavation One. Two samples were collected along the tank invert and two at the sides of each former tank location (Figure 3). Site assessment sampling for USTs 4 and 5 in Excavation Two and UST 6 in Excavation Three was accomplished by collecting the samples through holes cut into the bottom and sides of the tanks (Figure 4 and 5). In tanks 4 and 5, two samples were collected along the tank invert and one at the side, while four samples were collected along the tank invert and two at the sides in tank 6.

All soil samples were transported to ICM Laboratories in Randolph, New Jersey for analyses. Samples T1-1 through T1-4, T3-1 through T3-4, T4-1 through T4-3, and T5-1 through T5-3 were collected for volatile organic compound analysis with a forward library search (VO+10), while sample locations T2-1 through T2-4 and T6-1 through T6-6 were collected for total petroleum hydrocarbon (TPH) and VO+10 analyses.

2.3 Soil Sampling Analytical Results

Analytical results for soil samples collected from the UST excavation areas are summarized in Tables 2 through 7.

Laboratory analyses for all but three samples from beneath tanks 1 through 5 report values of xylenes which exceed the NJDEPE proposed subsurface soil cleanup standards. Four soil samples from Excavations One and Two report concentrations of ethylbenzene above the standard (T1-3,T1-4,T2-1,T4-1), while one sample from the same area exceeds the standard for benzene (T1-4). Three of the samples contain levels of total VOCs which exceed the cleanup standard (T1-3,T1-4,T2-1). Results revealed that no samples collected from tank T6 (Excavation Three) exceeded the cleanup standards.

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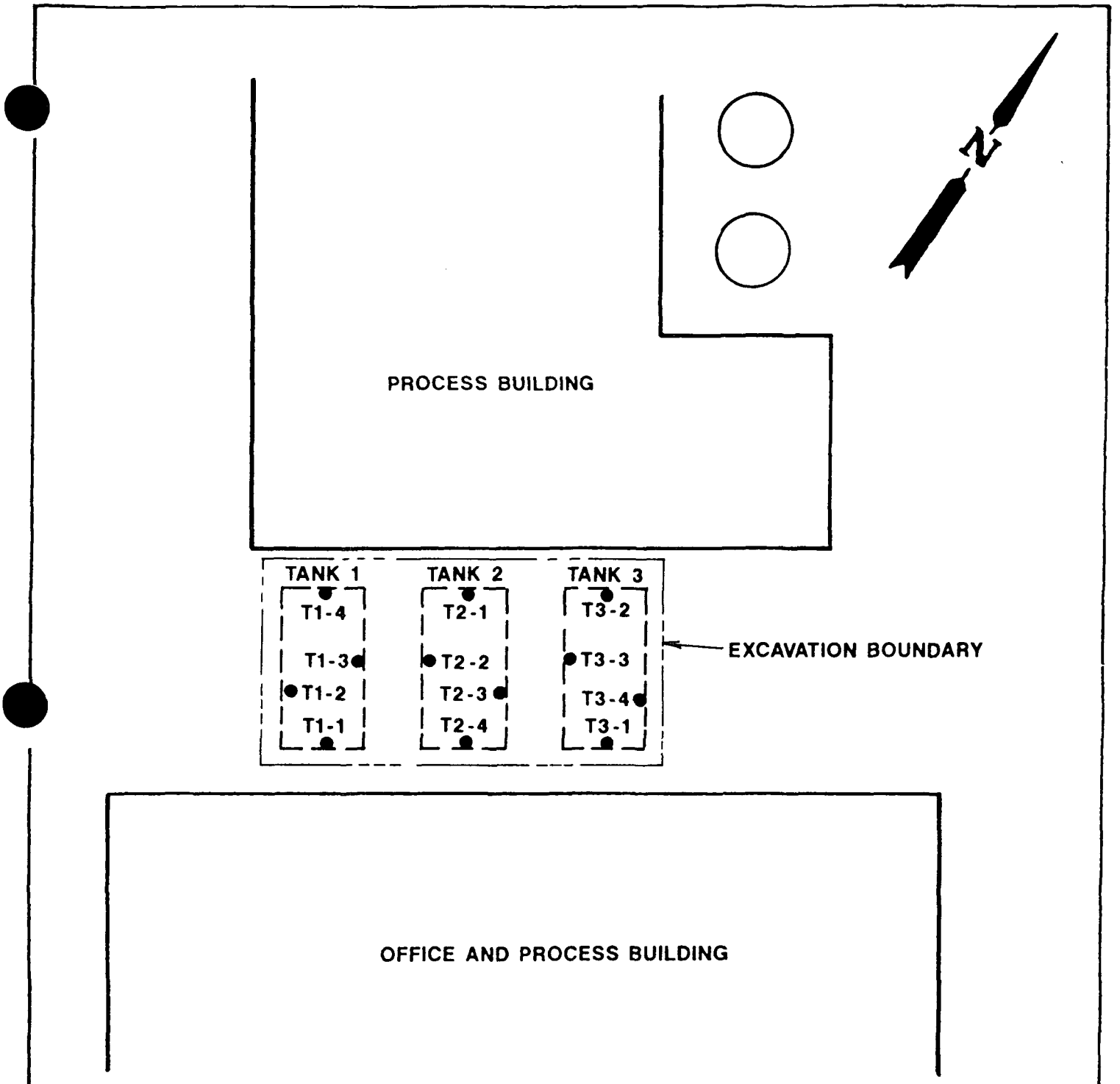

LEGEND

FORMER TANK LOCATION

T1-3 ● SAMPLE LOCATION

ABOVE GROUND STORAGE TANK

SAMPLE LOCATION MAP EXCAVATION ONE	
REICHHOLD CHEMICALS NEWARK, NEW JERSEY	
NOT TO SCALE	
FIGURE NO. 3	PROJECT NO. RCI-V1

VECTRE CORPORATION

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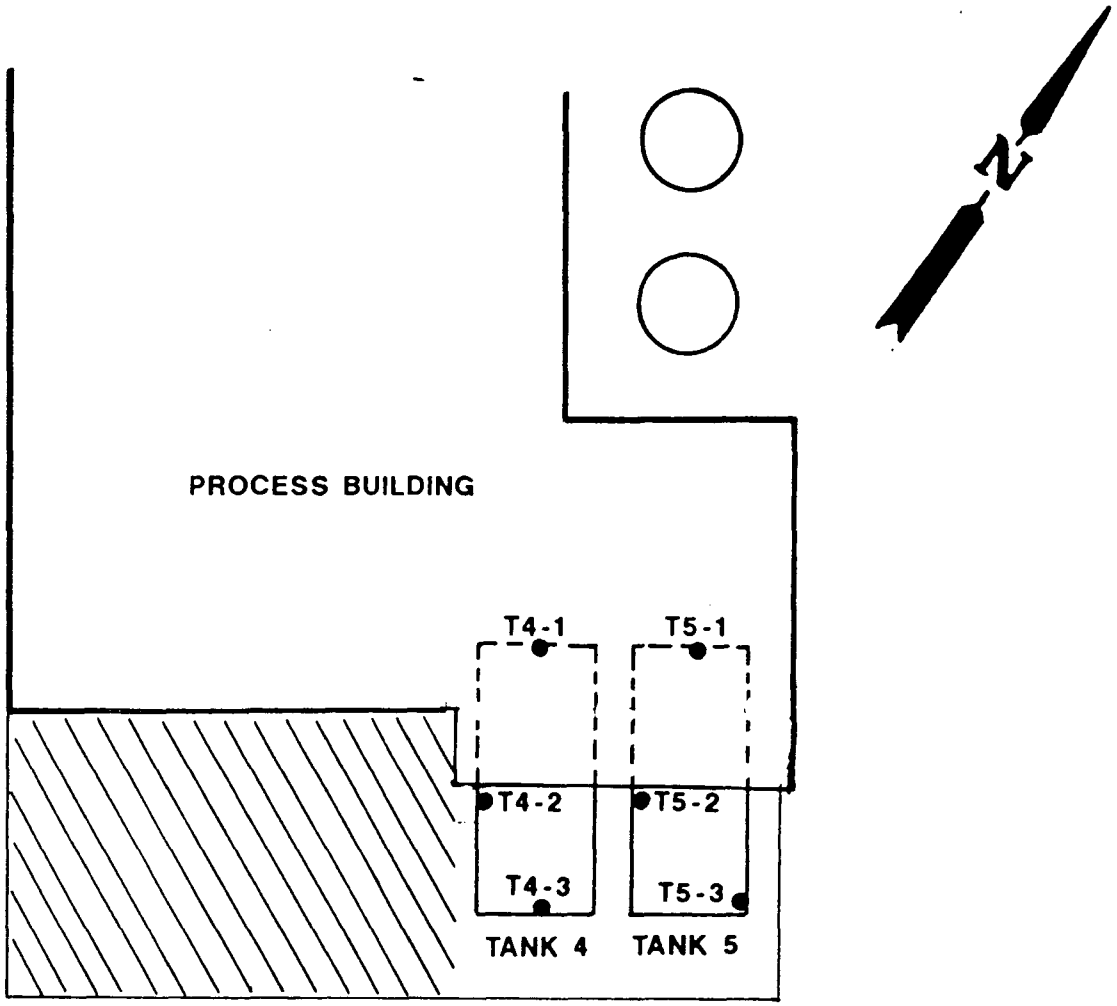

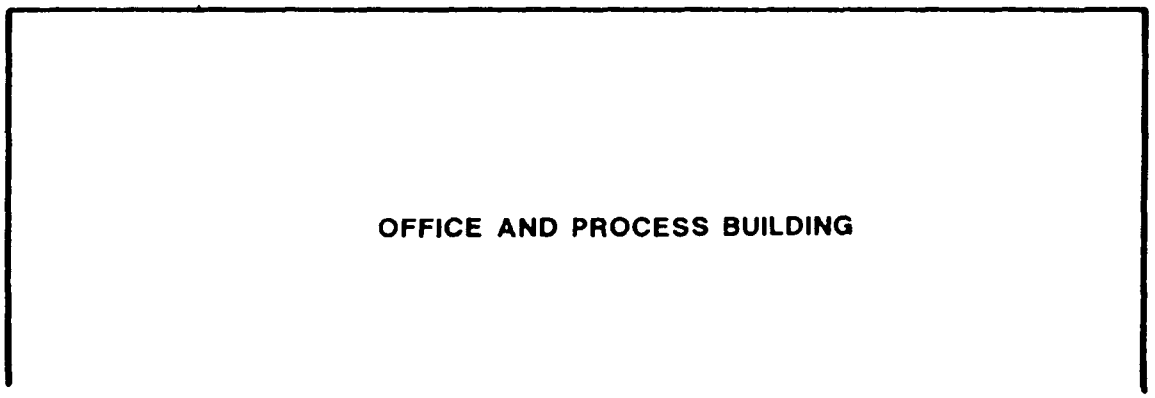

LEGEND

ABANDONED TANK LOCATION

T4-1 ● SAMPLE LOCATION

TANK REMOVAL LOCATION

ABOVE GROUND STORAGE TANK

SAMPLE LOCATION MAP EXCAVATION TWO	
REICHHOLD CHEMICALS NEWARK, NEW JERSEY	
NOT TO SCALE	
FIGURE NO. 4	PROJECT NO. RCI-V1

VECTRE CORPORATION

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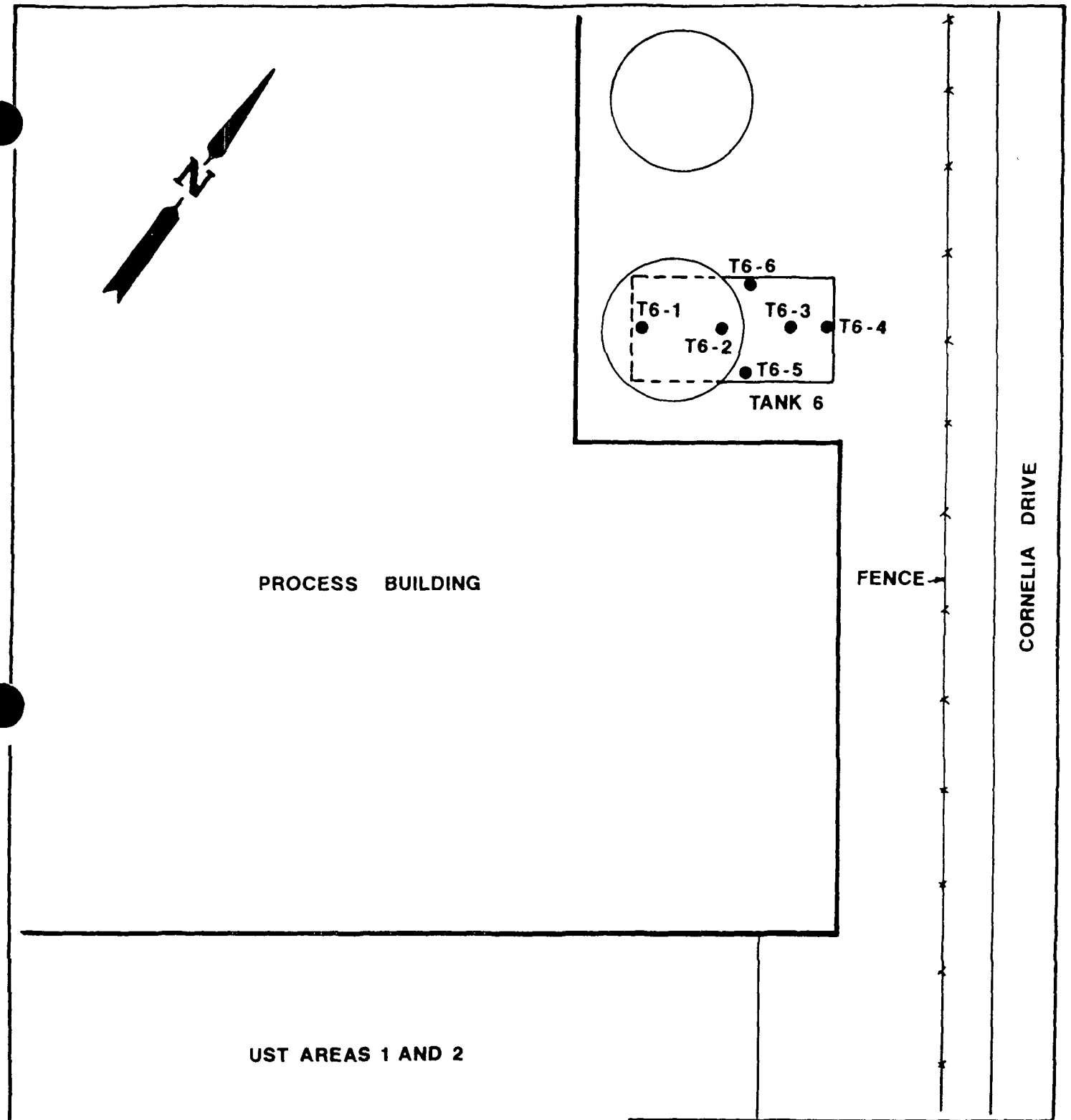

LEGEND

ABANDONED UNDERGROUND STORAGE TANK

T6-2 ● SAMPLE LOCATION

ABOVE GROUND STORAGE TANK

SAMPLE LOCATION MAP
EXCAVATION THREE

REICHHOLD CHEMICALS
NEWARK, NEW JERSEY

NOT TO SCALE

FIGURE NO.	PROJECT NO.
5	RCI-V1

VECTRE CORPORATION

TABLE 2. Soil Sample Analytical Results for Tank T1 Area (Gasoline UST)
Volatile Organic Compounds (VOCs) in ug/kg and Lead in mg/kg

COMPOUND	T1-1	T1-2	T1-3	T1-4	NJDEPE Subsurface Cleanup Standards
Targeted VOCs (ug/kg)	----	----	----	----	--------
Benzene	U	U	U	2,000J	1,000
Toluene	1,400J	2,900J	85,000	11,000	500,000
Ethylbenzene	6,000	17,000	350,000	580,000	100,000
Xylenes	31,000	86,000	1,400,000	2,500,000	10,000
Non-targeted VOCs	U	13,400	33,400	434,000	NE
Total VOCs	38,400	119,300	1,868,400	3,527,000	1,000,000
P. P. Metals (mg/kg)	----	----	----	----	---------
Lead	28.3	99.8	337	274	NE

U: Analyzed for but not detected
NA: Not analyzed
J: Value is less than the specified detection limit
NE: Cleanup standard has not yet been established
Shaded areas indicate values in exceedance of the specified cleanup standard

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TABLE 3. Soil Sample Analytical Results for Tank T3 Area (Gasoline UST)
Volatile Organic Compounds (VOCs) in ug/kg and Lead in mg/kg

COMPOUND	T3-1	T3-2	T3-3	T3-4	NJDEPE Subsurface Cleanup Standards
Targeted VOCs (ug/kg)	----	----	----	----	----------
Benzene	U	U	U	U	1,000
Toluene	5,200J	6,500	U	U	500,000
Ethylbenzene	23,000	34,000	7,700	U	100,000
Xylenes	330,000	230,000	97,000	25,000	10,000
Non-targeted VOCs	216,000	62,000	232,000	167,900	NE
Total VOCs	574,200	332,500	336,700	192,900	1,000,000
P. P. Metals (mg/kg)	----	----	----	----	----------
Lead	54.9	22.9	652	208	NE

U: Analyzed for but not detected
NA: Not analyzed
J: Value is less than the specified detection limit
NE: Cleanup standard has not yet been established
Shaded areas indicate values in exceedance of the specified cleanup standard

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TABLE 4. Soil Sample Analytical Results for Tank T2 Area (Diesel UST)
Volatile Organic Compounds (VOCs) in ug/kg and Total Petroleum Hydrocarbons (TPHC) in mg/kg

COMPOUND	T2-1	T2-2	T2-3	T2-4	NJDEPE Subsurface Cleanup Standards
Targeted VOCs (ug/kg)	----	----	----	----	----------
Benzene	U	U	NA	NA	1,000
Toluene	59,000	U	NA	NA	500,000
Ethylbenzene	410,000	10,000	NA	NA	100,000
Xylenes	1,800,000	160,000	NA	NA	10,000
Non-targeted VOCs	610,200	171,900	NA	NA	NE
Total VOCs	2,879,200	341,900	NA	NA	1,000,000
TPHC in mg/kg	1,200	2,400	710	930	10,000

U: Analyzed for but not detected
NA: Not analyzed
J: Value is less than the specified detection limit
NE: Cleanup standard has not yet been established
Shaded areas indicate values in exceedance of the specified cleanup standard

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TABLE 5. Soil Sample Analytical Results for Tank T6 Area (#2 Heating Oil UST)
Volatile Organic Compounds (VOCs) in ug/kg and Total Petroleum Hydrocarbons (TPHC) in mg/kg

COMPOUND	T6-1	T6-2	T6-3	T6-4	T6-5	T6-6	NJDEPE Subsurface Cleanup Stds.
Targeted VOCs	----	----	----	----	----	----	----------
Acetone	NA	NA	560	U	NA	NA	50,000
Benzene	NA	NA	U	U	NA	NA	1,000
Toluene	NA	NA	U	680	NA	NA	500,000
Ethylbenzene	NA	NA	U	1,600	NA	NA	100,000
Xylenes	NA	NA	U	2,800	NA	NA	10,000
Non-targeted VOCs	NA	NA	1,650	49,600	NA	NA	NE
Total VOCs	NA	NA	2,210	54,680	NA	NA	1,000,000
TPHC	38	39	1,100	4,100	400	51	10,000

U: Analyzed for but not detected
NA: Not analyzed
J: Value is less than the specified detection limit
NE: Cleanup standard has not yet been established
Shaded areas indicate values in exceedance of the specified cleanup standard

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TABLE 6. Soil Sample Analytical Results for Tank T4 Area (V,M & P Naptha UST) Volatile Organic and Base Neutral Compounds (VOCs and BNs) in ug/kg

COMPOUND	T4-1	T4-2	T4-3	NJDEPE Subsurface Cleanup Stds.
Targeted VOCs	----	----	----	-------
Ethylbenzene	230,000	4,900	32,000J	100,000
Xylenes	1,600,000	49,000	280,000	10,000
Non-targeted VOCs	U	14,000	U	NE
Total VOCs	1,830,000	67,900	312,000	1,000,000
Targeted BNs	----	----	----	-------
Fluorene	U	49J	U	100,000
Phenanthrene	88J	290	120J	NE
Fluoranthene	100J	260	130J	500,000
Pyrene	81J	200J	130J	500,000
Benzo(a) anthracene	44J	75J	U	500,000
Chrysene	44J	67J	79J	500,000
Bis(2-Ethylhexyl) phthalate	U	190J	210J	100,000
Non-targeted BNs	106,500	44,100	83,000	NE
Total BNs	106,857	45,231	83,669	????????

U: Analyzed for but not detected
NA: Not analyzed
J: Value is less than specified detection limit
NE: Cleanup standard has not yet been established

TABLE 7. Soil Sample Analytical Results for Tank T5 Area (Mineral Spirits UST) Volatile Organic and Base Neutral Compounds (VOCs and BNs) in ug/kg

COMPOUND	T5-1	T5-2	T5-3	NJDEPE Subsurface Cleanup Stds.
Targeted VOCs	----	----	----	------
Toluene	2,100	U	3,000J	500,000
Ethylbenzene	880	3,000J	1,800J	100,000
Xylenes	3,900	24,000	10,000	10,000
Non-targeted VOCs	14,920	120,500	584,500	NE
Total VOCs	21,800	147,500	599,300	1,000,000
Targeted BNs	----	----	----	------
Fluorene	110J	67J	1,900J	100,000
Napthalene	840	200	27,000	100,000
Acenapthene	76J	48J	1,200J	100,000
Phenanthrene	490	410	8,400	NE
Anthracene	79J	71J	1,100J	500,000
Fluoranthene	550	430	5,400	500,000
Pyrene	480	360	4,700	500,000
Benzo(a) anthracene	270	180J	1,200J	500,000
Chrysene	290	210	1,400J	500,000

U: Analyzed for but not detected
NA: Not analyzed
J: Value is less than specified detection limit
NE: Cleanup standard has not yet been established
Shaded areas indicate values in exceedance of the specified cleanup standard

Table 7 continued on next page....

TABLE 7 (Continued).

COMPOUND	T5-1	T5-2	T5-3	NJDEPE Subsurface Cleanup Std.
Bis(2-ethylhexyl) phthalate	U	220	U	100,000
Benzo(b)fluoranthene	230	180J	1,200J	500,000
Benzo(a)pyrene	200J	150J	570J	100,000
Indeno(123cd)pyrene	120J	88J	U	500,000
Benzo(ghi)perylene	91J	71J	U	500,000
Non-targeted BNs	10,070	41,100	407,000	NE
Total BNs	13,896	43,785	436,500	????????

U: Analyzed for but not detected
NA: Not analyzed
J: Value is less than specified detection limit
NE: Cleanup standard has not yet been established
Shaded areas indicate values in exceedance of the specified cleanup standard

2.4 Groundwater Investigation

2.4.1 Monitoring Well Installation

One groundwater monitoring well was installed adjacent to excavation one on January 21, 1993 (Figure 2). Drilling was completed by Summit Drilling Company, Inc. of Bridgewater, New Jersey under the supervision of Vectre Corporation personnel.

Monitoring well MW-1 was drilled to a depth of 20 feet using a small auger rig. Groundwater was encountered at a depth of 10 feet and the well was developed by bailing. The well permit and soil log are included in Appendix B of this report.

2.4.2 Groundwater Sampling and Analytical Results

A groundwater sample was collected from MW-1 by a Vectre Corporation Geologist on February 4, 1993. The depth to groundwater was 10.08 feet from the top of the PVC casing at the time of sampling. The sampler wore protective clothing and latex gloves to collect the sample, which was placed into sterile containers provided by ICM Laboratories of Randolph and maintained at four degrees Centigrade during transport to the laboratory where it was analyzed for volatile organic compounds (and MTBE and TBA) with a forward library search (VO+10) and base neutral compounds with a forward library search (BN+15).

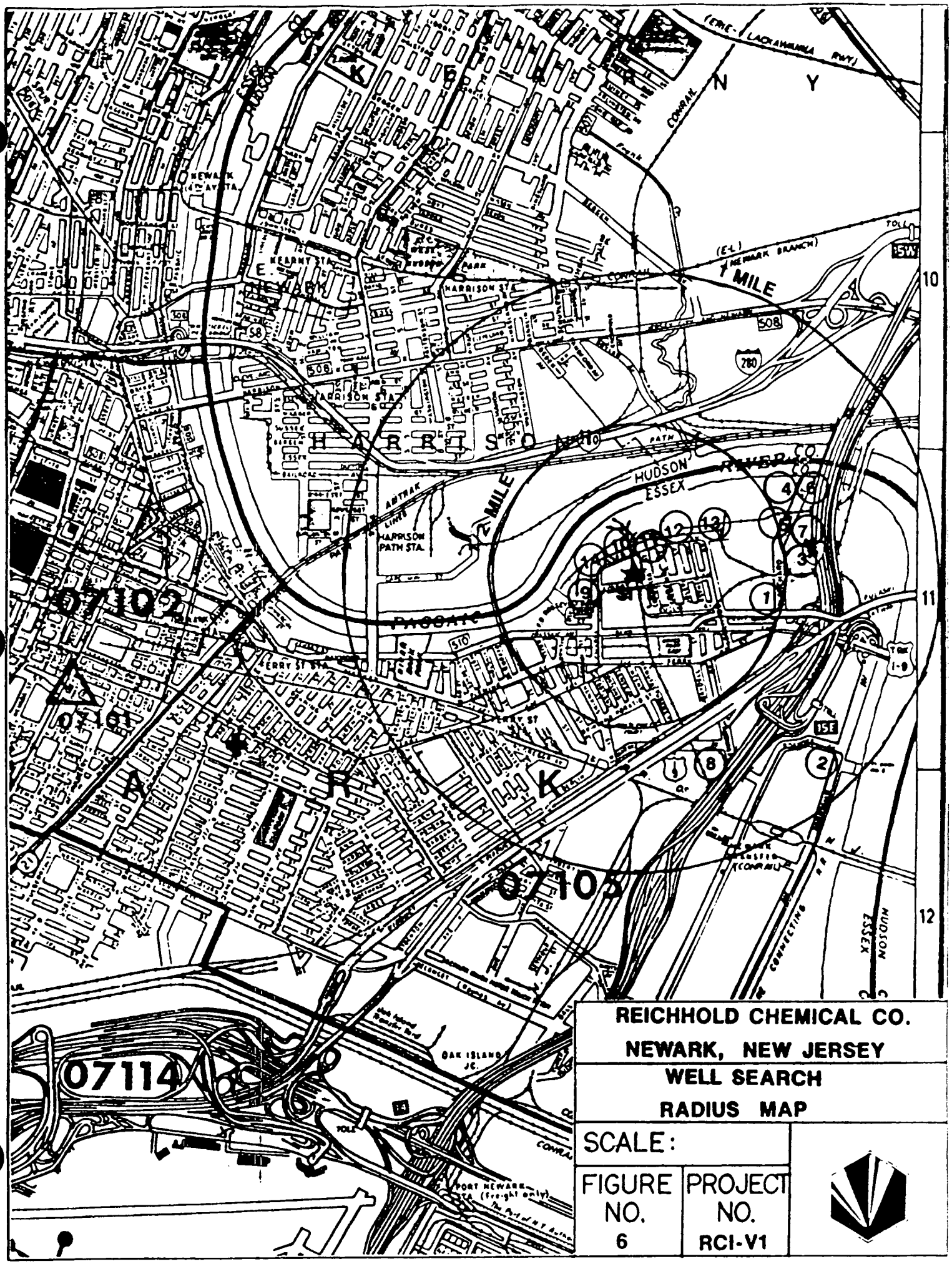
Analytical results for the groundwater sample collected from MW-1 reported the following compounds which exceed the proposed NJDEPE groundwater cleanup standards for Class IIA aquifers (N.J.A.C. 7:26D):

Compound (ug/l)	MW-1	Cleanup Standard
Napthalene	67	30
Total Xylenes	3,500	40

2.4.3 Well Search

A well records search was obtained from the NJDEPE Bureau of Water Allocation for the vicinity surrounding the Reichhold facility. Copies of the well records are attached to the report as Appendix E.

No domestic, municipal, or NJGS case site wells are reported within a one mile radius of the site. Nine industrial and forty eight monitoring wells are located within a one mile radius. The assumed groundwater flow direction is to the north, toward the Passaic River. Information concerning the wells is summarized in Table 8 and well locations are shown on Figure 6.



REICHHOLD CHEMICAL CO.	
NEWARK, NEW JERSEY	
WELL SEARCH RADIUS MAP	
SCALE:	
FIGURE NO. 6	PROJECT NO. RCI-V1

8428910141

TABLE 8
WELL SEARCH DATA, REICHHOLD CHEMICALS

MAP LOCATION #	WELL OWNER	NO. OF WELLS	DIST. FROM SITE (MILES)	DEPTH OF WELL(S) (FEET)	INTERVAL SCREENED	USE	PUMPING RATE (GPM)
1	Newark Box Board	1 7	.50	400 32-40	NA 10-40	I MW	105 NA
2	Getty Refining/Marketing	6	1.0	17-22	10-22	MW	NA
3	Newark Parraffine Co.	1	.55	503	NA	I	100
4	Eureka Construction Co.	1	.60	500	NA	C	75
5	Fairmount Chemical Co.	2	.56	250-300	NA	I,C	200-300
6	Internat. Metalergical	2	.65	12	10	MW	NA
7	Arden Chemical Co.	1	.50	400	NA	I	90
8	Pfaff & Kendall	1	.60	200	NA	I	100
9	Stanley Tools	10	.25	14-62	5-10	MW	NA
10	Kolker Chemical Works	2	.15	359-802	NA	I	300-600
11	Diamond Shamrock Chemical	18	.25	7-26	5-11	MW	NA
12	Sherwin Willaims Co.	2	.20	12	10	MW	NA
13	Hilton Davis Chemical Co.	2	.30	13-16	10	MW	NA
14	The Stanley Works	1	.25	18	10	MW	NA

MW: Monitoring Well I: Industrial Well C: Used for Cooling

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3.0 FINDINGS/RECOMMENDATIONS

3.1 Findings

Based upon the information developed during this investigation, the following conclusions are drawn:

* During UST decommissioning activities, a potential discharge was noted and called in to the NJDEPE Hotline.

* Analytical results of post decommissioning site assessment soil sampling revealed concentrations exceeding the NJDEPE cleanup standards of xylenes in 15 samples, ethylbenzene in four samples, benzene in one sample, and total VOCs in four samples collected from beneath tanks T1 through T5.

* Soil which was excavated from above the USTs did not appear to be impacted by discharge. The contaminated soil is likely a layer, at and just above, the water table.

* Due to the coarse-grained nature of the site fill material and evidence of discharge to soils at the depth of the water table, one monitoring well was installed within Excavation One to obtain a groundwater sample.

* Analytical results of a groundwater sample collected from monitoring well MW-1 reported levels of xylenes and naphthalene in excess of the NJDEPE cleanup standards.

* The assumed groundwater flow direction is to the north, toward the Passaic River.

3.2 Recommendations

Based upon these conclusions, Vectre recommends the following actions:

* Install and sample a monitoring well upgradient from the location of the former USTs.

* Delineate the shallow groundwater contamination by installing a series of Geoprobe boreholes for the purpose of groundwater sample collection, with the subsequent installation of two to three additional monitoring wells at the margins of the plume.

* Survey elevations of all monitoring wells to obtain a more accurate groundwater flow direction.

* Collect a groundwater sample from all monitoring wells and analyze for VO+10.

VECTRE CORPORATION
"Environmental Integrity with Efficiency"

P.O. Box 930
Lafayette, New Jersey 07848-0930
(201) 383-2500
Fax: (201) 579-0025

September 20, 1993

Mr. Paul Brustofsky
Regional Environmental Engineer
Reichhold Chemicals Inc.
P.O. Box 13582
Research Triangle Park, NC 27709-3582

Re: Remedial Investigation Addendum Report for
46 Albert Avenue
Newark, New Jersey
NJDEPE Case #92-11-05-1220-55

Dear Mr. Brustofsky:

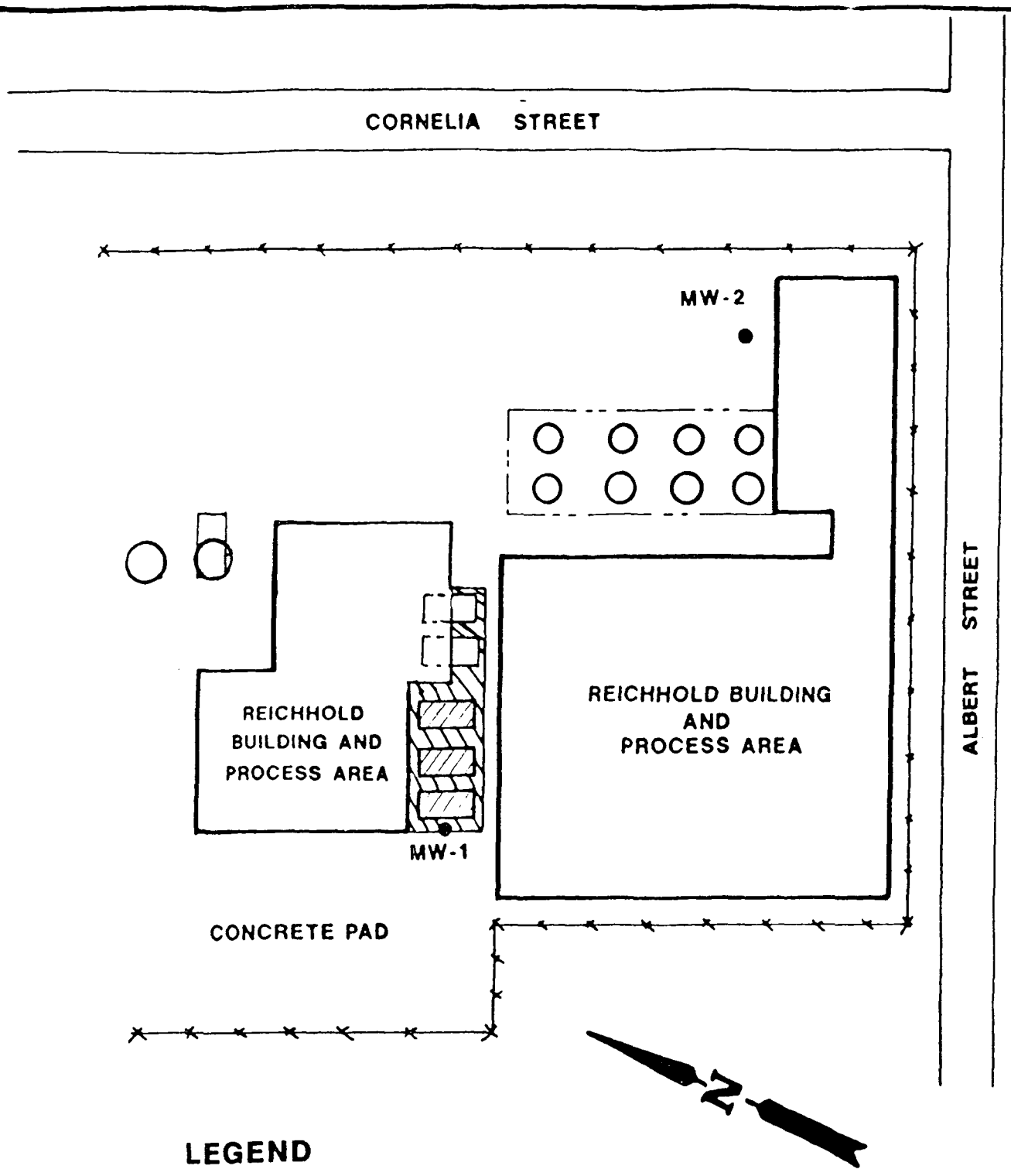
This letter summarizes the results of groundwater sampling conducted during June and July 1993 at the Reichhold facility at 46 Albert Avenue, Newark. As outlined in the recommendations section of Vectre's Remedial Investigation Report (UST Closure), submitted to the NJDEPE in March 1993, Vectre personnel collected a second groundwater sample from MW-1 and an initial sample from monitoring well MW-2, which had been installed in the inferred upgradient direction of the former USTs (Figure 1).

The purpose of this investigation was to determine whether or not xylenes and naphthalene, reported in the Remedial Investigation Report at concentrations exceeding NJDEPE proposed groundwater cleanup standards, could be attributed to a regional groundwater contamination problem. To that end, a groundwater sample was collected from the upgradient monitoring well, MW-2. A description of the monitoring well installation and groundwater sample collection procedures along with the presentation of analytical results and a discussion of conclusions and recommendations follows.

Monitoring Well Installation

Monitoring well MW-2 was installed upgradient of the previously removed or abandoned USTs at Reichhold on December 23, 1992. Drilling was conducted by Summit Drilling Company, Inc., a New Jersey licensed well driller, under the supervision of Vectre Corporation personnel. Monitoring well MW-2 was drilled to a depth of 20 feet using an auger rig. Groundwater was encountered at a depth of approximately 8.0 feet, and the well was developed by bailing. A copy of the NJDEPE well permit and Vectre's soil log are included in Appendix A.

8428910146



LEGEND

- UST (REMOVED 11/92)
- UST (ABANDONED 11/92)
- ABOVEGROUND STORAGE TANK
- MW-1 ● MONITORING WELL
- FENCE
- BACKFILL
- CONCRETE WALL

REICHHOLD CHEMICALS
NEWARK, NEW JERSEY

SCALE: 1" = 50'

FIGURE NUMBER	PROJECT NUMBER
	RCI-V2

VECTRE CORPORATION

The upper five feet of the lithology consists of mixed gravel, sand, and clay fill material. Beneath the fill, rocks are comprised of reddish-brown to brown sandy clays from 5 to 9 feet depth and silty clays from 9 to 20 feet depth.

Groundwater Sample Collection and Water Table Depth Measurements

Groundwater samples were collected from both MW-1 and MW-2 on June 22 and July 15, 1993. On both sampling occasions the sampler wore protective clothing and collected the samples according to procedures detailed in the NJDEPE Field Sampling Procedures Manual published in May, 1992. The samples collected on June 22 were transported to ICM Laboratories, a New Jersey certified laboratory, and analyzed for targeted volatile organic compounds (VOCs), including MTBE and TBA, with a forward library search of 10 non-targeted peaks. The samples collected on July 15 were also transported to ICM but analyzed for targeted base neutral compounds (BNs) with a forward library search of 15 non-targeted peaks. Appropriate QA/QC field and trip blank samples were obtained and analyzed. Results are discussed in the next section.

Water table depths were measured from the top of the PVC well casing at the time of sample collection on June 22. Recorded water table depths were 10.25 feet in MW-1 and 8.5 feet in MW-2. The elevations of the wells were not surveyed for this investigation, but visual observations indicate that the area between the two monitoring wells is relatively level. Groundwater depth measurements suggest that the direction of flow is probably to the north or northwest as initially inferred from topographic maps. Since the well elevations are not surveyed, no groundwater contour maps were prepared for this report.

Groundwater Analytical Results

Analytical results for the groundwater samples are summarized in Table 1 and a copy of the full laboratory report is found in Appendix B. Included in Table 1 for comparison purposes are analytical results for a groundwater sample collected from MW-1 during the previous investigation.

Results demonstrate that between February 4 and June 22 of this year, concentrations of naphthalene in MW-1 have remained nearly constant (67 and 68 μg/l, respectively). Regulations promulgated in Technical Requirements for Site Remediation (NJAC 7:26E), adopted on June 7, 1993, cite as "applicable remediation standards" for groundwater the concentration criteria specified in New Jersey's Groundwater Quality Standards (NJAC 7:9-6). Within this regulatory framework, no remediation standard has been established for naphthalene.

Total xylenes in the same well dropped dramatically during the same period from 3,500 to 35 μg/l and are presently below the remediation standard of 40 μg/l. Results for MW-2 reported no compounds at concentrations above detection limits. These data suggest that groundwater in MW-2, the upgradient well, does not contain compounds associated with the contents of the USTs, and which were detected in MW-1.

TABLE 1. Groundwater Analytical Results for Monitoring Wells VOC and BN Concentrations in micrograms per liter (μg/l)

COMPOUND	MW-1	MW-1	MW-2	NJDEPE Groundwater Quality Std.
Date Sampled	2-4-93	6-22-93	6-22-93	.....
Targeted VOCs	.....	.....	.....	.....
Trichloroethene	U (250)	U (5)	3J (5)	1
Xylenes (total)	3,500 (250)	35 (5)	U (5)	40
Non-Targeted VOCs	0	0	60	NE
Date sampled	2-4-93	7-15-93	7-15-93	.....
Targeted BNs	.....	.....	.....	.....
Naphthalene	67 (5)	68 (5)	2J (5)	NE
Fluorene	3J (5)	U (5)	U (5)	300
Phenanthrene	5J (5)	1J (5)	U (5)	NE
Pyrene	1J (5)	U (5)	U (5)	200
Bis(2-ethylhexyl) phthalate	U (5)	3J (5)	U (5)	3
Non-Targeted BNs	2,778	2,700	143	NE

U: Analyzed for but not detected.
J: Compound detected but is less than specified detection limit.
NE: Cleanup standard has not yet been established.

Findings/Recommendations

Based upon the information geenerated during this investigation, the following conclusions can be drawn:

- Groundwater flows in a northerly directtion.
- Analytical results of samples collected from MW-2, the upgradient monitoring well, indicate that groundwater is not impacted by compounds associated with the former USTs.
- The concentration of xylenes in MW-1 from 2-4-93 to 6-22-93 dropped to 35 μg/l, below the NJDEPE remediation standard of 40 μg/l.
- The concentration of naphthalene in MW-1 from 2-4-93 to 7-15-93 has remained nearly the same (67 μg/l and 68 μg/l, respectively), however no remediation standard has been established for the compound.

Based upon these conclusions, Vectre recommends the following actions:

- Analytical results of groundwater samples collected from MW-1 and MW-2 in June and July, 1993 report no compounds exceeding remediation standards established by New Jersey legislative rule. Vectre recommends that Reichhold submit, as a Remedial Investigation Addendum Report, the analytical results of the second round of groundwater sampling from MW-1 to the NJDEPE. Due to the disparity of analytical data for xylenes between February and June, it is likely the Department will question the results and require a third sampling round on MW-1 for confirmation of results.

If you have any questions please do not hesitate to call me at (201) 383-2500. Thank you.

Sincerely,
VECTRE CORPORATION

Jerry L. Haug
Project Manager

Enclosures

cc: Mike Baxi, Reichhold Chemical

320.9309B

New Jersey Department of Environmental Protection
Division of Water Resources
Bureau of Underground Storage Tanks
CN-029, Trenton, New Jersey 08625

LABORATORY AUTHENTICATION STATEMENT

I certify under penalty of law, where applicable, this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18, 40 CFR Part 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analyses. I have personally examined and am familiar with the information contained in this report, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, complete, and meets the standards specified in N.J.A.C. 7:18, 40 CFR Part 136, and/or SW 846. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Richard S. Levine (MC)

Laboratory Manager (as defined in N.J.A.C. 7:18)

New Jersey Department of Environmental Protection
Division of Water Resources
Bureau of Underground Storage Tanks

SAMPLE COLLECTION CHAIN OF CUSTODY

Facility Name _____

Facility Address _____

Sample Date/Time _____/_____

Sampling Personnel (Name/Title)	Affiliations

Weather Conditions _____

Laboratory Name _____

Laboratory Address _____

Laboratory Certification Number _____

Sample Number	Relinquished By	Received By	Time	Date	Reason for Change of Custody

Sample Preparation	Sample Preparation Chemist		Date
	Name (please print)	Signature	
1. Base/Neutrals			
2. Acids			
3. Pesticides			
4. Herbicides			
5. PCB's			
6. Metals			
7. Other			
8. Other			
9. Other			

Sample Preparation	Analyst		Date
	Name (please print)	Signature	
1. Base/Neutrals			
2. Acids			
3. Pesticides			
4. Herbicides			
5. PCB's			
6. Metals			
7. Volatiles	Alisa Levine	Alisa Levine	6/30/93, 6/23/93
8. ~~TOC~~ Volatiles	Mary Baron	Mary Baron	6/26/93
9. TOX			
10. Phenols (total)			
11. Cyanide (total)			
12. Other			
13. Other			
14. Other			

ANALYTICAL DATA REPORT PACKAGE

VECTRE CORPORATION

RCI-V2

REPORT GENERATION DATE: July 16, 1993
DATE SAMPLED: June 22, 1993

8428910153

.NDUSTRIAL CORROSION MANAGEMENT, INC.
152 Route 10
:andolph, NJ 07869
'01-584-0330

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Data Management Summary		1-1A
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Chain-of-Custody		4-5
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Nonconformance Summary		8-10
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Sample Results:		
MW-1	Lab #168822	12-21
MW-2	Lab #168823	22-29
Field Blank	Lab #168824	30-34
Trip Blank	Lab #168825	35-39
Quality Assurance Data: Volatiles		
	Aqueous	40-84

ICM LABORATORIES
1152 ROUTE 10
RANDOLPH, NJ 07869
PHONE: (201) 584-0330
FAX: (201) 584-0515

CLIENT: VECTRE CORPORATION

ANALYTICAL DATA SUMMARY REPORT FOOTNOTE PAGE

U = Indicates a compound was analyzed for but not detected.
For results marked U, the numerical value is the compound MDL.

J = Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit and greater than zero.

B = Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

NA = Not Applicable.

Trip Blank pH is measured in laboratory.

IND = Indeterminable - compound decomposes in water.

ICM LABORATORIES
1152 ROUTE 10
RANDOLPH, NJ 07869
PHONE: (201) 584-0330
FAX: (201) 584-0515

CLIENT: VECTRE CORPORATION

ANALYTICAL DATA SUMMARY REPORT

Client Sample Number	MW-1	MW-2	Field Blank	Trip Blank
ICM Sample Number	168822	168823	168824	168825
Sampling Date	06/22/93	06/22/93	06/22/93	06/22/93
Units	UG/L	UG/L	UG/L	UG/L
VOLATILE PARAMETERS				
Chloromethane	5 U	5 U	5 U	5 U
Bromomethane	5 U	5 U	5 U	5 U
Vinyl chloride	5 U	5 U	5 U	5 U
Chloroethane	5 U	5 U	5 U	5 U
Methylene chloride	5 U	5 U	5 U	5 U
Acetone	20 U	20 U	20 U	20 U
Carbon disulfide	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	5 U
total-1,2-Dichloroethene	5 U	5 U	5 U	5 U
Chloroform	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U
2-Butanone	20 U	20 U	20 U	20 U
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U
Carbon tetrachloride	5 U	5 U	5 U	5 U
Bromodichloromethane	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U
Trichloroethene	5 U	3J	5 U	5 U
Dibromochloromethane	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U
Benzene	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	20 U	20 U	20 U	20 U
2-Hexanone	20 U	20 U	20 U	20 U
Tetrachloroethene	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U
total Xylenes	35	5 U	5 U	5 U
t-Butyl methyl ether	5 U	5 U	5 U	5 U
t-Butyl alcohol	50 U	50 U	50 U	50 U
Total Non-Target Compounds	0	60	0	0

1A

8428910156

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
ULY 16, 1993

Certified Lab for: NJ, PA, DE, and NYS D
NJ #14116 NY #11376
US EPA Historic CLP Lab

ANALYTICAL DATA REPORT PACKAGE

lient: VECTRE CORPORATION
ample Source: RCI-V2
ampled By: Customer

SAMPLE ID:	MATRIX	LAB NUMBER	DATE & TIME COLLECTED	AT LAB DATE
MW-1	Aqueous	168822	06/22/93 12:40	06/22/93
MW-2	Aqueous	168823	06/22/93 12:30	06/22/93
Field Blank	Aqueous	168824	06/22/93 12:15	06/22/93
Trip Blank	Aqueous	168825	06/22/93 12:15	06/22/93

Supervisor/Manager Signature:

Richard S. Levine (RSL)
Richard S. Levine

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ll rights reserved.
AT

8428910157

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

NJDEP Certified Drinking Water/
Wastewater Laboratory ID# 14116

LABORATORY DELIVERABLES

The following laboratory deliverables are included in this data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges are summarized in the Non-Conformance Summary.

		Check if Complete
I.	Cover Page, Format, and Laboratory Certification (Including Cross Reference Table of Field I.D. # and Laboratory I.D. #)	✓
II.	Chain of Custody	✓
III.	Summary Sheets Listing Analytical Results Including QA Data Information	✓
IV.	Laboratory Chronicle and Methodology Summary Including Sample Holding Time Check	✓
V.	Initial Calibration and Continuing Calibration	✓
VI.	Tune Summary (MS)	✓
VII.	Blanks (Method, Field, Trip)	✓
VIII.	Surrogate Recovery Summary	✓
IX.	Chromatographs Labelled/Compound Identification	✓
X.	Minimum Detection Limits (Lower than Action Level if Clean Zone Sample - and consistent with method guidelines)	✓
XI.	Non-Conformance Summary	✓

Paula Koleno Blaze
Quality Assurance Coordinator

7/14/93
Date

NA = Not Applicable

8428910158

8428910159

4.0°C

ICM

CHAIN OF CUSTODY RECORD

Client: VECTRE CORPOR. Project ID: RCI-V2

Address: P.O. Box 930 Sampler: Ceri Banta

City/State: Lafayette, NJ Phone #: (201) 383-2500

ICM lab ID #	Sample ID	Sample Date	Sample Time	Sample Type			No. of Bottles
				Grab	Soil	Comp	
168822	MW-1	6/22	12:40	✓			2
168823	MW-2		12:30	✓			2
168824	FB		12:15	✓			2
168825	TB		12:15	✓			2

Sample Containers Relinquished By:	Sample Containers Received By:	Date:	Time:
Relinquished By: Ceri L Banta	Received By: Wendy	Date: 6/22/93	Time: 1410
Relinquished By:	Received By:	Date:	Time:

ICM

SAMPLING EQUIPMENT CUSTODY RECORD

8428910160

Client: VECTRA
Project Manager: JERRY HAIG
Project Name: RCI-V2
Sampled by:

- [ ] Results only
- [x] Reduced Deliverables
- [ ] Regulatory Format
- [ ] CLP I
- [ ] CLP II

Deliverables Required:
- [ ] ECRA
- [x] BUST
- [ ] NJPDES
- [ ] GASOLINE/ KEROSENE
- [ ] State Forms Required
- [x] TANK REMOVAL

SOIL

Parameter	Bottle Order

WATER

Parameter	Bottle Order
VOA+10 w/XYLENES MTBE, TBA	2 WELLS

FIELD BLANK VOA+10 w/XYLENES, MTBE, TBA

TRIP BLANK VOA+10 w/XYLENES, MTBE, TBA

- [x] Delivered by ICM
- [ ] Picked up by Client
- [ ] Shipped UPS/Federal Express Airbill #:

DATE: 6/21/93
TIME: 9:00 AM

Prepared by: Chris Rozylapu
Date/Time: 6/21/93 8:50
Cooler #'s: 103
Title: Sampler

Checked by: Kim Norton
Date/Time: 6/21/93 8:55
- [x] Ice Packs
- [x] COC, Labels

Title: Samp. Mgmt. Sup.

Cooler Sealed: Date/Time: Seal #: Name:
Title:

SAMPLE CONTAINERS:

Relinquished by ICM: Date/Time:
Received by: Ceri L. Banta Date/Time: 6/21/93 9:35

ICM MANAGEMENT INCORPORATED
1182 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-984-0380

Project ID:

Sample ID	Matrix: Water	Soil	Other	PP +40 *	VO GC/MS	VO GC/MS ~~+15~~ +10	AF GC/MS	AF GC/MS +10	BN GC/MS	BN GC/MS +15	Pesticides/PCBs	PP Metals	Cyanide	Phenol	Pet. Hydrocarbons	PCBs	TCLP Inorganics	TCLP Organics	Reactivity (CN+S)	Corrosivity (as pH)	Ignitability	TCLP VOA	TCLP AF	TCLP BN	Other
MW-1	✓					✓																			w/ MTBE, TBA, xylenes
MW-2	✓					✓																			" "
FB	✓					✓																			" "
TB	✓					✓																			" "

- ☐ RCRA
- ☒ BUST
- ☐ Gas/Kerosene
- ☐ Other ____
- ☐ State forms re
- ☐ Results only
- ☐ Regulatory for
- ☒ Reduced deliv (No may 4th)
- ☐ CLP I
- ☐ CLP II

TURNAROUND T
- ☒ Standard (4wk
- ☐ Rush ____

TCLP: MATRIX S
- ☐ Required
- ☐ Not Required

COMPOUND LIS
- ☐ Priority Polluta
- ☐ Target Compou
- ☐ NJAC 7:14A A
- ☐ Other ____

Special Instructions:

* Includes – VO +15; AF +10; BN +15; Pesticides/PCBs; Priority Pollutant Metals; CN & Phenol

This signature authorizes ICM to perform the analyses listed above. Any changes will be confirmed in writing.

Ceri L. Banta — Signature

Ceri Banta Environmental Scientist — Print Name and Title

6/22/93 — Date

8428910161

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

NJ DEP and PA DER Certified
NJ DEP Lab ID# 14116
US EPA Historic CLP Lab

LABORATORY CHRONICLE

DATE SAMPLED: 6/22/93 PRESERVATIVE: 4 degrees C

DATE RECEIPT/REFRIGERATION: 6/22/93

GC/MS VOLATILES:

Lab ID#	Date Analyzed
168822	6/30/93, 6/29/93
~~168823~~ 168823 ?CB 7/14/93	6/26/93
168824	6/23/93
168825	6/23/93

DEPT. SUPERVISOR: [signature]

QA REVIEW & APPROVAL: Paula Kolenc Blaze

8428910162

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

NJ DEP and PA DER Certified.
NJ DEP Lab ID# 14116
US EPA Historic CLP Lab

CONFORMANCE/NONCONFORMANCE SUMMARY CHECKLIST

Lab Numbers: 168822 - 168825

Volatile Organics: Analyzed ✓ Not Analyzed ___

All tunes were run in required frequency. Yes ✓ No ___

All tune m/z ratios met criteria. Yes ✓ No ___

All initial and/or continuing calibrations were run in required frequency. Yes ✓ No ___

All calibration SPCCs and CCCs met criteria. Yes ✓ No ___

Surrogate recoveries met QC criteria. Yes ✓ No ___

All method blanks met contamination criteria. Yes ✓ No ___

All samples were analyzed within the required holding times. Yes ✓* No ___

Comments: *Sample 168822 was originally injected at a dilution, within the holding time. Sample was reinjected, straight, 1 day past hold. Both quant. reports are included in the data package.

Semi-volatile Organics: Analyzed ___ Not Analyzed ✓

All tunes were run in required frequency. Yes ___ No ___

All tune m/z ratios met criteria. Yes ___ No ___

All initial and/or continuing calibrations were run in required frequency. Yes ___ No ___

All calibration SPCCs and CCCs met criteria. Yes ___ No ___

Surrogate recoveries met QC criteria. Yes ___ No ___

All method blanks met contamination criteria. Yes ___ No ___

All samples were extracted and analyzed within the required holding times. Yes ___ No ___

Comments: ___

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

NJ DEP and PA DER Certified.
NJ DEP Lab ID# 14116
US EPA Historic CLP Lab

CONFORMANCE/NONCONFORMANCE SUMMARY CHECKLIST

Lab Numbers: 168822- 168825

Pesticides/PCBs: Analyzed____ Not Analyzed ✓

All method blanks met contamination criteria. Yes____ No____

All samples were extracted and analyzed within the required holding times. Yes____ No____

Comments: _____

Metals: Analyzed____ Not Analyzed ✓

All method blanks met contamination criteria. Yes____ No____

All samples were analyzed within the required holding times. Yes____ No____

Comments: _____

Petroleum Hydrocarbons: Analyzed____ Not Analyzed ✓

All samples were extracted and analyzed within the required holding times. Yes____ No____

Comments: _____

8428910164

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

NJ DEP and PA DER Certified.
NJ DEP Lab ID# 14116
US EPA Historic CLP Lab

CONFORMANCE/NONCONFORMANCE SUMMARY CHECKLIST

Lab Numbers: 168822- 168825

General Chemistry: Analyzed____ Not Analyzed ✓

All samples were analyzed within the required holding times.
Yes____ No____

Comments: _____

Paula Klenk Blaze
Quality Assurance Coordinator

7/17/93
Date

8428910165

Purgeables (GC/MS)

MATRIX: Aqueous

METHOD REFERENCE: Code of Federal Regulations 40, Part 136, Appendix A, Method 624.

METHOD SUMMARY: Helium is bubbled through a 5 ml water sample contained in a specially designed purging chamber for 11 min. at ambient temperature. The purgeables are transferred from the aqueous to the vapor phase and passed through a 3 component trap (OV-1, Tenax and silica gel) where they are absorbed. After purging is complete, the trap is heated and backflushed with helium to desorb the purgeables onto a gas chromatographic column. The chromatograph is temperature programmed (3 min. at 45 degrees C, then ramp to 220 degrees C at 8 degrees/min.; final hold 12 min.) to separate the purgeables which are then detected with the mass spectrometer. The mass spectrometer data system (RTE-6) identifies target compounds that meet the criteria of retention time (-+30 sec.), relative abundance of characteristic masses (-+20%), and maximization of characteristic masses within 1 scan of each other. Other compounds detected can be searched by the data system in its EPA/NIH library of 42000+ compounds.

8428910166

NDUSTRIAL CORROSION MANAGEMENT, INC.
152 Route 10
andolph, NJ 07869
01-584-0330
ULY 15, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

ab Number: 168822
lient: VECTRE CORPORATION
ample source: RCI-V2
ample ID: MW-1
ample date: 06/22/93
ampled by: Customer
t lab date: 06/22/93 Percent Moisture: 100%
atrix: WATER

Init Sample vol= 5 Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

arameter	Result ug/l	Method Blank ug/l	Minimum Detection Limit ug/l
hloromethane	U	U	5
romomethane	U	U	5
inyl chloride	U	U	5
hloroethane	U	U	5
ethylene chloride	U	5	5
cetone	U	U	20
arbon disulfide	U	U	5
,1-Dichloroethene	U	U	5
,1-Dichloroethane	U	U	5
otal-1,2-Dichloroethene	U	U	5
hloroform	U	U	5
,2-Dichloroethane	U	U	5
-Butanone	U	U	20
,1,1-Trichloroethane	U	U	5
arbon tetrachloride	U	U	5
romodichloromethane	U	U	5
2-Dichloropropane	U	U	5
is-1,3-Dichloropropene	U	U	5
richloroethene	U	U	5
ibromochloromethane	U	U	5
,1,2-Trichloroethane	U	U	5
enzene	U	U	5
rans-1,3-Dichloropropene	U	U	5
romoform	U	U	5
-Methyl-2-pentanone	U	U	20
-Hexanone	U	U	20
etrachloroethene	U	U	5
,1,2,2-Tetrachloroethane	U	U	5
oluene	U	U	5
hlorobenzene	U	U	5
thylbenzene	U	U	5
tyrene	U	U	5
otal Xylenes	35	U	5
-Butyl methyl ether	U	U	5
-Butyl alcohol	U	U	50

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

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EG

8428910167

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
ULY 8, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

ata file name: >G4572
ab number: 168822
raction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

an ber	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

mated total non-target compound concentration (excluding compounds
ged with A, B or **) in ug/l is: 0

: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds. Compounds flagged are from diluted analysis.
* This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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8428910168

QUANT REPORT

Operator ID: DD8617 Quant Rev: 7 Quant Time: 930630 12:4.
Output File: ^G4572::QT Injected at: 930630 12:01
Data File: >G4572::G1 Dilution Factor: 1.00000
Name: INST 59705 SAMPLE Instrument ID: INST 2G
Misc: 168822,Q02486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

ID File: ID00G::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930630 09:21

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*Bromochloromethane	11.28	128.0	47259	50.00	UG/L	9
7)	~~Acetone~~ KS 7/8/93	8.40	43.0	3373	18.84	UG/L	100
14)	1,2-Dichloroethane-d4	14.23	65.0	63418	46.85	UG/L	9.
17)	*1,4-Difluorobenzene	21.96	114.0	183008	50.00	UG/L	99
31)	*Chlorobenzene-d5	26.97	117.0	160561	50.00	UG/L	9
36)	Toluene-d8	25.72	98.0	177368	48.23	UG/L	9
41)	Xylene (total)	34.74	106.0	57945	35.04	UG/L	9
42)	Bromofluorobenzene	31.86	95.0	120363	48.08	UG/L	71

* Compound is ISTD

8428910169

QUANT REPORT

Operator ID: DD9617 Quant Rev: 7 Quant Time: 930707 09:5[illegible]
Output File: SG4572::Q1 Injected at: 930630 12:01
Data File: >G4572::G1 Dilution Factor: 1.0000[illegible]
Name: INST 59/05 SAMPLE Instrument ID: INST 26
Misc: 168822,WV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

ID File: IDVOGX::SC
Title: SPECIAL VOLATILE IDFILE FOR EXTRA COMPOUNDS
Last Calibration: 930629 10:55 Last Qcal Date: 930630 09:21

	Compound	R.T.	Scan#	Area	Conc	Units	[illegible]
1)	*Bromochloromethane	11.28	271	47259	50.00	UG/L	94
3)	~~Acetaldehyde~~ not ATTEST	3.59	73	1067	62.75	UG/L	60
14)	*1,4-Difluorobenzene	21.96	546	183008	50.00	UG/L	97
26)	*Chlorobenzene-d5	26.97	675	160561	50.00	UG/L	93

* Compound is ISTD

8428910170

Operator ID: DD9617 Quant Rev: 7 Quant Time: 930629 17:39
Output File: ^G4557::QT Injected at: 930629 16:53
Data File: >G4557::G1 Dilution Factor: 1.00000
Name: INST 59705,SAMPLE Instrument ID: INST 2G
Misc: 168822,QU2482,L,1,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDUOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930629 12:00

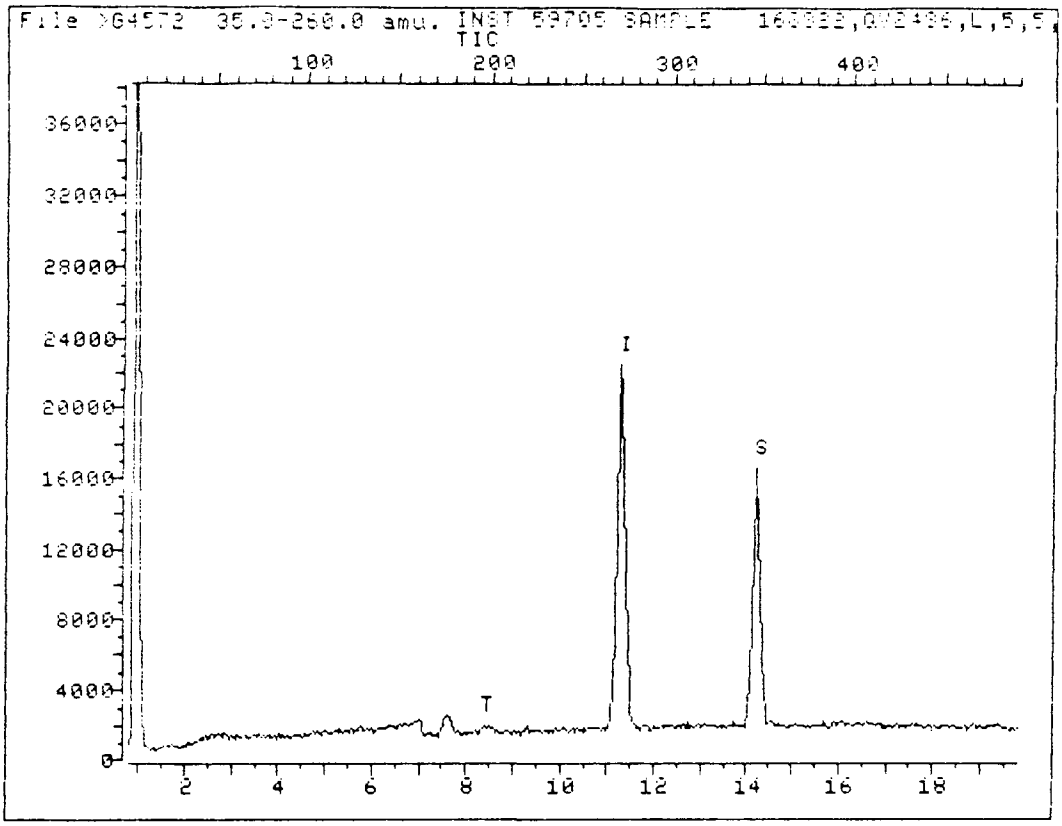
	Compound	R.T.	Q ion	Area	Conc	Units	S
1)	*Bromochloromethane	11.29	128.0	42077	50.00	UG/L	99
6)	Methylene Chloride	7.60	84.0	6187	6.71	UG/L	51
14)	1,2-Dichloroethane-d4	14.20	65.0	59973	42.17	UG/L	99
17)	*1,4-Difluorobenzene	21.97	114.0	163695	50.00	UG/L	99
31)	*Chlorobenzene-d5	27.02	117.0	147305	50.00	UG/L	99
36)	Toluene-d8	25.74	98.0	160131	46.22	UG/L	95
42)	Bromofluorobenzene	31.92	95.0	103630	46.40	UG/L	99

* Compound is ISTD

use for holding time serum 5ml

8428910171

TOTAL ION CHROMATOGRAM



Data File: >G4572::G1 Quant Output File: ^G4572::QT
Name: INST 59705 SAMPLE Instrument ID: INST 2G
Misc: 168822,QV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

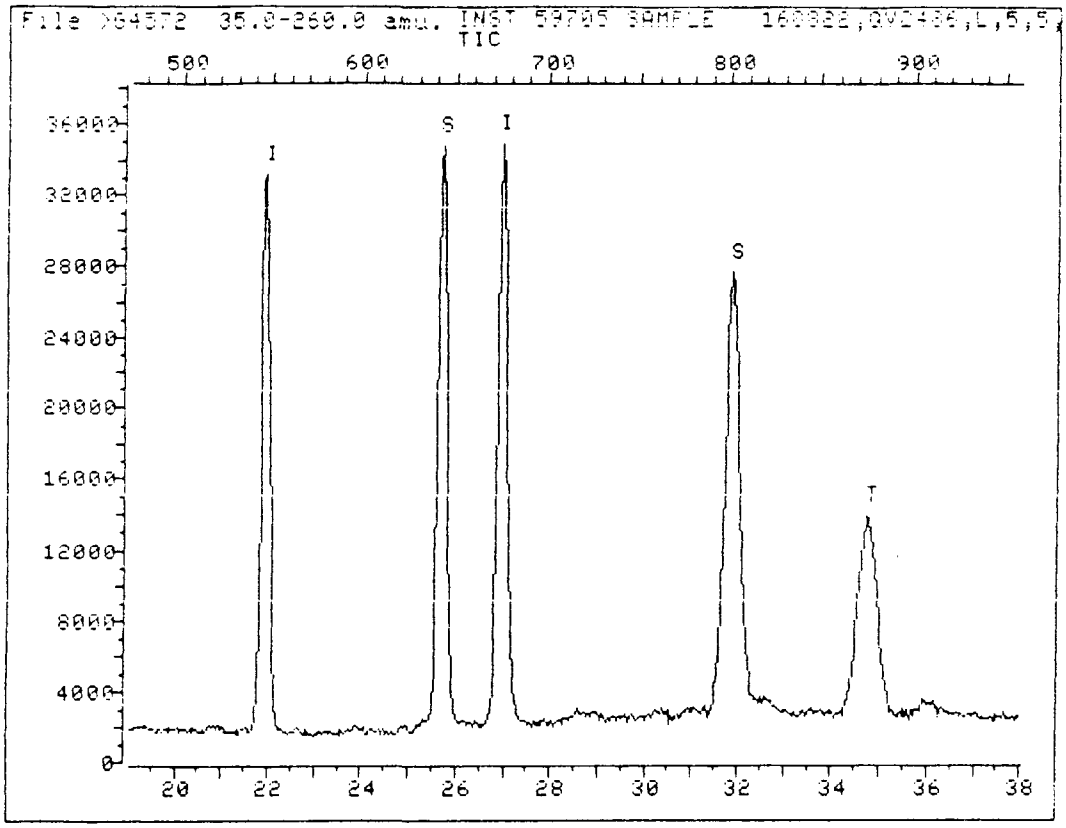
Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930630 09:2

Operator ID: DD9617
Quant Time : 930630 12:40
Injected at: 930630 12:01

Page 1 of 2

8428910172

TOTAL ION CHROMATOGRAM



Data File: >G4572::G1 Quant Output File: ^G4572::QT
Name: INST 59705 SAMPLE Instrument ID: INST 2G
Misc: 168822,QV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

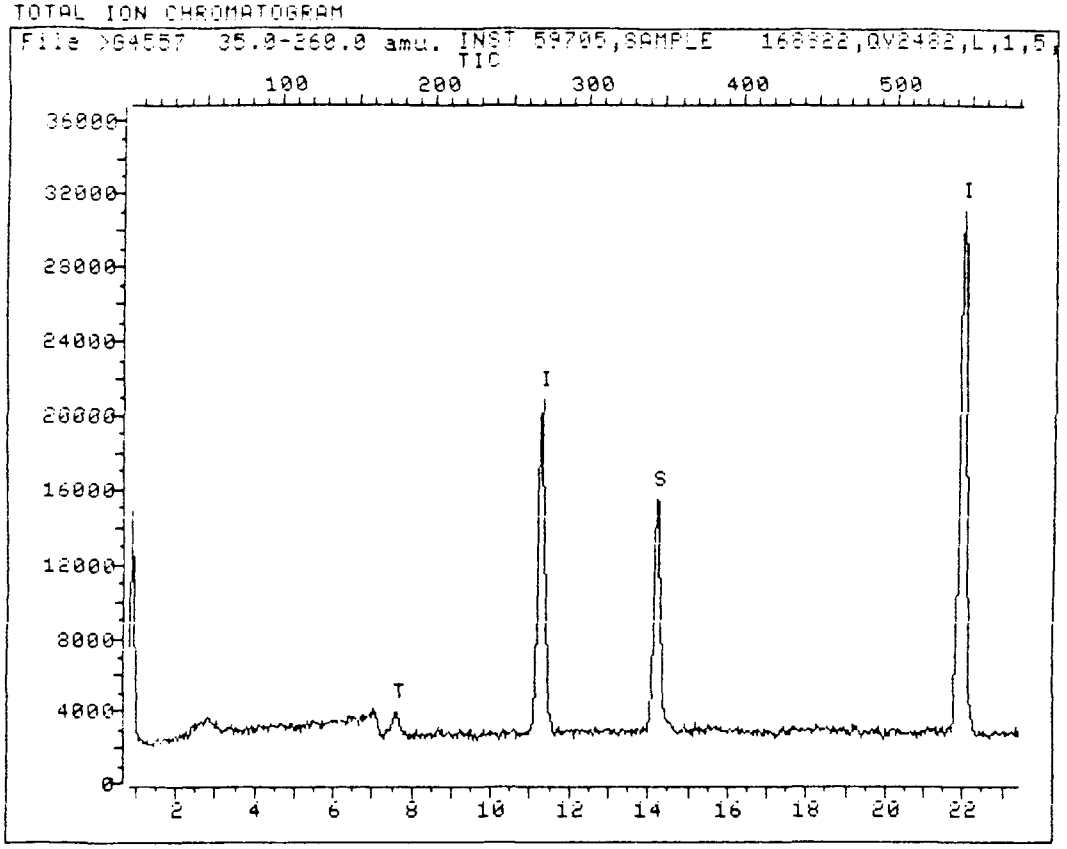
Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930630 09:21

Operator ID: DD9617
Quant Time : 930630 12:40
Injected at: 930630 12:01

Page 2 of 2

8428910173

TOTAL ION CHROMATOGRAM



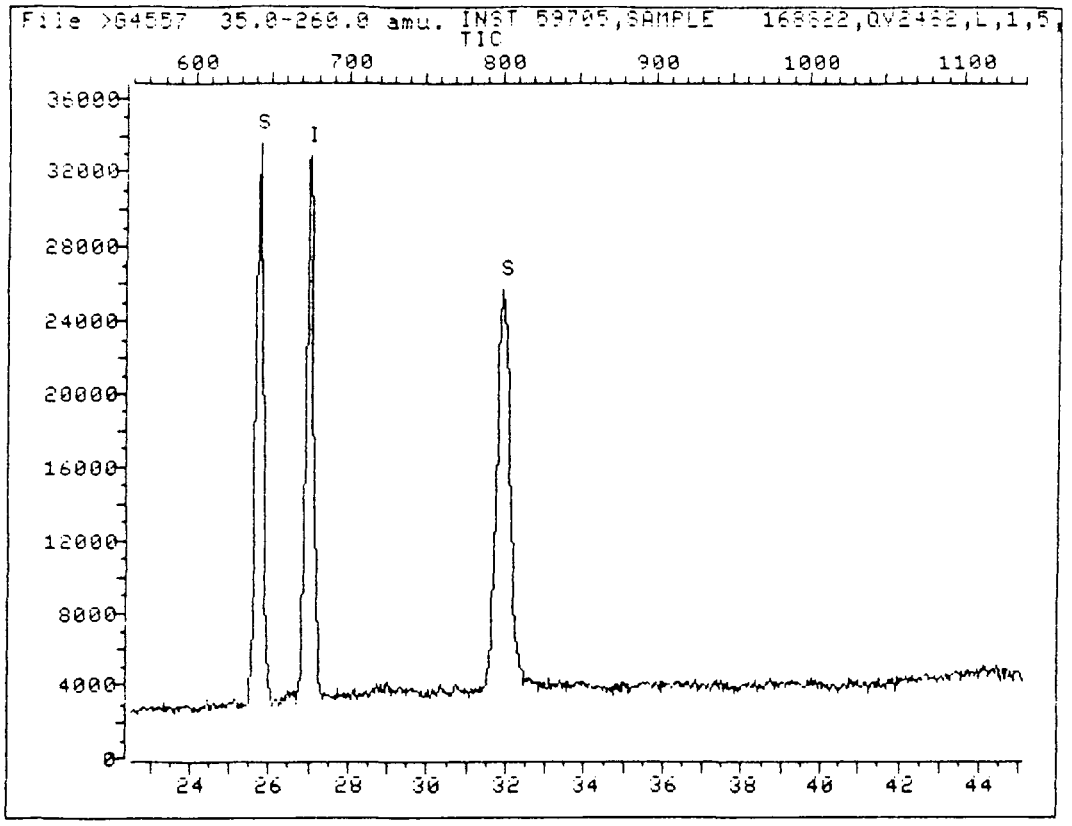
Data File: >G4557::G1 Quant Output File: ^G4557::QT
Name: INST 59705,SAMPLE Instrument ID: INST 2G
Misc: 168822,QV2482,L,1,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930629 12:00

Operator ID: DD9617
Quant Time : 930629 17:39
Injected at: 930629 16:53

Page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >G4557::G1 Quant Output File: ^G4557::QT
Name: INST 59705,SAMPLE Instrument ID: INST 2G
Misc: 168822,QV2482,L,1,5,6'X2mm 1% SP1000 ON CBPKB

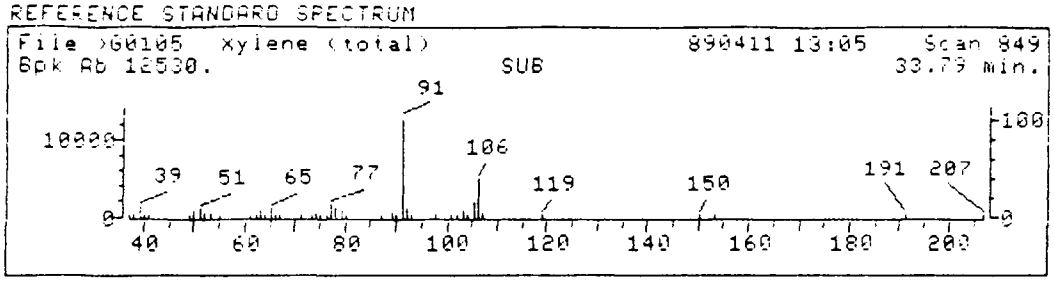
Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930629 12:00

Operator ID: DD9617
Quant Time : 930629 17:39
Injected at: 930629 16:53

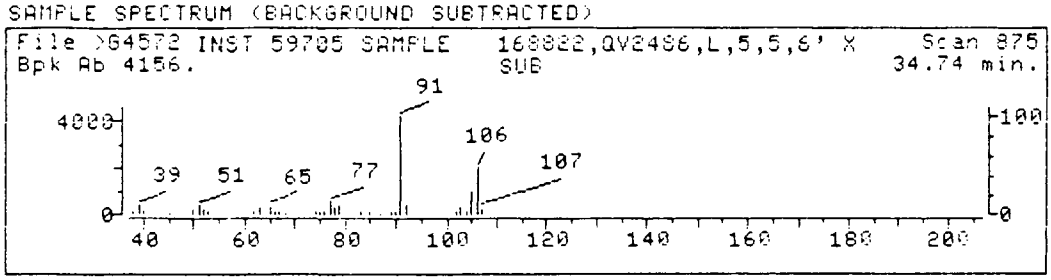
Page 2 of 2

8428910175

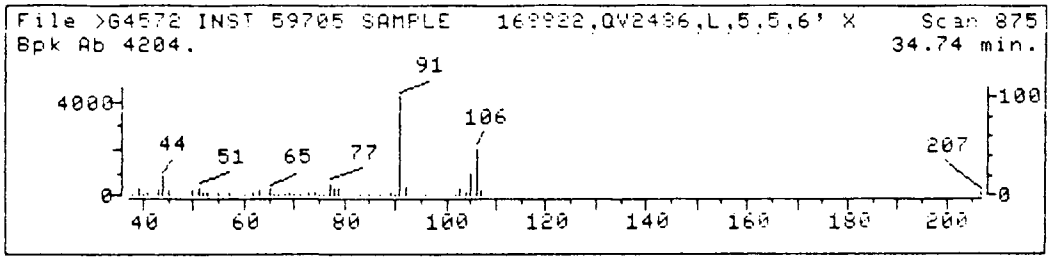
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >G4572::G1 Quant Output File: ^G4572::QT
Name: INST 59705 SAMPLE Instrument ID: INST 2G
Misc: 168822,QV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B
Quant Time: 930630 12:40 Quant ID File: IDVOG::SO
Injected at: 930630 12:01 Last Calibration: 930624 16:14
Last Qcal Time: 930630 09:21

Compound No : 41
Compound Name : Xylene (total)
Scan Number : 875
Retention Time: 34.74 min.
Quant Ion : 106.0
Area : 57945
Concentration : 35.04 UG/L
q-value : 95

8428910176

NDUSTRIAL CORROSION MANAGEMENT, INC.
152 Route 10
:andolph, NJ 07869
:01-584-0330
IULY 2, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

ab Number: 168823
:lient: VECTRE CORPORATION
:ample source: RCI-V2
:ample ID: MW-2
:ample date: 06/22/93
:ampled by: Customer
.t lab date: 06/22/93 Percent Moisture: 100%
latrix: WATER
Init Sample vol= 5 Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

'arameter	Result ug/l	Method Blank ug/l	Minimum Detection Limit ug/l
hloromethane	U	U	5
romomethane	U	U	5
inyl chloride	U	U	5
hloroethane	U	U	5
ethylene chloride	U	U	5
cetone	U	U	20
arbon disulfide	U	U	5
,1-Dichloroethene	U	U	5
,1-Dichloroethane	U	U	5
otal-1,2-Dichloroethene	U	U	5
hloroform	U	U	5
,2-Dichloroethane	U	U	5
-Butanone	U	U	20
,1,1-Trichloroethane	U	U	5
arbon tetrachloride	U	U	5
romodichloromethane	U	U	5
,2-Dichloropropane	U	U	5
is-1,3-Dichloropropene	U	U	5
richloroethene	3J	U	5
ibromochloromethane	U	U	5
,1,2-Trichloroethane	U	U	5
enzene	U	U	5
rans-1,3-Dichloropropene	U	U	5
romoform	U	U	5
-Methyl-2-pentanone	U	U	20
-Hexanone	U	U	20
etrachloroethene	U	U	5
,1,2,2-Tetrachloroethane	U	U	5
oluene	U	U	5
hlorobenzene	U	U	5
thylbenzene	U	U	5
tyrene	U	U	5
otal Xylenes	U	U	5
-Butyl methyl ether	U	U	5
-Butyl alcohol	U	U	50

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

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C

8428910177

INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JULY 8, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >G4525
Lab number: 168823
Fraction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

can mber	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
23	496117	40.53	Dihydro indene	118	60

imated total non-target compound concentration (excluding compounds gged with A, B or **) in ug/l is: 60

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds. Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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8428910178

QUANT REPORT

Operator ID: DD9617 Quant Rev: 7 Quant Time: 930626 02:03
Output File: ^G4525::QT Injected at: 930626 01:17
Data File: >G4525::G1 Dilution Factor: 1.00000
Name: INST 59705,SAMPLE Instrument ID: INST 2G
Misc: 168823 QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930625 15:51

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	11.28	128.0	35004	50.00	UG/L	96
14)	1,2-Dichloroethane-d4	14.23	65.0	51266	50.33	UG/L	97
17)	*1,4-Difluorobenzene	21.96	114.0	144033	50.00	UG/L	99
24)	Trichloroethene	18.89	130.0	3779	3.06	UG/L	86
31)	*Chlorobenzene-d5	27.01	117.0	123979	50.00	UG/L	94
36)	Toluene-d8	25.73	98.0	134677	50.32	UG/L	93
42)	Bromofluorobenzene	31.94	95.0	92595	50.39	UG/L	64

* Compound is ISTD

QUANT REPORT

erator ID: DD9617 Quant Rev: 7 Quant Time: 930629 17:37
tout File: SG4525::QT Injected at: 930626 01:17
ta File: >G4525::G1 Dilution Factor: 1.00000
e: INST 59705.SAMPLE Instrument ID: INST 26
sc: 168823 QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB

File: IDVOGX::SC
le: SPECIAL VOLATILE IDFILE FOR EXTRA COMPOUNDS
st Calibration: 930629 10:55 Last Qcal Date: 930625 15:51

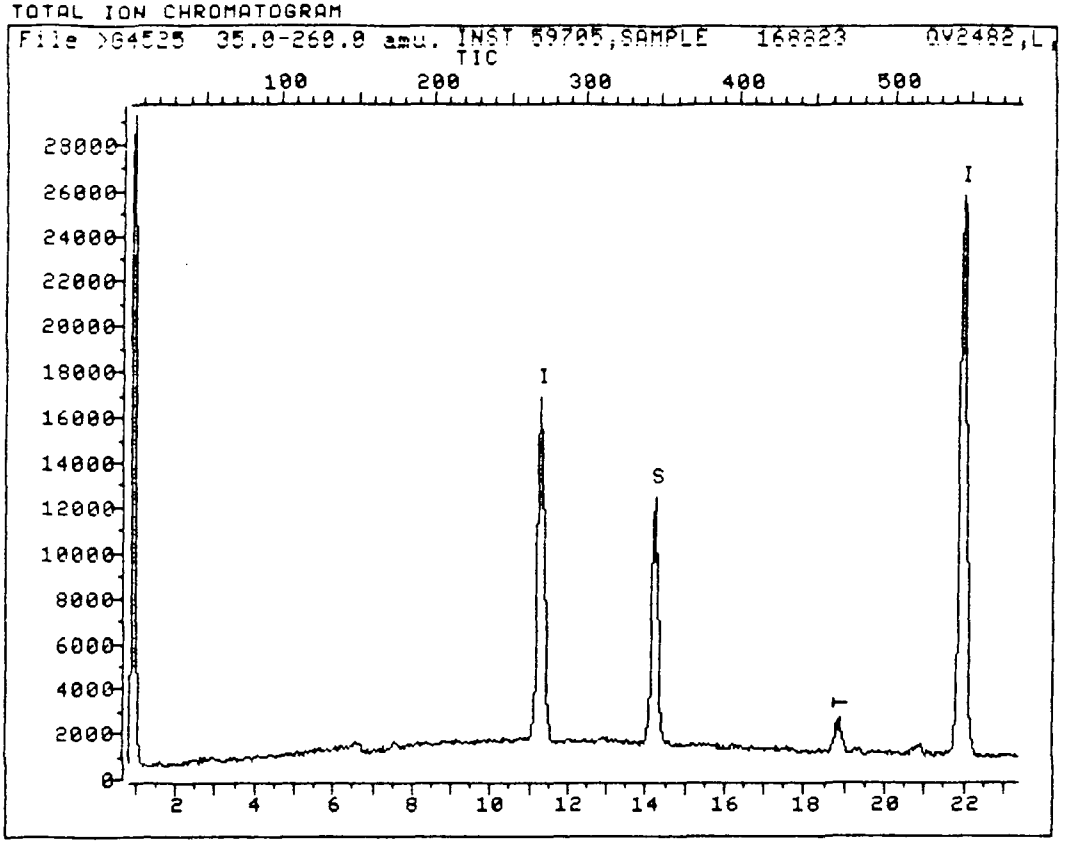
	Compound	R.T.	Q ion	Area	Conc	Units	q
1	*Bromochloromethane	11.28	128.0	35004	50.00	UG/L	99
2	*1,4-Difluorobenzene	21.96	114.0	144033	50.00	UG/L	99
3	*Chlorobenzene-d5	27.01	117.0	123979	50.00	UG/L	94

Compound is ISTD

V :

8428910180

TOTAL ION CHROMATOGRAM



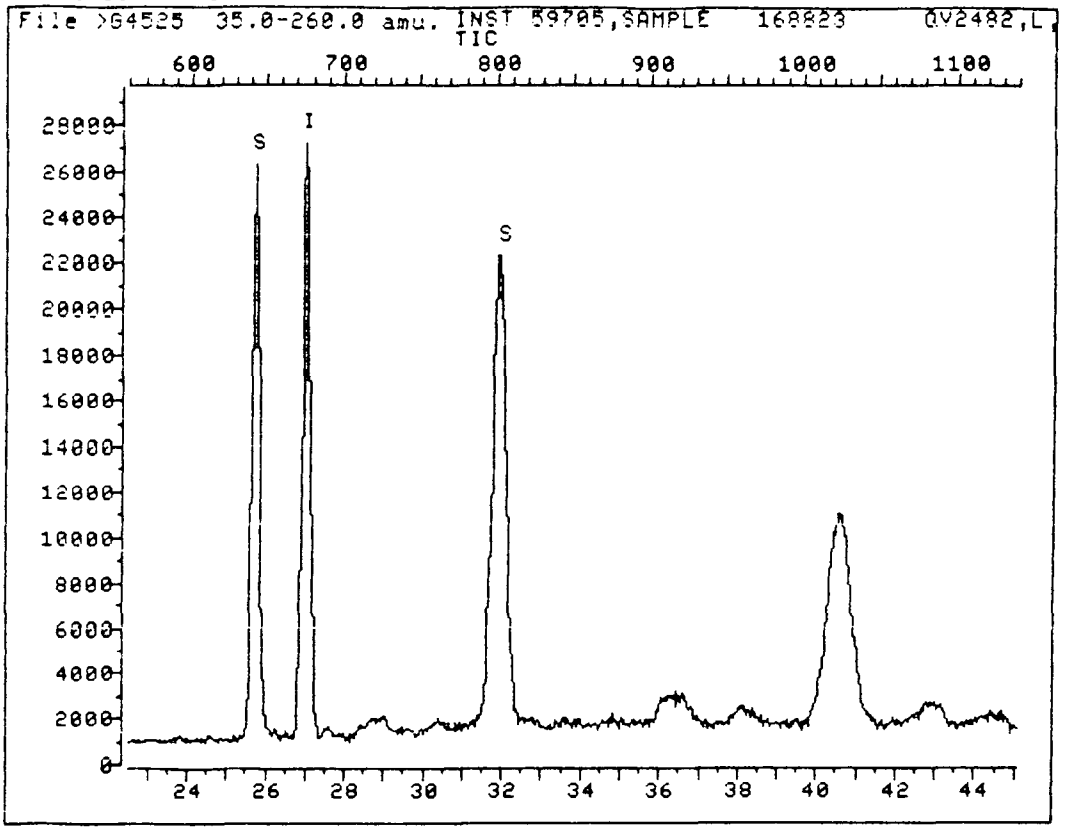
Data File: >G4525::G1 Quant Output File: ^G4525::QT
Name: INST 59705,SAMPLE Instrument ID: INST 2G
Misc: 168823 QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930625 15:51

Operator ID: DD9617
Quant Time : 930626 02:03
Injected at: 930626 01:17

Page 1 of 2

TOTAL ION CHROMATOGRAM



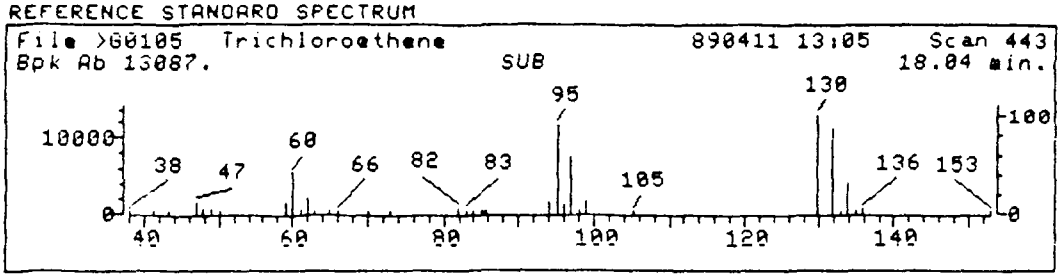
Data File: >G4525::G1 Quant Output File: ^G4525::QT
Name: INST 59705,SAMPLE Instrument ID: INST 2G
Misc: 168823 QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930625 15:51

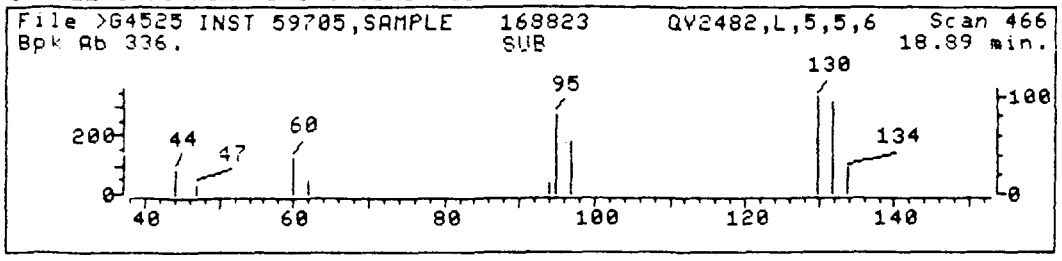
Operator ID: DD9617
Quant Time : 930626 02:03
Injected at: 930626 01:17

Page 2 of 2

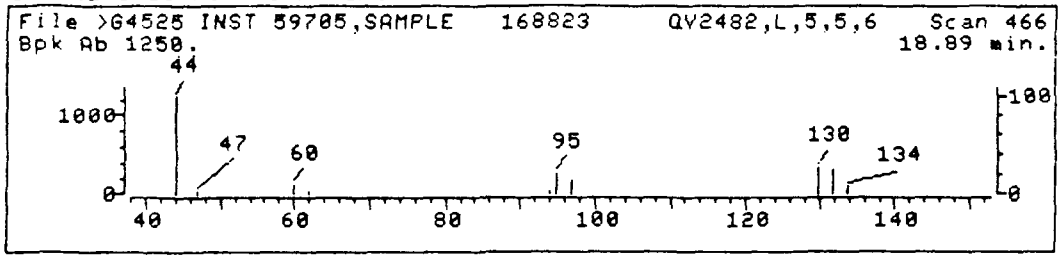
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



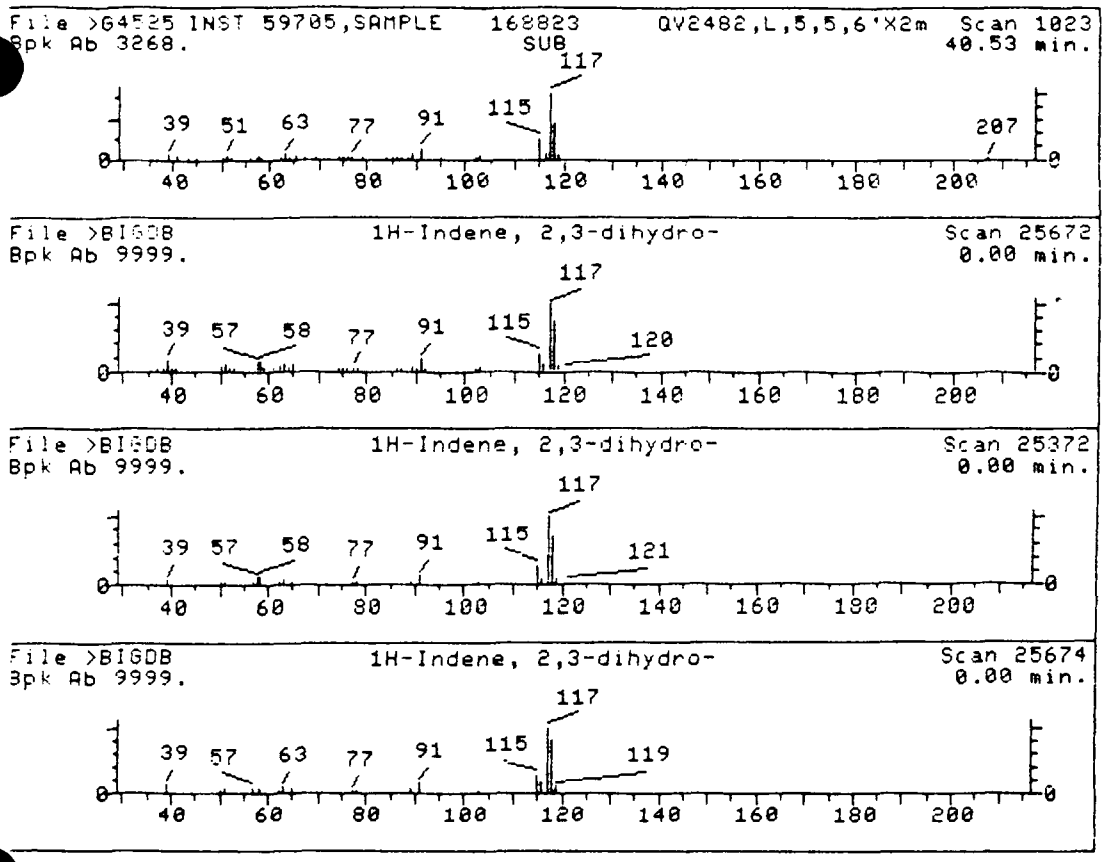
SAMPLE SPECTRUM (UNALTERED)



Data File: >G4525::G1 Quant Output File: ^G4525::QT
Name: INST 59705,SAMPLE Instrument ID: INST 2G
Misc: 168823 QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB
Quant Time: 930626 02:03 Quant ID File: IDVOG::SC
Injected at: 930626 01:17 Last Calibration: 930624 16:14
Last Qcal Time: 930625 15:51

Compound No : 24
Compound Name : Trichloroethene
Scan Number : 466
Retention Time: 18.89 min.
Quant Ion : 130.0
Area : 3779
Concentration : 3.06 UG/L
q-value : 86

8428910183



Instrument ID: INST 2 Analyzed on: 6/26/93 1:17
Result 8 in PBM results file: LG4525
Retention Time: 40.53 Area: 426805 Tentative Conc: 60.00
The unknown area is 120.73% of the nearest internal standard

1.	1H-Indene, 2,3-dihydro-	118	C9H10
2.	1H-Indene, 2,3-dihydro-	118	C9H10
3.	1H-Indene, 2,3-dihydro-	118	C9H10
4.	1H-Indene, 2,3-dihydro-	118	C9H10
5.	1H-Indene, 2,3-dihydro-	118	C9H10
6.	1H-Indene, 2,3-dihydro-	118	C9H10

Sample file: >G4525 Spectrum #: 1023
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	81*	496117	25672	"BIGDB	67	34	2	0	70	7	53	46
2.	81*	496117	25372	"BIGDB	55	37	2	0	76	8	53	40
3.	79*	496117	25674	"BIGDB	55	45	2	0	67	7	48	32
4.	74*	496117	25373	"BIGDB	53	12	1	0	67	13	39	46

8428910184

NDUSTRIAL CORROSION MANAGEMENT, INC.
152 Route 10
andolph, NJ 07869
01-584-0330
UNE 28, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

ab Number: 168824
lient: VECTRE CORPORATION
ample source: RCI-V2
ample ID: Field Blank
ample date: 06/22/93
ampled by: Customer
t lab date: 06/22/93 Percent Moisture: 100%
atrix: WATER
Init Sample vol= 5 Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

arameter	Result ug/l	Method Blank ug/l	Minimum Detection Limit ug/l
hloromethane	U	U	5
romomethane	U	U	5
inyl chloride	U	U	5
hloroethane	U	U	5
ethylene chloride	U	U	5
cetone	U	U	20
arbon disulfide	U	U	5
,1-Dichloroethene	U	U	5
,1-Dichloroethane	U	U	5
otal-1,2-Dichloroethene	U	U	5
hloroform	U	U	5
,2-Dichloroethane	U	U	5
-Butanone	U	U	20
,1,1-Trichloroethane	U	U	5
arbon tetrachloride	U	U	5
romodichloromethane	U	U	5
2-Dichloropropane	U	U	5
is-1,3-Dichloropropene	U	U	5
richloroethene	U	U	5
ibromochloromethane	U	U	5
,1,2-Trichloroethane	U	U	5
enzene	U	U	5
rans-1,3-Dichloropropene	U	U	5
romoform	U	U	5
-Methyl-2-pentanone	U	U	20
-Hexanone	U	U	20
etrachloroethene	U	U	5
,1,2,2-Tetrachloroethane	U	U	5
oluene	U	U	5
hlorobenzene	U	U	5
thylbenzene	U	U	5
tyrene	U	U	5
otal Xylenes	U	U	5
-Butyl methyl ether	U	U	5
-Butyl alcohol	U	U	50

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

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EG

8428910185

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
UNE 28, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

ata file name: >C3562
ab number: 168824
raction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

an ber	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

mated total non-target compound concentration (excluding compounds
ged with A, B or **) in ug/l is: 0

: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds. Compounds flagged are from diluted analysis.
* This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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EG

8428910186

QUANT REPORT

erator ID: DS0882 Quant Rev: 6 Quant Time: 930623 19:09
put File: ^C3562::QT Injected at: 930623 18:2[illegible]
a File: ^C3562::C3 Dilution Factor: 1.00000
e: INST 59703 SAMPLE
c: 168824,QV2478,L,5,5,6' X 2MM 1% SP1000 ON UBPK B

File: IDVOC::SC
le: Daily Calibration via Single Point at 50 ug/L Rev. E
t Calibration: 930623 16:57

Compound	R.T.	Q ion	Area	Conc	Units	q
*Bromochloromethane	11.84	128.0	47697	50.00	UG/L	80
~~Methylene Chloride~~	8.39	84.0	1076	.73	UG/L	94
1,2-Dichloroethane-d4	14.78	65.0	97338	49.74	UG/L	96
*1,4-Difluorobenzene	22.55	114.0	202194	50.00	UG/L	98
*Chlorobenzene-d5	27.58	117.0	176641	50.00	UG/L	94
Toluene-d8	26.38	98.0	203233	50.07	UG/L	93
Bromofluorobenzene	32.92	95.0	155158	50.64	UG/L	80

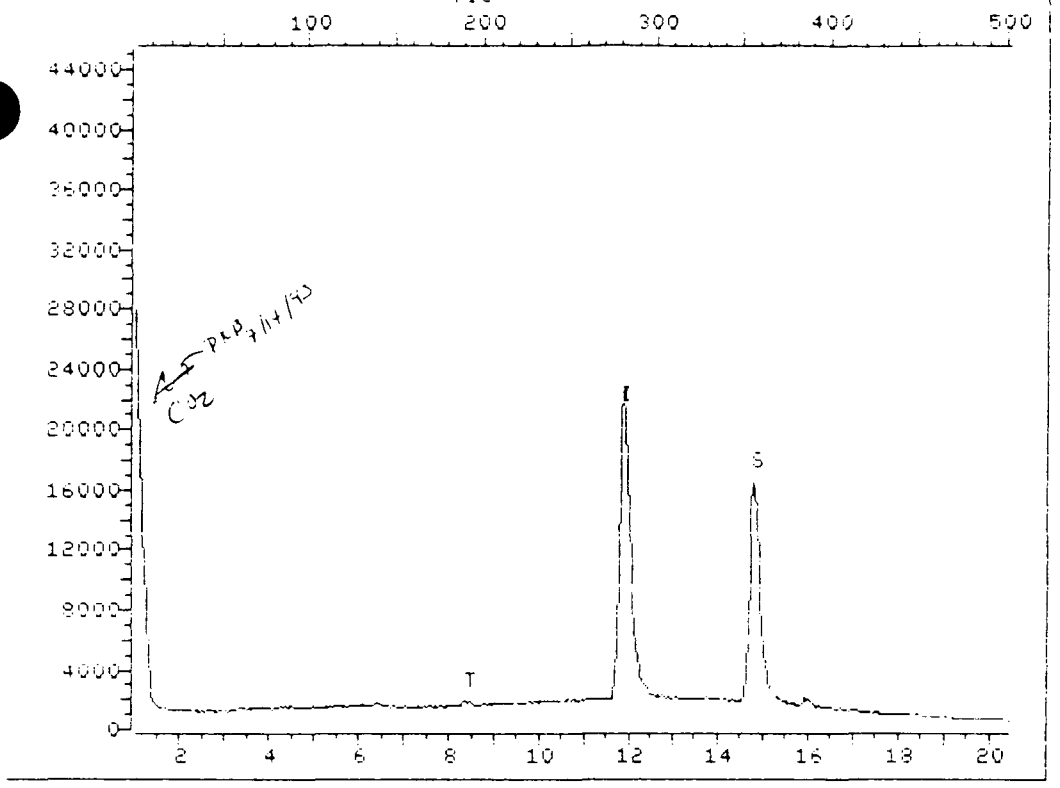
Compound is ISTD

8428910187

TOTAL ION CHROMATOGRAM

File >C3562 35.0-260.0 amu. INST 59703 SAMPLE 168824,QV2478,L,5,5,

TIC



Data File: >C3562::C3 Quant Output File: ^C3562::QI
Name: INST 59703 SAMPLE
Misc: 168824,QV2478,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

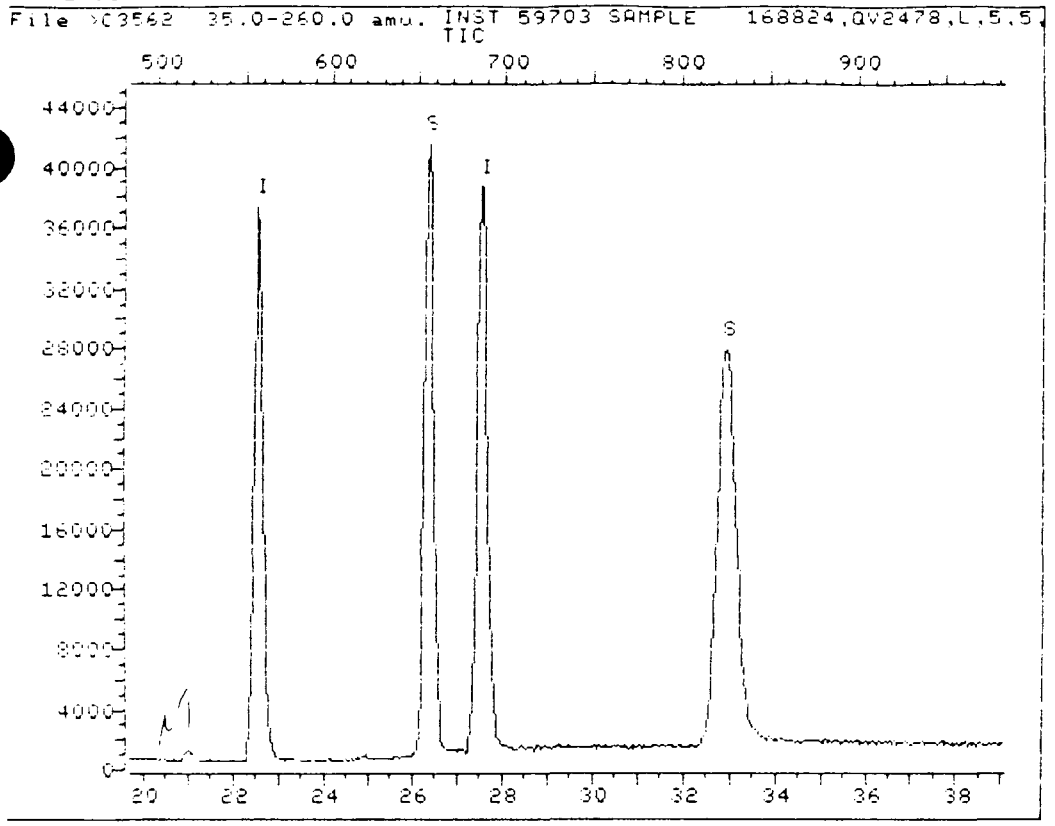
Id File: IDVOC::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 930623 16:57

Operator ID: OS0882
Quant Time: 930623 19:09
Injected at: 930623 18:29

TIC page 1 of 2

8428910188

TOTAL ION CHROMATOGRAM



Data File: >C3562::C3 Quant Output File: ^C3562::QT
Name: INST 59703 SAMPLE
Misc: 168824,QV2478,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

Id File: IDVOC::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 930623 16:57

Operator ID: DS0882
Quant Time: 930623 19:09
Injected at: 930623 18:29

TIC page 2 of 2

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JUNE 28, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

Lab Number: 168825
Client: VECTRE CORPORATION
Sample source: RCI-V2
Sample ID: Trip Blank
Sample date: 06/22/93
Sampled by: Customer
At lab date: 06/22/93 Percent Moisture: 100%
Matrix: WATER
Init Sample vol= 5 Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Method Blank ug/l	Minimum Detection Limit ug/l
Chloromethane	U	U	5
Bromomethane	U	U	5
Vinyl chloride	U	U	5
Chloroethane	U	U	5
Methylene chloride	U	U	5
Acetone	U	U	20
Carbon disulfide	U	U	5
1,1-Dichloroethene	U	U	5
1,1-Dichloroethane	U	U	5
Total-1,2-Dichloroethene	U	U	5
Chloroform	U	U	5
1,2-Dichloroethane	U	U	5
2-Butanone	U	U	20
1,1,1-Trichloroethane	U	U	5
Carbon tetrachloride	U	U	5
Bromodichloromethane	U	U	5
1,2-Dichloropropane	U	U	5
Cis-1,3-Dichloropropene	U	U	5
Trichloroethene	U	U	5
Dibromochloromethane	U	U	5
1,1,2-Trichloroethane	U	U	5
Benzene	U	U	5
Trans-1,3-Dichloropropene	U	U	5
Bromoform	U	U	5
4-Methyl-2-pentanone	U	U	20
2-Hexanone	U	U	20
Tetrachloroethene	U	U	5
1,1,2,2-Tetrachloroethane	U	U	5
Toluene	U	U	5
Chlorobenzene	U	U	5
Ethylbenzene	U	U	5
Styrene	U	U	5
Total Xylenes	U	U	5
t-Butyl methyl ether	U	U	5
t-Butyl alcohol	U	U	50

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

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8428910190

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
UNE 28, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

ata file name: >C3561
ab number: 168825
raction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

an ber	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

mated total non-target compound concentration (excluding compounds
ged with A, B or **) in ug/l is: 0

: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
Compounds flagged are from diluted analysis.
* This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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8428910191

QUANT REPORT

erator ID: DS0882 Quant Rev: 6 Quant Time: 930623 18:23
cout File: ^C3561::QT Injected at: 930623 17:43
ta File: ^C3561::C3 Dilution Factor: 1.00000
e: INST 59703 SAMPLE
sc: 168825.QV2478.L.5.5.6' X 2MM 1% SP1000 ON CBPK B

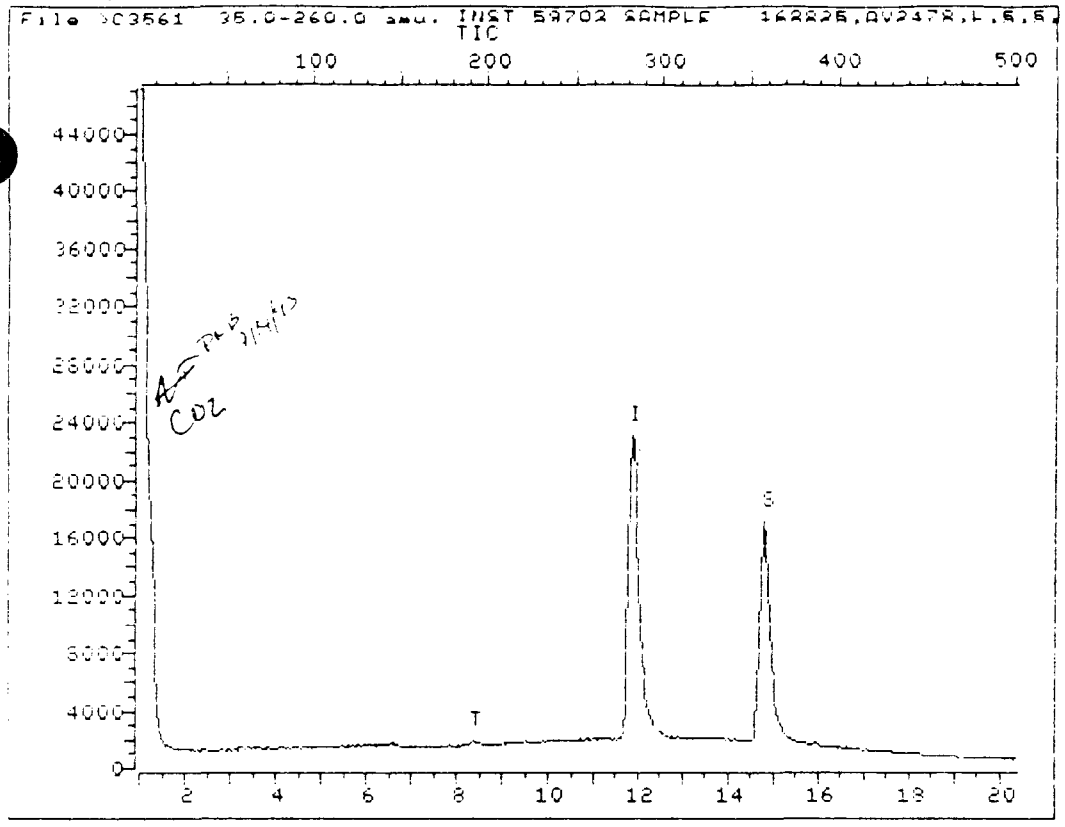
File: IDVOC::SC
le: Daily Calibration via Single Point at 50 ug/L Rev. E
st Calibration: 930623 16:57

	Compound	R.T.	Q ion	Area	Conc	Units	q
1	*Bromochloromethane	11.85	128.0	49124	50.00	UG/L	78
1	~~Methylene Chloride~~	8.37	84.0	1499	.99	UG/L	81
1	1,2-Dichloroethane-d4	14.79	65.0	99297	49.27	UG/L	94
1	*1,4-Difluorobenzene	22.57	114.0	208345	50.00	UG/L	98
1	*Chlorobenzene-d5	27.56	117.0	181715	50.00	UG/L	95
1	Toluene-d8	26.36	98.0	211567	50.67	UG/L	94
1	Bromofluorobenzene	32.94	95.0	160731	50.99	UG/L	78

Compound is ISTD

8428910192

TOTAL ION CHROMATOGRAM



Data File: >C3561::C3 Quant Output File: ^C3561::Q1
Name: INST 59703 SAMPLE
Misc: 168825,QV2478,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

Id File: IDVOC::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 930623 16:57

Operator ID: DS0882
Quant Time: 930623 18:23
Injected at: 930623 17:43

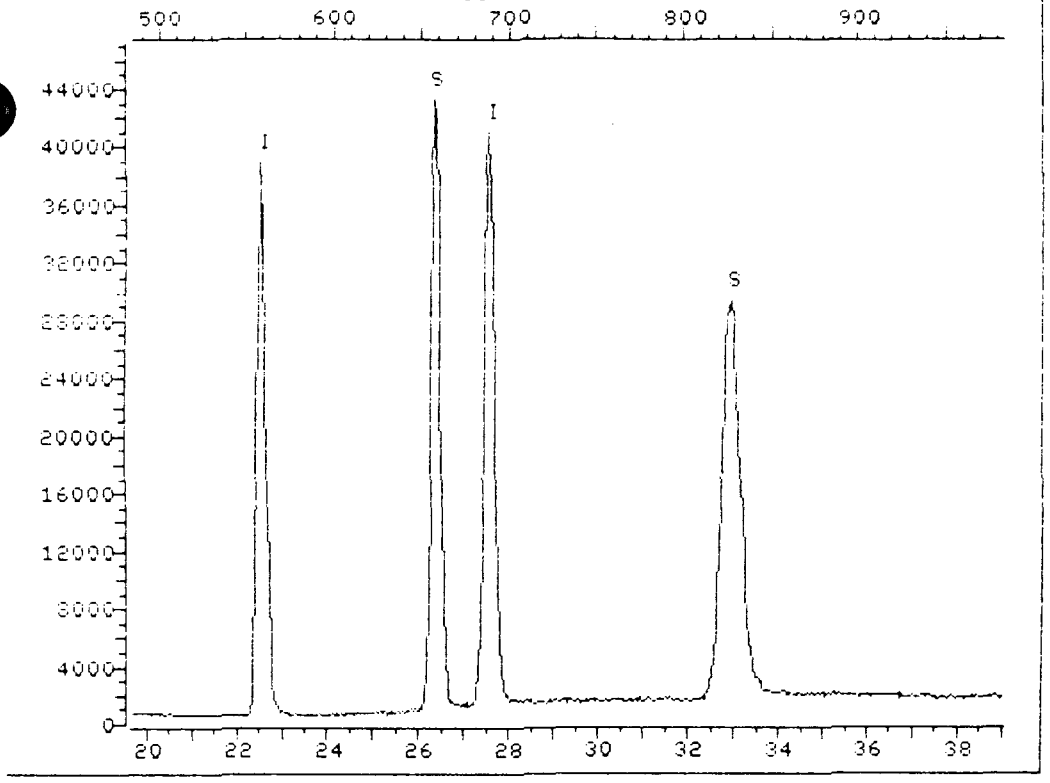
TIC page 1 of 2

8428910193

TOTAL ION CHROMATOGRAM

File >C3561 35.0-260.0 amu. INST 59703 SAMPLE 168825,QV2478,L,5,5,

TIC



Data File: >C3561::C3 Quant Output File: ^C3561::QT
Name: INST 59703 SAMPLE
Misc: 168825,QV2478,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

Id File: IDVOC::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 930623 16:57

Operator ID: DS0882
Quant Time: 930623 18:23
Injected at: 930623 17:45

TIC page 2 of 2

8428910194

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
UNE 28, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

ata file name: >C3560
ab number: BLANK
raction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

This BLANK corresponds to the following lab numbers:
8825 168824 168810 168729 168784 168732 168856 168858

an ber	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

mated total non-target compound concentration (excluding compounds
ged with A, B or **) in ug/l is: 0

: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds. Compounds flagged are from diluted analysis.
* This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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QUANT REPORT

Operator ID: DS0882 Quant Rev: 6 Quant Time: 930623 17:37
Output File: ^C3560::QT Injected at: 930623 16:57
Data File: >C3560::C3 Dilution Factor: 1.00000
Name: INST 59703 BLANK
Misc: VBLK,QV2478,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

ID File: IDVOC::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 930623 16:57 ‡

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	11.91	128.0	50355	50.00	UG/L	74
6)	~~Methylene Chloride~~ MT	8.46	84.0	1367	.88	UG/L	80
14)	1,2-Dichloroethane-d4 6/25/93	14.81	65.0	101411	49.09	UG/L	97
17)	*1,4-Difluorobenzene	22.58	114.0	211728	50.00	UG/L	97
31)	*Chlorobenzene-d5	27.58	117.0	183483	50.00	UG/L	95
36)	Toluene-d8	26.38	98.0	213857	50.73	UG/L	96
42)	Bromofluorobenzene	32.95	95.0	161399	50.71	UG/L	82

* Compound is ISTD

QUANT REPORT

Operator ID: DS0882 Quant Rev: 6 Quant Time: 930624 15:18
Output File: SC3560::QT Injected at: 930623 16:57
Data File: >C3560::C3 Dilution Factor: 1.00000
Name: INST 59703 BLANK
Misc: VBLK,QV2478,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

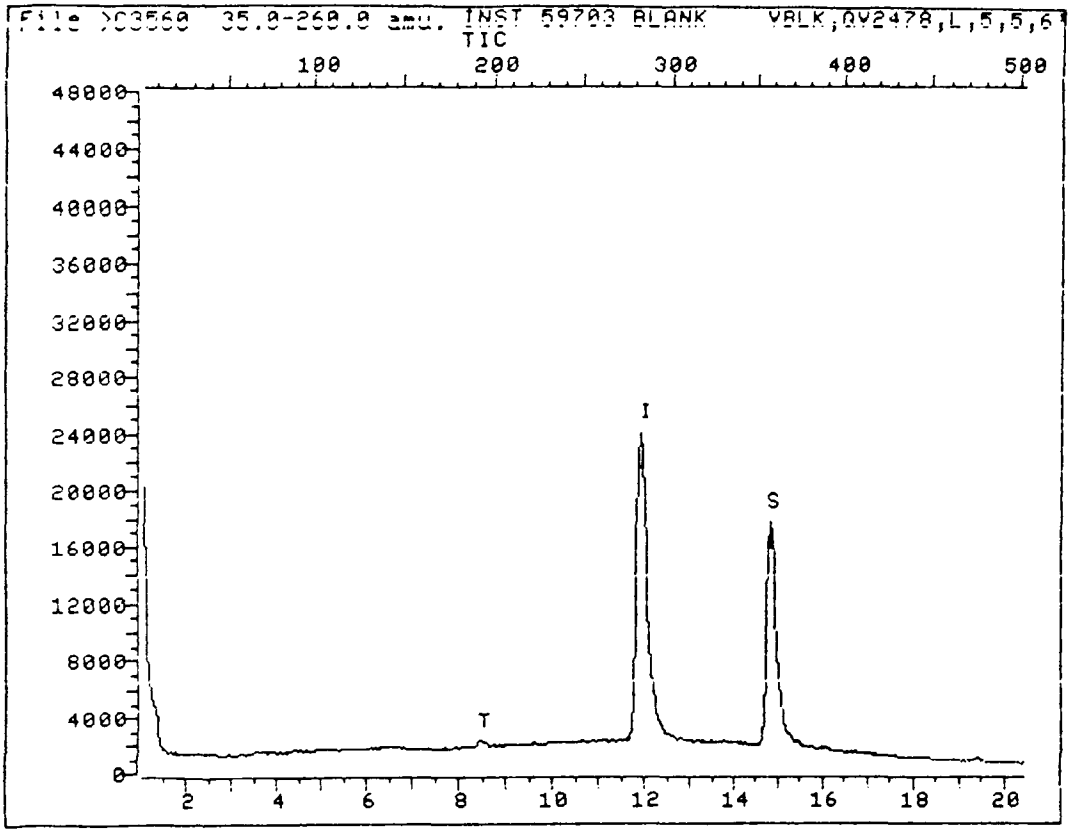
ID File: IDVOCX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 930624 15:16

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	11.91	282	50355	50.00	UG/L	95
14)	*1,4-Difluorobenzene	22.58	558	211728	50.00	UG/L	91
18)	~~Ethylene dibromide~~ ADL	21.00	517	1346	.88	UG/L	99
19)	~~Diisopropyl ether~~ 6/25/93	21.08	519	1701	.32	UG/L	75
21)	*Chlorobenzene-d5	27.58	687	183483	50.00	UG/L	95

* Compound is ISTD

8428910197

TOTAL ION CHROMATOGRAM



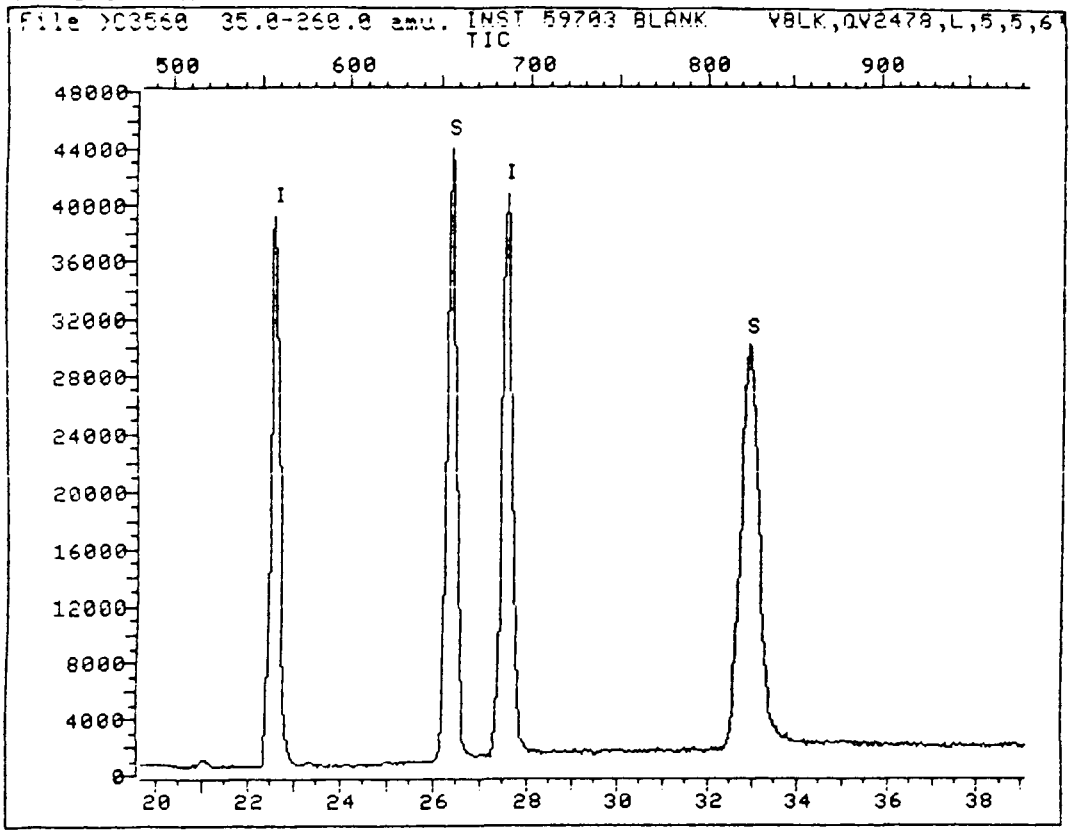
Data File: >C3560::C3 Quant Output File: ^C3560::QT
Name: INST 59703 BLANK
Misc: VBLK,QV2478,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

Id File: IDVOC::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 930623 16:57

Operator ID: DS0882
Quant Time: 930623 17:37
Injected at: 930623 16:57

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >C3560::C3 Quant Output File: ^C3560::QT
Name: INST 59703 BLANK
Misc: VBLK,QV2478,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

Id File: IDVOC::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 930623 16:57

Operator ID: DS0882
Quant Time: 930623 17:37
Injected at: 930623 16:57

TIC page 2 of 2

INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JULY 9, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >G4514
Lab number: BLANK
Fraction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

This BLANK corresponds to the following lab numbers:
68733 168731 168823

can mber	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

imated total non-target compound concentration (excluding compounds gged with A, B or **) in ug/l is: 0

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
* Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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GC

8428910200

QUANT REPORT

Operator ID: DD9617 Quant Rev: 7 Quant Time: 930625 17:26
Output File: ^G4514::QT Injected at: 930625 16:47
Data File: >G4514::G1 Dilution Factor: 1.00000
Name: INST 59705,BLANK Instrument ID: INST 2G
Misc: BLANK QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930625 15:51

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	11.32	128.0	38102	50.00	UG/L	92
14)	1,2-Dichloroethane-d4	14.27	65.0	55304	49.88	UG/L	91
17)	*1,4-Difluorobenzene	22.00	114.0	150778	50.00	UG/L	98
31)	*Chlorobenzene-d5	27.01	117.0	131653	50.00	UG/L	96
36)	Toluene-d8	25.77	98.0	142767	50.24	UG/L	94
42)	Bromofluorobenzene	31.95	95.0	96134	49.26	UG/L	64

* Compound is ISTD

8428910201

rator ID: OD9617 Quant Rev: 7 Quant Time: 930629 17:24
ut File: SG4514::QT Injected at: 930625 16:47
a File: >G4514::G1 Dilution Factor: 1.00000
e: INST 59705,BLANK Instrument ID: INST 2G
c: BLANK QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB

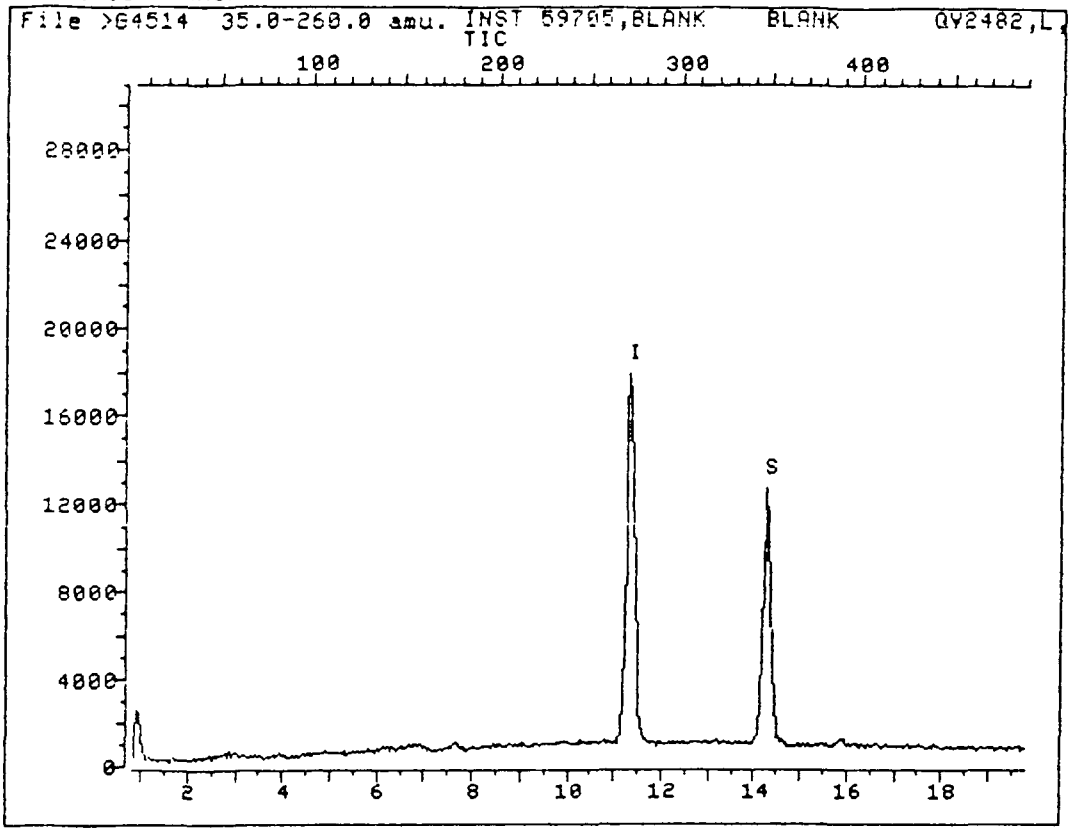
File: IDVOGX::SC
le: SPECIAL VOLATILE IDFILE FOR EXTRA COMPOUNDS
t Calibration: 930629 10:55 Last Qcal Time: 930625 15:51

	Compound	R.T.	Q ion	Area	Conc	Units	q
)	*Bromochloromethane	11.32	128.0	38102	50.00	UG/L	92
)	*1,4-Difluorobenzene	22.00	114.0	150778	50.00	UG/L	98
)	*Chlorobenzene-d5	27.01	117.0	131653	50.00	UG/L	96

Compound is ISTD

8428910202

TOTAL ION CHROMATOGRAM



Data File: >G4514::G1 Quant Output File: ^G4514::QT
Name: INST 59705,BLANK Instrument ID: INST 2G
Misc: BLANK QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB

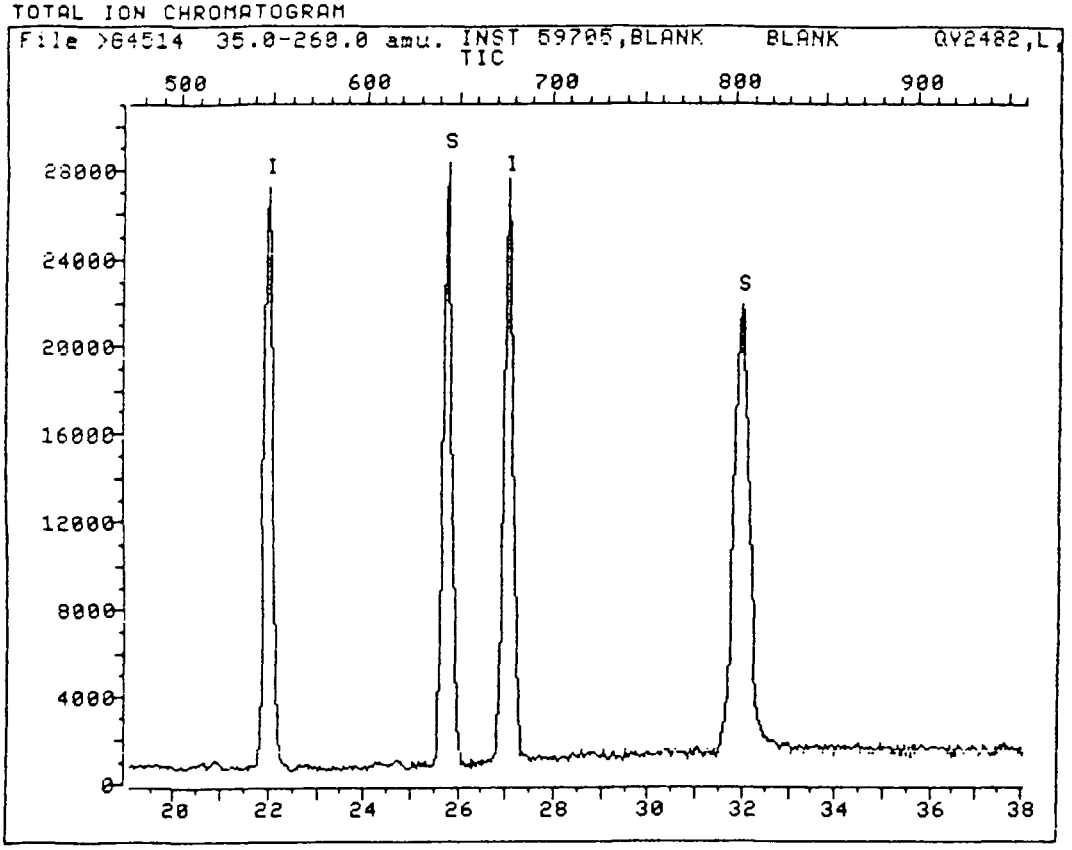
Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930625 15:51

Operator ID: DD9617
Quant Time : 930625 17:26
Injected at: 930625 16:47

Page 1 of 2

8428910203

TOTAL ION CHROMATOGRAM



Data File: >G4514::G1 Quant Output File: ^G4514::QT
Name: INST 59705,BLANK Instrument ID: INST 2G
Misc: BLANK QV2482,L,5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930625 15:51

Operator ID: DD9617
Quant Time : 930625 17:26
Injected at: 930625 16:47

Page 2 of 2

8428910204

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
ULY 8, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

ata file name: >G4570
ab number: BLANK
raction: VOLATILE
Initial Sample Wt/Vol=5 Final Volume=5

This BLANK corresponds to the following lab numbers:
8822 168939 169100 169101

an ber	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

mated total non-target compound concentration (excluding compounds
ged with A, B or **) in ug/l is: 0

: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds. Compounds flagged are from diluted analysis.
* This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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C

8428910205

QUANT REPORT

Operator ID: DD9617 Quant Rev: 7 Quant Time: 930630 10:59
Output File: ^G4570::QT Injected at: 930630 10:20
Data File: >G4570::G1 Dilution Factor: 1.00000
Name: INST 59705 BLANK Instrument ID: INST 2G
Misc: VBLK,QV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

ID File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930630 09:21

	Compound	R.T.	Q ion	Area	Conc	Units	Q
1)	*Bromochloromethane	11.29	128.0	49984	50.00	UG/L	9[illegible]
6)	Methylene Chloride	7.60	84.0	5869	4.82	UG/L	40
14)	1,2-Dichloroethane-d4	14.24	65.0	69413	48.48	UG/L	8[illegible]
17)	*1,4-Difluorobenzene	21.97	114.0	193500	50.00	UG/L	96
31)	*Chlorobenzene-d5	26.98	117.0	169612	50.00	UG/L	9[illegible]
33)	~~2-Hexano~~ne	24.30	43.0	5061	7.77	UG/L	90
35)	~~1,1,2,2-Tetrachloroethane~~ KS 7/8/93	24.65	83.0	2677	1.30	UG/L	9[illegible]
36)	Toluene-d8	25.74	98.0	188402	48.50	UG/L	93
42)	Bromofluorobenzene	31.92	95.0	123430	46.67	UG/L	8[illegible]

* Compound is ISTD

8428910206

QUANT REPORT

Operator ID: DD9617 Quant Rev: 7 Quant Time: 930707 09:52
Output File: SG457U::QT Injected at: 930630 10:20
Data File: >G457U::G1 Dilution Factor: 1.00000
Name: INST 59705 BLANK Instrument ID: INST 26
Misc: VBLK,QV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

ID File: IDVOGX::SC
Title: SPECIAL VOLATILE IDFILE FOR EXTRA COMPOUNDS
Last Calibration: 930629 10:55 Last Qcal Date: 930630 09:21

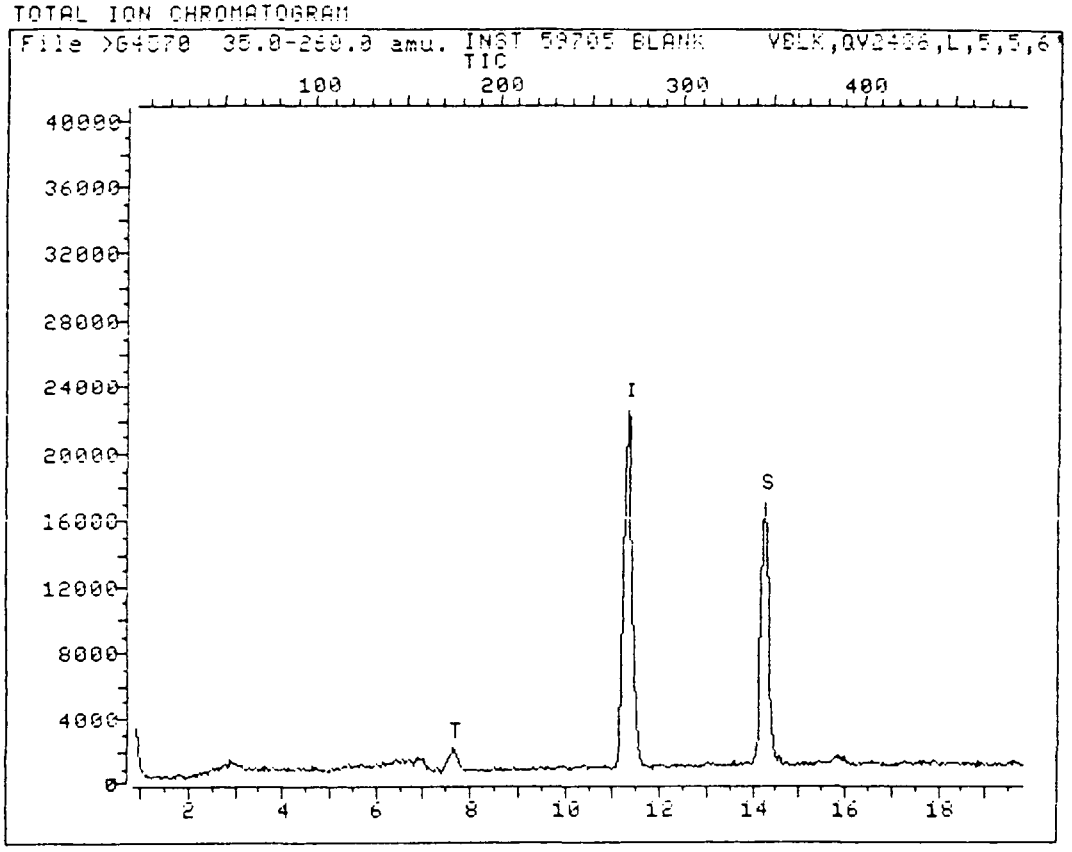
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	11.29	270	49984	50.00	UG/L	92
13)	1,4-Dioxane	15.84	387	2679	204.47	UG/L	97
14)	*1,4-Difluorobenzene	21.97	545	193500	50.00	UG/L	96
19)	~~Ethylene dibromide~~	20.54	508	1887	1.32	UG/L	90
26)	*Chlorobenzene-d5	26.98	674	169612	50.00	UG/L	97

CAD 7/7/93

* Compound is ISTD

8428910207

TOTAL ION CHROMATOGRAM



Data File: ^G4570::G1' Quant Output File: ^G4570::QT
Name: INST 59705 BLANK Instrument ID: INST 2G
Misc: VBLK,QV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

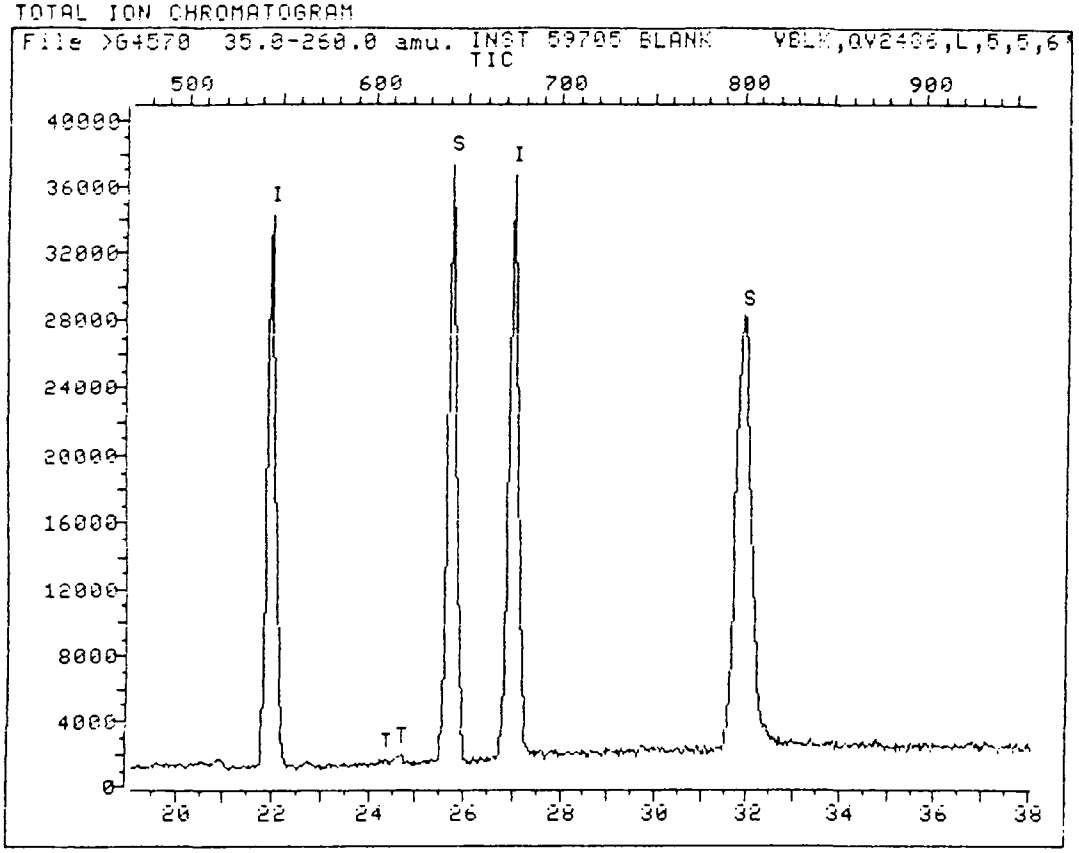
Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930630 09:21

Operator ID: DD9617
Quant Time : 930630 10:59
Injected at: 930630 10:20

Page 1 of 2

8428910208

TOTAL ION CHROMATOGRAM



Data File: ^>G4570::G1 Quant Output File: ^G4570::QT
Name: INST 59705 BLANK Instrument ID: INST 2G
Misc: VBLK,QV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B

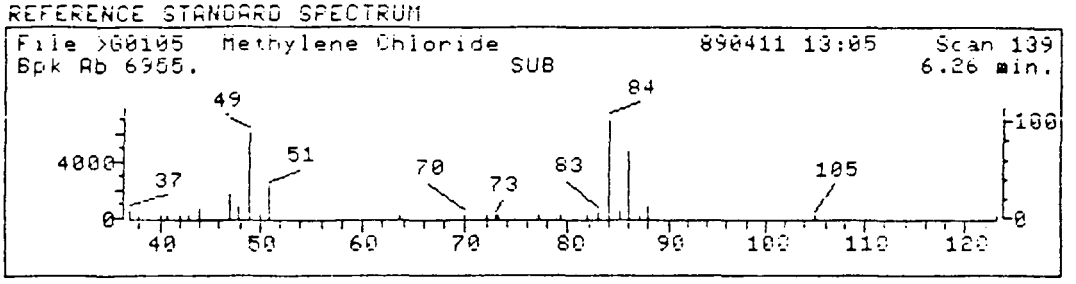
Id File: IDVOG::SC
Title: GENERAL IDFILE FOR INSTRUMENT G
Last Calibration: 930624 16:14 Last Qcal Time: 930630 09:21

Operator ID: DD9617
Quant Time : 930630 10:59
Injected at: 930630 10:20

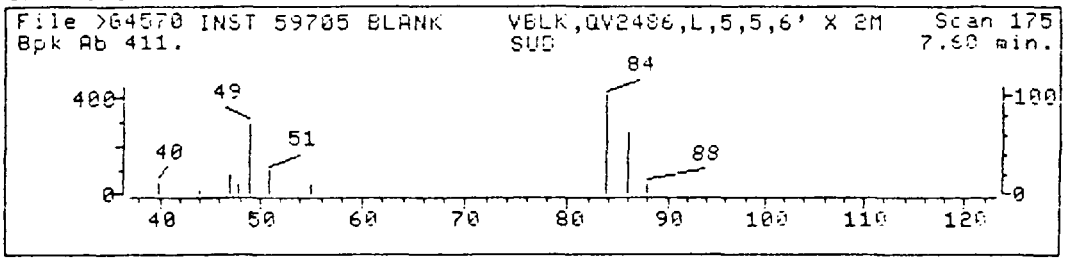
Page 2 of 2

8428910209

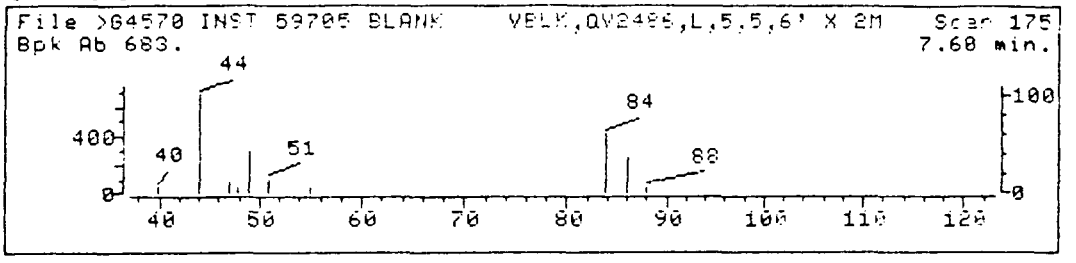
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: ->G4570::G1 Quant Output File: ^G4570::QT
Name: INST 59705 BLANK Instrument ID: INST 2G
Misc: VBLK,QV2486,L,5,5,6' X 2MM 1% SP1000 ON CBPK B
Quant Time: 930630 10:59 Quant ID File: IDVOG::SC
Injected at: 930630 10:20 Last Calibration: 930624 16:14
Last Qcal Time: 930630 09:21

Compound No : 6
Compound Name : Methylene Chloride
Scan Number : 175
Retention Time : 7.60 min.
Quant Ion : 84.0
Area : 5869
Concentration : 4.82 UG/L
q-value : 40

8428910210

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
UNE 28, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

SURROGATE RECOVERY SUMMARY
Aqueous Volatile

atch number: QV2478

ample Number	Data File	% Recovery 1,2 DCE-d4	% Recovery Tol-d8	% Recovery BFB	# Outside QC Limits
LANK	>C3535	97	100	101	0
68687 S	>C3546	95	98	102	0
68687 SD	>C3547	96	103	103	0
LANK	>C3560	98	101	101	0
68825	>C3561	99	101	102	0
68824	>C3562	99	100	101	0

	Compound	Percent Recovery	Concentration Added
C Limits:	1,2-Dichloroethane-d4	76-114	50ppb
	Toluene-d8	88-110	50ppb
	Bromofluorobenzene	86-115	50ppb

Values outside QC Limits.

= Spike sample
)= Spike duplicate sample
.= Dilution
:= Indicates a reanalysis of the sample confirming matrix interference.
\= Not Applicable

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:G

8428910211

INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JULY 9, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

SURROGATE RECOVERY SUMMARY
Aqueous Volatile

Batch number: QV2482

Sample Number	Data File	% Recovery 1,2 DCE-d4	% Recovery Tol-d8	% Recovery BFB	# Outside QC Limits
BLANK	>G4514	100	100	99	0
168786 S	>G4521	101	101	101	0
168786 SD	>G4522	101	103	103	0
168823	>G4525	101	101	101	0

	Compound	Percent Recovery	Concentration Added
QC Limits:	1,2-Dichloroethane-d4	76-114	50ppb
	Toluene-d8	88-110	50ppb
	Bromofluorobenzene	86-115	50ppb

* Values outside QC Limits.

S= Spike sample
SD= Spike duplicate sample
DL= Dilution
RE= Indicates a reanalysis of the sample confirming matrix interference.
NA= Not Applicable

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GC

8428910212

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
IULY 8, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

SURROGATE RECOVERY SUMMARY
Aqueous Volatile

atch number: QV2486

ample Number	Data File	% Recovery 1,2 DCE-d4	% Recovery Tol-d8	% Recovery BFB	# Outside QC Limits
LANK	>G4570	97	97	93	0
68822	>G4572	94	96	96	0
LANK	>G4595	98	100	95	0
69098 S	>G4599	100	103	100	0
69098 SD	>G4601	100	100	100	0

	Compound	Percent Recovery	Concentration Added
C Limits:	1,2-Dichloroethane-d4	76-114	50ppb
	Toluene-d8	88-110	50ppb
	Bromofluorobenzene	86-115	50ppb

Values outside QC Limits.

= Spike sample
D= Spike duplicate sample
L= Dilution
E= Indicates a reanalysis of the sample confirming matrix interference.
A= Not Applicable

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8428910213

DUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
JNE 28, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

QUALITY ASSURANCE DATA
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
Volatiles - Water

			Sample	MS	MSD
piked sample:	168687	Initial wt/vol:	5	5	5
: Batch number:	QV2478	Final vol:	5	5	5

or samples: 168825 168824

ound	Conc Added ug/L	Samp Conc ug/L	Conc MS ug/L	% Rec	Limits Recovery
Dichloroethene	50.0	U	59.5	119	61-145
hloroethene	50.0	U	61.7	123*	71-120
ene	50.0	U	59.5	119	76-127
ene	50.0	U	58.0	116	76-125
robenzene	50.0	U	62.4	125	75-130

ound	Conc Added ug/L	Conc MSD ug/L	% Rec	RPD	QC RPD	Limits Recovery
Dichloroethene	50.0	60.6	121	2	14	61-145
hloroethene	50.0	61.5	123*	0	14	71-120
ene	50.0	59.2	118	1	11	76-127
ene	50.0	59.3	119	3	13	76-125
robenzene	50.0	64.6	129	3	13	75-130

Values are outside QC Limits

Spike recovery does not meet quality control limits due to a high concentration of this parameter in the spiked sample.

PD: 0 out of 5 are outside QC limits.
ecovery: 2 out of 10 are outside QC limits.

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EG

8428910214

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
ULY 9, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

QUALITY ASSURANCE DATA
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
Volatiles - Water

			Sample	MS	MSD
piked sample:	168786	Initial wt/vol:	5	5	5
C Batch number:	QV2482	Final vol:	5	5	5

or samples: 168823

pound	Conc Added ug/L	Samp Conc ug/L	Conc MS ug/L	% Rec	Limits Recovery
-Dichloroethene	50.0	U	55.6	111	61-145
chloroethene	50.0	2.2	58.8	113	71-120
zene	50.0	U	53.7	107	76-127
uene	50.0	U	53.2	106	76-125
orobenzene	50.0	U	55.5	111	75-130

ound	Conc Added ug/L	Conc MSD ug/L	% Rec	RPD	QC RPD	Limits Recovery
-Dichloroethene	50.0	54.2	108	3	14	61-145
chloroethene	50.0	59.2	114	1	14	71-120
zene	50.0	53.0	106	1	11	76-127
uene	50.0	53.2	106	0	13	76-125
orobenzene	50.0	54.8	110	1	13	75-130

Values are outside QC Limits

Spike recovery does not meet quality control limits due to a high concentration of this parameter in the spiked sample.

RPD: 0 out of 5 are outside QC limits.
Recovery: 0 out of 10 are outside QC limits.

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GC

8428910215

NDUSTRIAL CORROSION MANAGEMENT, Inc.
152 Route 10
andolph, NJ 07869
01-584-0330
JLY 8, 1993

Certified Lab for: NJ, PA, DE, and NYS DOH
NJ #14116 NY #11376
US EPA Historic CLP Lab

QUALITY ASSURANCE DATA
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
Volatiles - Water

			Sample	MS	MSD
piked sample:	169098	Initial wt/vol:	5	5	5
: Batch number:	QV2486	Final vol:	5	5	5

or samples: 168822

pound	Conc Added ug/L	Samp Conc ug/L	Conc MS ug/L	% Rec	Limits Recovery
-Dichloroethene	50.0	U	51.5	103	61-145
chloroethene	50.0	U	54.7	109	71-120
ene	50.0	U	51.2	102	76-127
ene	50.0	U	52.9	106	76-125
robenzene	50.0	U	55.3	111	75-130

pound	Conc Added ug/L	Conc MSD ug/L	% Rec	RPD	QC RPD	Limits Recovery
-Dichloroethene	50.0	52.0	104	1	14	61-145
chloroethene	50.0	55.3	111	2	14	71-120
ene	50.0	51.4	103	1	11	76-127
ene	50.0	52.6	105	1	13	76-125
robenzene	50.0	54.0	108	3	13	75-130

Values are outside QC Limits

Spike recovery does not meet quality control limits due to a high concentration of this parameter in the spiked sample.

PD: 0 out of 5 are outside QC limits.
ecovery: 0 out of 10 are outside QC limits.

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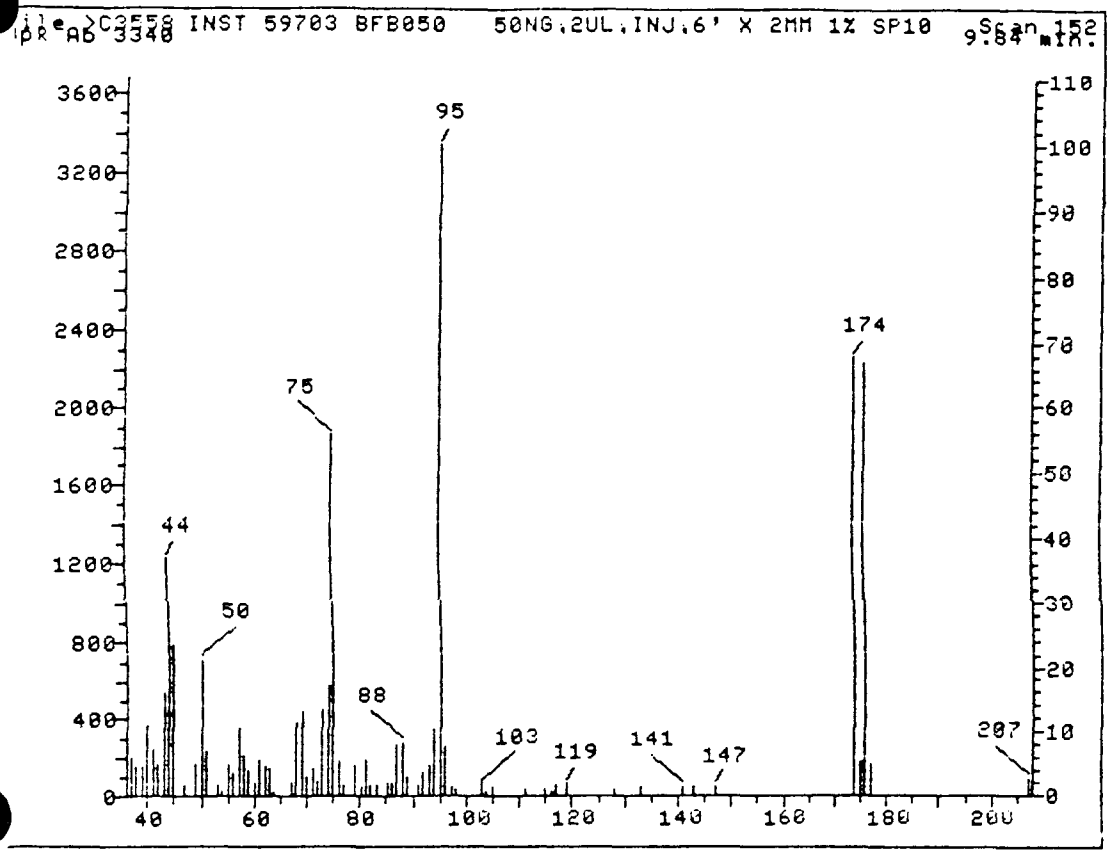
C

8428910216



GC/MS PERFORMANCE STANDARD

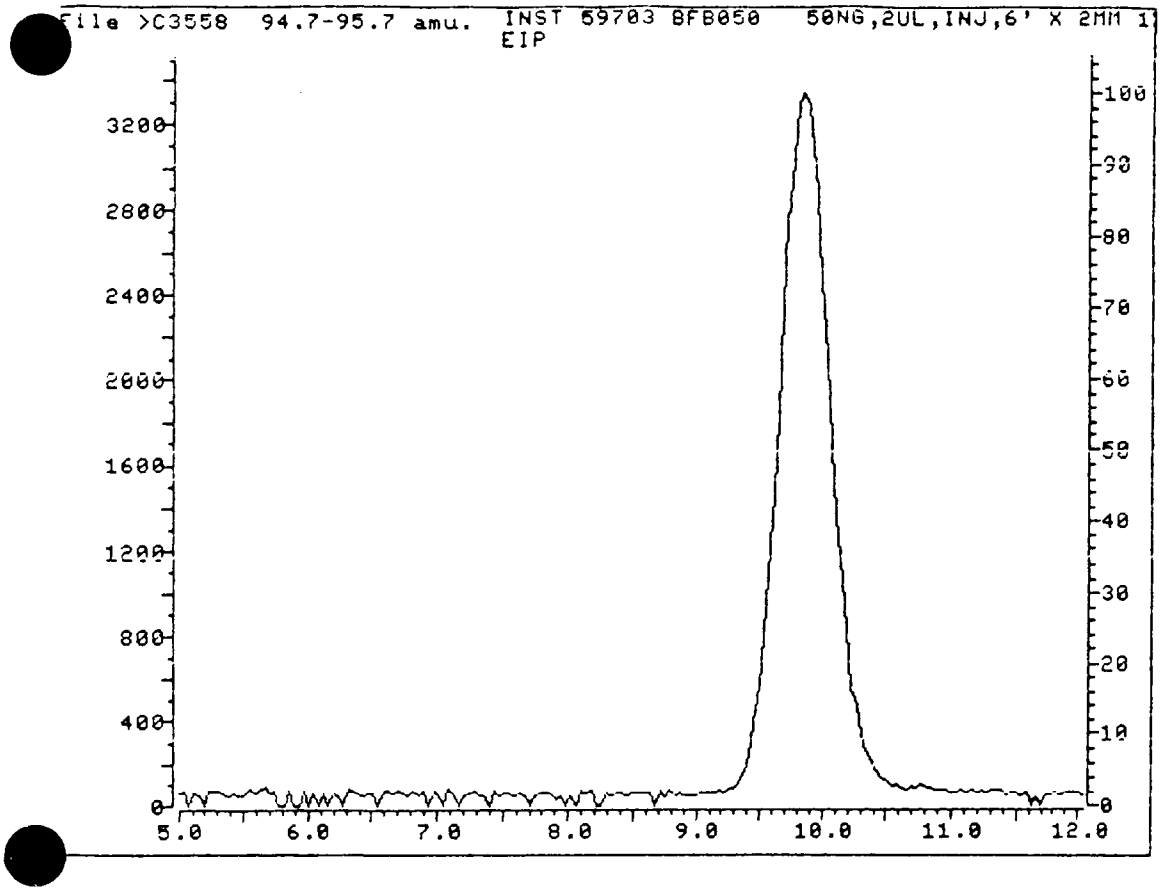
Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	15-40% of mass 95	21.23	21.23	Ok
75	30-60% of mass 95	55.63	55.63	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.69	7.69	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	67.72	67.72	Ok
175	5-9% of mass 174	5.45	8.05	Ok
176	95-101% of mass 174	66.80	98.63	Ok
177	5-9% of mass 176	5.00	7.49	Ok

Injection Date: 06/23/93 Data File: >C3558
Injection Time: 15:26 Scan: 152

Analyst's Signature: Alexa Leimo Batch#: QU2478

Sample Numbers: 168825, 168824 62

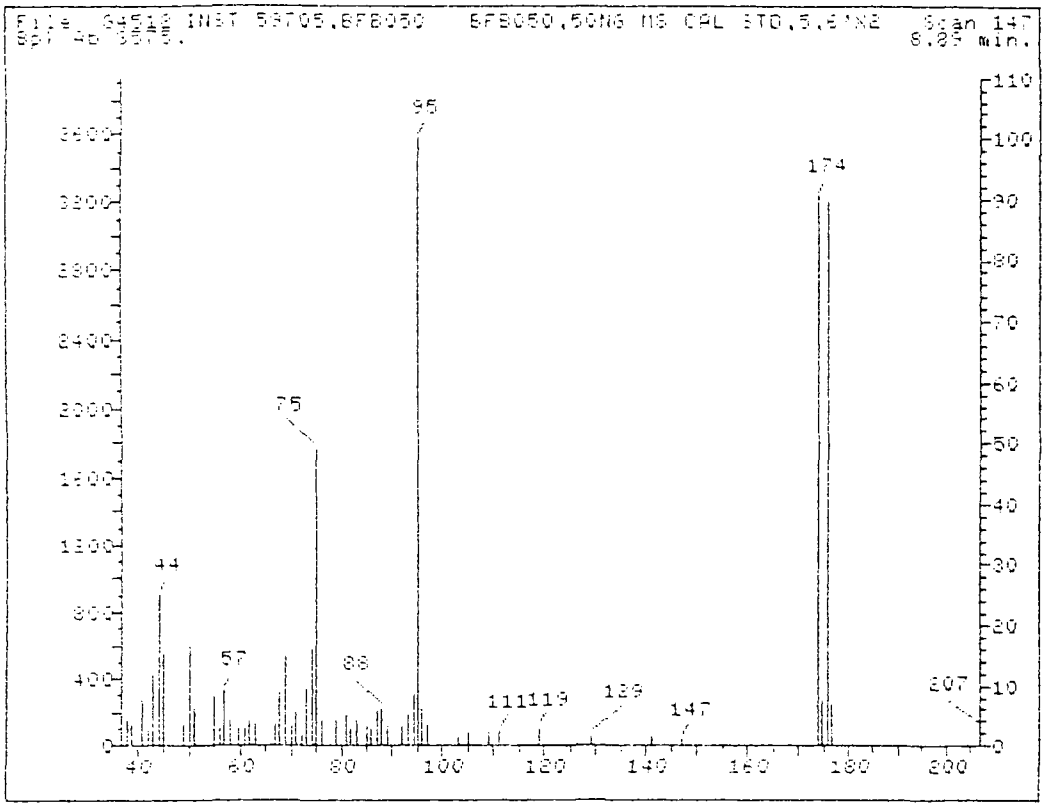


>C3558 INST 59703 BFB050 50NG,2UL,INJ,6' X 2MM 1% SP1000 ON CBPK

152 NRM

File: >C3558 Scan #: 152 Retn. time: 9.84

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	1.347	53.95	.689	71.05	4.461	88.00	8.443	116.05	.68[illegible]
37.10	5.958	55.05	4.910	72.05	2.365	89.10	2.994	117.05	1.677
38.00	4.790	56.05	3.802	73.05	13.383	91.10	1.587	118.95	1.97[illegible]
39.10	4.820	57.05	10.928	74.05	17.186	91.90	3.653	127.95	1.078
39.90	11.168	58.05	6.557	75.05	55.629	93.00	4.850	133.05	1.40[illegible]
41.00	7.425	59.05	3.952	76.05	5.359	94.00	10.329	141.00	1.497
42.00	4.940	60.05	2.096	77.00	1.826	95.00	100.000	143.00	1.40[illegible]
43.00	16.168	61.05	5.659	79.00	4.731	96.00	7.695	147.00	1.527
44.00	36.826	62.05	4.760	80.10	1.317	97.00	1.377	173.95	67.72[illegible]
45.00	23.533	63.05	4.281	81.00	5.749	98.10	1.018	174.95	5.449
47.05	1.677	63.95	.689	82.00	1.557	103.00	2.036	175.95	66.79[illegible]
49.05	4.910	67.05	2.006	83.10	1.826	103.90	.868	176.95	5.000
50.05	21.228	68.05	11.287	85.10	1.976	105.00	1.437	207.10	2.87[illegible]
51.05	6.946	69.05	13.293	86.10	2.156	111.15	.958	208.00	.749
53.05	1.707	70.05	3.054	87.00	7.964	114.95	.928		



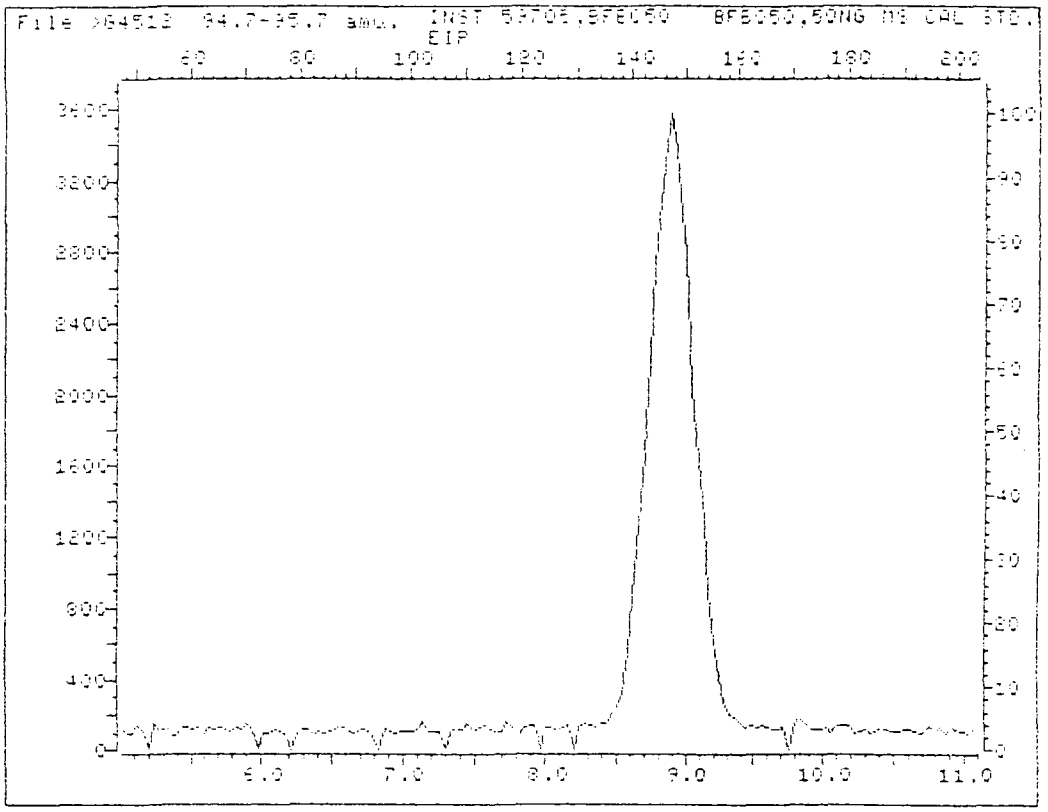
GC/MS PERFORMANCE STANDARD
Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	15-40% of mass 95	16.64	16.64	Ok
75	30-60% of mass 95	49.06	49.06	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.18	6.18	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	90.60	90.60	Ok
175	5-9% of mass 174	7.44	8.21	Ok
176	95-101% of mass 174	89.90	99.23	Ok
177	5-9% of mass 176	6.99	7.78	Ok

Injection Date: 06/25/93 Data File: G4512
Injection Time: 15:27 Scan: 147

Analyst's Signature: M. Baron Batch#: QV2482

Sample Numbers : 168823 64


File >84512 94.7-95.7 amu. INST 59705,BFB050 BFB050,50NG MS CAL STD.
EIP
60
80
100
120
140
160
180
200
3600
3200
2800
2400
2000
1600
1200
800
400
0
100
90
80
70
60
50
40
30
20
10
0
6.0
7.0
8.0
9.0
10.0
11.0

>G451C INST 58705,8FB050 8FB050,50NG MS CAL STD,5,6'X2mm 1% SP100

0
147 NPM

File: >G451C Scan #: 147 Retn. time: 8.89

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	3.245	56.05	2.937	72.10	1.930	87.00	5.762	109.05	2.162
38.00	4.169	57.05	9.532	73.00	9.802	88.00	6.238	111.15	2.350
39.90	3.552	58.05	4.168	74.00	16.023	89.10	3.105	119.00	2.853
41.00	7.357	59.95	2.713	75.00	49.063	91.95	3.133	129.10	1.566
42.00	2.601	61.05	3.217	78.00	4.000	92.95	5.259	141.05	1.455
43.00	12.000	61.95	4.224	79.00	4.280	94.05	8.727	147.05	1.031
44.00	25.371	62.95	3.469	81.00	5.175	94.95	100.000	173.95	90.501
45.00	15.273	67.05	3.497	82.00	2.741	95.95	6.182	174.95	7.441
49.00	3.469	67.95	8.951	83.00	4.196	97.05	3.497	175.95	89.902
50.00	16.643	69.05	15.077	95.10	3.105	102.95	1.427	176.95	6.893
50.95	6.099	70.05	3.301	98.00	2.557	105.05	2.182	207.00	2.909
55.05	8.112	71.05	5.734						

8428910222

se No: Calibration Date: 07/23/93

tractor: INDUSTRIAL CORROSION Time: 14:35

tract No: MANAGEMENT Laboratory ID: >I7414

strument ID: I 7 Initial Calibration Date: 07/07/93

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
3'-Dichlorobenzidine	.30883	.35903	16.25		
ysene	1.11997	1.21871	8.82		
s(2-Ethylhexyl)phthalate	1.24168	1.36243	9.73		
n-octylphthalate	2.16625	2.63157	21.48	*	
izo(b)fluoranthene	1.17365	1.27024	8.23		
izo(k)fluoranthene	1.11648	1.27056	13.80		
izo(a)pyrene	.98725	1.07704	9.09	*	
lene(1,2,3-cd)pyrene	.79220	.59424	24.99		
enz(a,h)anthracene	.60592	.57459	5.17		
izo(g,h,i)perylene	.63410	.52002	17.99		

- Response Factor from daily standard file at 50.00 UG/ML

- Average Response Factor from Initial Calibration Form VI

ff - % Difference from original average or curve

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

F - Albert - USTs

Reichhold Chemicals, Inc.
Corporate Headquarters
PO Box 13582
Research Triangle Park, NC 27709-3582

March 1, 1994

REICHHOLD

Mr. Dan Bello
State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 029
Trenton, NJ 08625-0029

RE: Analytical Data Report Package
Reichhold Chemicals, Inc.
46 Albert Avenue
Newark, New Jersey 07105
Facility Registration No. 0226253
Closure Approval Nos. C-92-3204, C-92-3205, C-92-3206
NJDEPE Case No. 92-11-5-1220-55

Dear Mr. Bello:

Attached is an Analytical Data Report Package prepared by Vectre Corporation, which summarizes the results of November 30, 1993 groundwater sampling taken from two monitoring wells, MW-1 and MW-2, at the subject site. Supporting information is also included.

This data supplements the initial Remedial Investigation Report (RIR) submitted to the Department in March 1993. Based on the detection of xylene in the groundwater reported in the RIR, a second round of groundwater samples was collected on June 22, 1993 from MW-1, the monitoring well in the immediate vicinity of the former underground storage tanks. In addition, an initial groundwater sample was collected from a new monitoring well, MW-2, to measure the possible contribution of contaminants from the upgradient direction.

As stated in the Vectre's September 20, 1993 letter submitted to the Department in November, xylene concentrations at MW-1 decreased to below NJDEPE groundwater cleanup standards, and no constituents were detected at MW-2 above the cleanup standards. Therefore, all constituents in both wells were below NJDEPE cleanup standards on June 22.

The results of the November 30, 1993 sampling event (enclosed) indicate that xylene and ethylbenzene returned to levels which exceed the state's prescribed cleanup levels.

Tel: (919) 990-7500
Fax: (919) 990-7711

8428910223

Reichhold proposes to collect a fourth round of groundwater data and sample for target constituents (BTEX) from monitoring well MW-1 in March 1994. Results would be submitted to your attention in May. Reichhold will propose additional sampling or corrective measures, as appropriate, based on the results of this fourth round of sampling and the three previous sampling events.

Please contact me at (919) 990-7836 if you have any questions regarding this matter.

Sincerely,

Paul Brustofski

Encls.

cc: M. Baxi - RCI/Newark-D
L. Graham - [redacted]
J. Haug - Vectre/Lafayette
K. May - RCI/Newark-D

8428910224

VECTRE CORPORATION
"Environmental Integrity with Efficiency"

P.O. Box 930
Lafayette, New Jersey 07848-0930
(201) 383-2500
Fax: (201) 579-0025

January 21, 1994

Paul Brustofsky
Reichhold Chemicals, Inc.
P.O. Box 13582
Research Triangle Park, NC 27709-3582

Re: Final Round Ground Water Results - 46 Albert Avenue, Newark, NJ
Proposal for Ground Water Delineation

Dear Mr. Brustofsky:

Please find enclosed a copy of ICM's laboratory report for the most recent round of ground water sampling at Reichhold's facility in Newark. As I reported to you over the telephone, the concentrations of the contaminants have increased significantly. This increase may reflect a situation wherein MW-1 is located at the upgradient margin of the contaminant plume, and that seasonal variations in water table level may alter the ground water flow pattern. Therefore MW-1 could be, depending upon the time of year, either within or at the margin of the plume.

As you requested, I have enclosed a proposal for contaminant delineation by GEOPROBE, monitoring well installation, ground water sampling, and Remedial Investigation Addendum Report preparation. I will telephone you after you have had a suitable time frame in which to review the proposal. In the meantime, if you have any questions please call me at (201) 383-2500. Thank you.

Sincerely,
Vectre Corporation

Jerry Haug, CPG
Project Manager

cc: Mike Sylvester, Sales

520.940121B

8428910225

RECEIVED JAN 18 1994

ANALYTICAL DATA REPORT PACKAGE

VECTRE CORPORATION

RCI-V2

REPORT GENERATION DATE: January 13, 1994
DATE SAMPLED: 11/30/93

8428910226

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

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8428910227

ICM LABORATORIES (INDUSTRIAL CORROSION MANAGEMENT, INC.)
1152 ROUTE 10
RANDOLPH, NJ 07869
PHONE: (201) 584-0330 FAX: (201) 584-0515

JANUARY 13, 1994

CLIENT: VECTRE CORPORATION
SOURCE: RCI-V2

ANALYTICAL DATA SUMMARY REPORT

Client Sample Number	MW-1	MW-2	Field Blank	Trip Blank
ICM Sample Number	178792	178793	178794	178795
Sampling Date	11/30/93	11/30/93	11/30/93	11/30/93
Units	UG/L	UG/L	UG/L	UG/L
VOLATILE PARAMETERS				
Chloromethane	250 U	5 U	5 U	5 U
Bromomethane	250 U	5 U	5 U	5 U
Vinyl chloride	250 U	5 U	5 U	5 U
Chloroethane	250 U	5 U	5 U	5 U
Methylene chloride	250 U	5 U	5 U	5 U
Acetone	1000 U	20 U	20 U	20 U
Carbon disulfide	250 U	5 U	5 U	5 U
1,1-Dichloroethene	250 U	5 U	5 U	5 U
1,1-Dichloroethane	250 U	5 U	5 U	5 U
total-1,2-Dichloroethene	250 U	5 U	5 U	5 U
Chloroform	250 U	5 U	5 U	5 U
1,2-Dichloroethane	250 U	5 U	5 U	5 U
2-Butanone	1000 U	20 U	20 U	20 U
1,1,1-Trichloroethane	250 U	5 U	5 U	5 U
Carbon tetrachloride	250 U	5 U	5 U	5 U
Bromodichloromethane	250 U	5 U	5 U	5 U
1,2-Dichloropropane	250 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	250 U	5 U	5 U	5 U
Trichloroethene	250 U	5 U	5 U	5 U
Dibromochloromethane	250 U	5 U	5 U	5 U
1,1,2-Trichloroethane	250 U	5 U	5 U	5 U
Benzene	130J	5 U	5 U	5 U
trans-1,3-Dichloropropene	250 U	5 U	5 U	5 U
Bromoform	250 U	5 U	5 U	5 U
4-Methyl-2-pentanone	1000 U	20 U	20 U	20 U
2-Hexanone	1000 U	20 U	20 U	20 U
Tetrachloroethene	250 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	250 U	5 U	5 U	5 U
Toluene	250 U	5 U	5 U	5 U
Chlorobenzene	250 U	5 U	5 U	5 U
Ethylbenzene	5900	5 U	5 U	5 U
Styrene	250 U	5 U	5 U	5 U
total Xylenes	20000	5 U	5 U	5 U
t-Butyl methyl ether	250 U	5 U	5 U	5 U
t-Butyl alcohol	2500 U	50 U	50 U	50 U
Total Non-Target Compounds	0	16	0	0

D

8428910228

ICM LABORATORIES (INDUSTRIAL CORROSION MANAGEMENT, INC.)
1152 ROUTE 10
RANDOLPH, NJ 07869
PHONE: (201) 584-0330 FAX: (201) 584-0515

JANUARY 13, 1994

CLIENT: VECTRE CORPORATION
SOURCE: RCI-V2

ANALYTICAL DATA SUMMARY REPORT FOOTNOTE PAGE

U = Indicates a compound was analyzed for but not detected.
For results marked U, the numerical value is the compound MDL.

J = Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit and greater than zero.

B = Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

W = Analytical Spike recovery for furnace AA analysis was not within control limits but was greater than or equal to 40%.

NA = Not Applicable.

Trip Blank pH is measured in laboratory.

IND = Indeterminable - compound decomposes in water.

8428910229

INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JANUARY 13, 1994

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

ANALYTICAL DATA REPORT PACKAGE

Client: VECTRE CORPORATION
Sample Source: RCI-V2
Sampled By: Customer

SAMPLE ID:	MATRIX	LAB NUMBER	DATE & TIME COLLECTED	AT LAB DATE
MW-1	Aqueous	178792	11/30/93 12:45	12/01/93
MW-2	Aqueous	178793	11/30/93 12:30	12/01/93
Field Blank	Aqueous	178794	11/30/93 13:15	12/01/93
Trip Blank	Aqueous	178795	11/30/93 13:15	12/01/93

Supervisor/Manager Signature:

Richard S. Levine (9.1.94)

Richard S. Levine

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BON

8428910230

LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submissions. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The proposed "Technical Requirements for Site Remediation" rules, which appeared in the May 4, 1992 New Jersey Register, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits be included in one section of the data package and in the main body of the report.

		Check if Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name & address, & date of report	✓
2.	Table of Contents	✓
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds	✓
4.	Summary Table cross-referencing field ID #'s vs. Lab ID #'s	✓
5.	Document bound, paginated and legible	✓
6.	Chain of Custody	✓
7.	Methodology Summary	✓
8.	Laboratory Chronicle and Holding Time Check	✓
9.	Results submitted on a dry weight basis (if applicable)	✓
10.	Method Detection Limits	✓
11.	Lab certified by NJDEPE for parameters or appropriate category of parameters or a member of the USEPA CLP	✓
12.	Non-Conformance Summary	✓

Carl A Thorp — 1/4/94

Laboratory Manager or Environmental Consultant's Signature — Date

8428910231

8428910232

3.5°C WB/KW

ICM

CHAIN OF CUSTODY RECORD

Client: VECTRE CORP

Project ID: RCI-V2

Address: P.O. Box 930

Sampler: Ceri Banta

City/State: Lafayette, NJ

Phone #: (201) 383-2500

ICM lab ID #	Sample ID	Sample Date	Sample Time	Sample Type			No. of Bottles
				Grab	Soil	Comp	
178792	MW-1	11-30	12:45	✓			2
178793	MW-2	11-30	12:30	✓			2
178794	FB	11-30	1:15	✓			2
178795	TB	11-30	1:15	✓			2

Sample Containers Relinquished By:	Sample Containers Received By:	Date:	Time:
Stephen V. Gaines	[illegible]	11-30-93	9:10
Relinquished By: [illegible]	Received By: [illegible]	Date: 12/1/93	Time: 10:50
Relinquished By:	Received By:	Date:	Time:

8428910233

ICM Laboratories, Inc.
Internal Chain-of-Custody

LINK: 178792 - 178795

Account number: WA1532
Project: RCI-V2
Tier Level: Reduced 2

VECTRE CORPORATION

Laboratory Person Breaking Seal on Shuttle: Wendy

Title: Log-In

Lab Number	Relinq. By	Recd. By	Date	Time	Reason for Transfer	Aliqu
All	MB	G.O	12/01/93	08:30	STORAGE	AL
G11	G.O	MM	12/2/93	13:50	624	HV
G11	MB	G.O	12/7/93	13:00	storage	HV

CORROSION MANAGEMENT INCORPORATED

1102 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-664-0380

Client Name: VECTRE CORPORATION

Project ID: RCI-V2

Sample ID	Matrix: Water	Soil	Other	PP +40 *	VO GC/MS	VO GC/MS +~~15~~ +10	AF GC/MS	AF GC/MS +10	BN GC/MS	BN GC/MS +15	Pesticides/PCBs	PP Metals	Cyanide	Phenol	Pet. Hydrocarbons	PCBs	TCLP Inorganics	TCLP Organics	Reactivity (CN+S)	Corrosivity (as pH)	Ignitability	TCLP VOA	TCLP AF	TCLP BN	Other
MW-1	✓					✓																			VO+10 w/ MTBE,
MW-2	✓					✓																			" " TBA
FB	✓					✓																			" "
TB	✓					✓																			" "

- ☐ ECRA
- ☐ RCRA
- ☑ BUST
- ☐ Gas/Kerosene
- ☐ Other _____
- ☐ State forms req.
- ☐ Results only
- ☐ Regulatory format
- ☑ Reduced deliverables JUNE 7th
- ☐ CLP I
- ☐ CLP II

8428910234

TURNAROUND TIME

- ☑ Standard (4wk H.C.)
- ☐ Rush _____

TCLP: MATRIX SPIKE

- ☐ Required
- ☐ Not Required

COMPOUND LISTS

- ☐ Priority Pollutant
- ☐ Target Compound List
- ☐ NJAC 7:14A App. B
- ☐ Other _____

Special Instructions: _____

* Includes – VO +15; AF +10; BN +15; Pesticides/PCBs; Priority Pollutant Metals; CN & Phenol

This signature authorizes ICM to perform the analyses listed above. Any changes will be confirmed in writing.

Signature	Print Name and Title	Date
Ceri L. Bunta	Ceri L Bunta, Project Env. Scientist	Nov. 30, 1993

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

NJ DEP and PA DER Certified
NJ DEP Lab ID# 14116
US EPA Historic CLP Lab

LABORATORY CHRONICLE

DATE SAMPLED: 11/30/93 PRESERVATIVE: 4 degrees C HCL

DATE RECEIPT/REFRIGERATION: 12/1/93 COOLER TEMP: 3.5°C

GC/MS VOLATILES:

Lab ID#	Date Analyzed
178792-178795	12/5/93

DEPT. SUPERVISOR: [signature]

QA REVIEW & APPROVAL: [signature]

8428910235

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	NO	YES
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		✓
2. GC/MS Tuning Specifications		
a. BFB Meet Criteria		✓
b. DFTPP Meet Criteria		NA
3. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series		✓
4. GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series		✓
5. GC/MS Calibration Requirements		
a. Calibration Check Compounds		✓
b. System Performance Check Compounds		✓

6. Blank Contamination - If yes, list compounds and concentrations in each blank:

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

7. Surrogate Recoveries Meet Criteria		✓

If not met, list those compounds and their recoveries which fall outside the acceptable ranges

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

If not met, were the calculations checked and the results qualified as "estimated"? ____ ____

8. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)		✓

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

9. Internal Standard Area/Retention Time Shift Meet Criteria		✓

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (CONTINUED)

	NO	YES
10. Extraction Holding Time Met	____	NA
If not met, list number of days exceeded for each sample: _____		
11. Analysis Holding Time Met	____	✓
If not met, list number of days exceeded for each sample: _____		

Additional Comments: Peaks identified with a "T" which are not listed in the results do not meet qualitative criteria. Peaks identified with a "NT" which are not listed in the results are either less than 10% of the nearest internal std. area or not one of the largest numbered peaks.

Laboratory Manager: Matthew Cole Date: 1/4/94

8428910237

Purgeables (GC/MS)

MATRIX: Aqueous

METHOD REFERENCE: E.P.A. Test Methods for Evaluating Solid Waste (SW846), Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics.

METHOD SUMMARY: Helium is bubbled through a 5 ml water sample contained in a specially designed purging chamber for 11 min. at ambient temperature. The purgeables are transferred from the aqueous to the vapor phase and passed through a 3 component trap (OV-1, Tenax and silica gel) where they are absorbed. After purging is complete, the trap is heated and backflushed with helium to desorb the purgeables onto a gas chromatographic column. The chromatograph is temperature programmed (3 min. at 45 degrees C, then ramp to 220 degrees C at 8 degrees/min.; final hold 12 min.) to separate the purgeables which are then detected with the mass spectrometer. The mass spectrometer data system (RTE-6) identifies target compounds that meet the criteria of retention time (-+30 sec.), relative abundance of characteristic masses (-+20%), and maximization of characteristic masses within 1 scan of each other. Other compounds detected can be searched by the data system in its EPA/NIH library of 42000+ compounds.

8428910238

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 16, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

Lab Number: 178792
Client: VECTRE CORPORATION
Sample source: RCI-V2
Sample ID: MW-1
Sample date: 11/30/93
Sampled by: Customer
At lab date: 12/01/93
Matrix: WATER

Data File: >B9177

Analysis Date: 12/05/93
Percent Moisture: 100%
Init Sample vol= .1

Column: 1%SP1000 cbpk b
Dilution Factor: 50
Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Method Blank ug/l	Practical Quantitation Limit ug/l	Minimum Detecti Limit ug/l
Chloromethane	U	U	250	5
Bromomethane	U	U	250	15
Vinyl chloride	U	U	250	10
Chloroethane	U	U	250	15
Methylene chloride	U	U	250	20
Acetone	U	U	1000	35
Carbon disulfide	U	U	250	10
1,1-Dichloroethene	U	U	250	5
1,1-Dichloroethane	U	U	250	5
total-1,2-Dichloroethene	U	U	250	15
Chloroform	U	U	250	5
1,2-Dichloroethane	U	U	250	10
2-Butanone	U	U	1000	55
1,1,1-Trichloroethane	U	U	250	10
Carbon tetrachloride	U	U	250	15
Bromodichloromethane	U	U	250	15
1,2-Dichloropropane	U	U	250	10
cis-1,3-Dichloropropene	U	U	250	5
Trichloroethene	U	U	250	10
Dibromochloromethane	U	U	250	20
1,1,2-Trichloroethane	U	U	250	10
Benzene	130J	U	250	5
trans-1,3-Dichloropropene	U	U	250	5
Bromoform	U	U	250	20
4-Methyl-2-pentanone	U	U	1000	15
2-Hexanone	U	U	1000	30
Tetrachloroethene	U	U	250	10
1,1,2,2-Tetrachloroethane	U	U	250	15
Toluene	U	U	250	10
Chlorobenzene	U	U	250	5
Ethylbenzene	5900	U	250	5
Styrene	U	U	250	10
total Xylenes	20,000	U	250	10
t-Butyl methyl ether	U	U	250	ND
t-Butyl alcohol	U	U	2500	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected at the PQL.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not Determined.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

8428910239

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INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 13, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >B9177
Lab number: 178792
Fraction: VOLATILE

Initial Sample Wt/Vol=.1 Final Volume=5

Scan Number	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

Estimated total non-target compound concentration (excluding compounds flagged with A, B or **) in ug/l is: 0

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
* Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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MEG

QUANT REPORT

Operator ID: KS9954 Quant Rev: 5 Quant Time: 931205 22:52
Output File: 'B9177::QT Injected at: 931205 22:01
Data File: 'B9177::B1 Dilution Factor: 1.00000
Name: INSP 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CARB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

	Compound	R.T.	Q ion	Area	Conc	Units	
1	*Bromochloromethane	10.55	128.0	25513	50.00	UG/L	
14	1,1-Dichloroethane-d4	13.45	65.0	76779	55.25	UG/L	
17	*1,4-Difluorobenzene	21.02	114.0	109023	50.00	UG/L	
27	Benzene	18.50	78.0	5551	2.66	UG/L	
32	*Chlorobenzene-d5	25.79	117.0	59851	50.00	UG/L	
35	Toluene-d8	24.67	98.0	110312	49.17	UG/L	
39	Ethylbenzene	27.78	106.0	100899	117.20	UG/L	
41	Xylene (total)	31.43	106.0	308829	279.86	UG/L	
41	Xylene (total)	32.28	106.0	127075	115.15	UG/L	395.02
42	Bromofluorobenzene	29.91	95.0	76444	54.46	UG/L	

* Compound is ISTD

QUANT REPORT

Operator ID: KS9934 Quant Rev: 5 Quant Time: 931206 20:37
Output File: SB9177:QT Injected at: 931205 22:01
Data File: >B9177:B1 Dilution Factor: 1.00000
Name INST 59952, SAMPLE
Misc: 178790 , 902718, L 0.1 5.6:/2mm 1% SP1000 0M CBPKB

ID File: IDVOBK:SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:09

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*Bromochloromethane	10.58	128.0	25515	50.00	UG/L	
11)	*1,4-Difluorobenzene	21.02	114.0	109023	50.00	UG/L	
15)	*Chlorobenzene-d5	25.79	117.0	89861	50.00	UG/L	

* Compound is ISTD

8428910242

MS data file header from : B9177

Sample: INST 59952, SAMPLE Operator: KB9934 MS 12/05/93 22:0.
Misc 178792 , Q02718, L,0.1.5 6'x2mm 1% SP1000 ON CBFKB
Sys. #: 2 MS model: 96 SW/HW rev.: IA AIB # 0
Method file: 00ABEX Tuning file: APEI00 No. of extra records: 2
Source temp.: 250 Analyzer temp.: 240 Transfer line temp. : 270

Chromatographic temperatures : 40. 220. 221. 0. 0.
Chromatographic times, min. 4.0 20.0 15.0 0.0 0.0
Chromatographic rate, deg/min: 8.0 1.0 0.0 0.0 0.0

B9177 INST 59952, SAMPLE 178792 Q02718, L 0.1,5.6'x2mm 1% SP100

35.0: 250.0 ADC TIC
Upslope: .20 Area Reject: 17802. Max Peaks: 10 Bunching: 1
Dnslope 0.00 Results File IB9177 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.58 I	248	253	263	14199	195620	178018	7.55	2.93
2	13.45 S	320	327	334	14332	176349	163440	6.93	2.73
3	21.02 I	516	522	530	26863	293559	290136	12.31	4.85
4	24.67 S	609	616	624	25651	327052	308119	13.07	5.15
5	25.83 I	639	646	653	26874	360533	329856	13.99	5.51
6	27.27 T	673	683	685	1204	79157	22341	.95	.37
7	27.78 T	688	696	704	69080	1069320	957570	40.62	16.03
8	29.91 S	742	751	761	22065	511237	399067	16.93	6.68
9	31.47 T	779	791	801	112088	2482723	2357593	100.00	39.48
10	32.28 T	802	812	828	41215	1131703	964554	40.91	16.15

Sum of corrected areas: 5970684.

Summary of Unknowns PBM Library Search and Quantitation

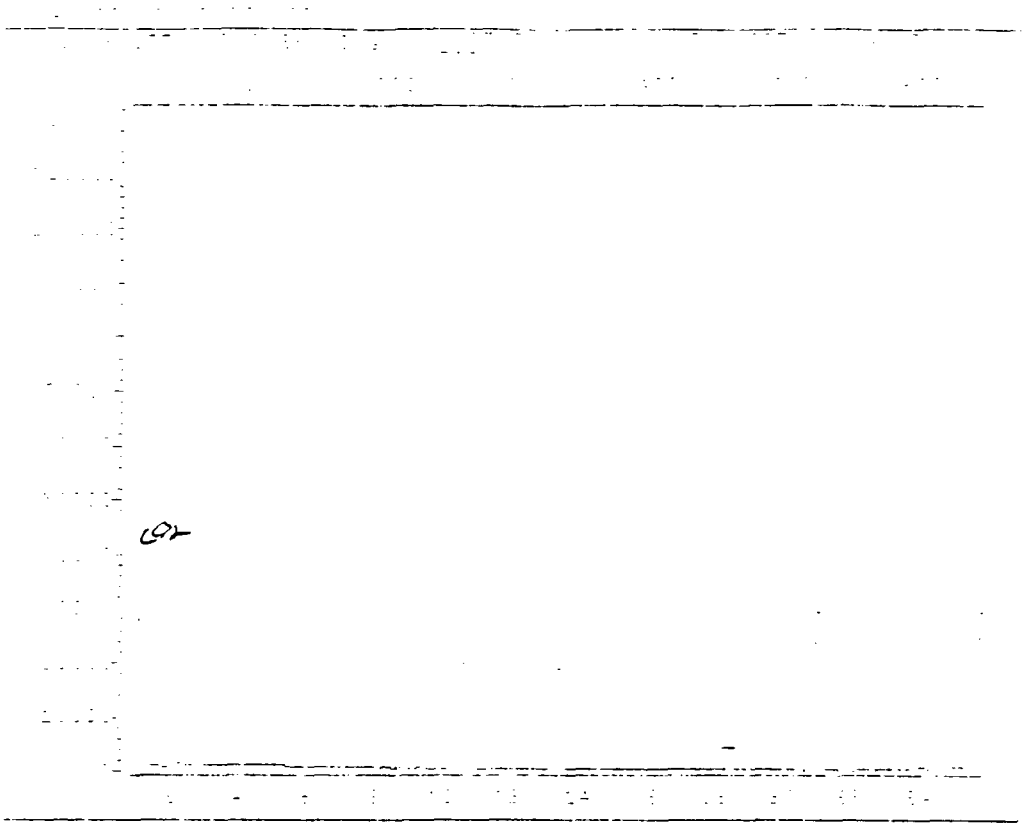
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	178018.	10.58	2.01 - 15.80
2	50.0	290136.	21.02	15.80 - 23.40
3	50.0	329856.	25.79	23.40 - 50.10

Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

7:31 PM MON., 6 DEC. 1993



Data File: >B9177::B1 Quant Output File: `B9177::QT
Name: INST 59952, SAMPLE
Misc: 176792 , QV2716, 1,0.1,5,6'X2mm 1, 5.1000 ON CBPKB

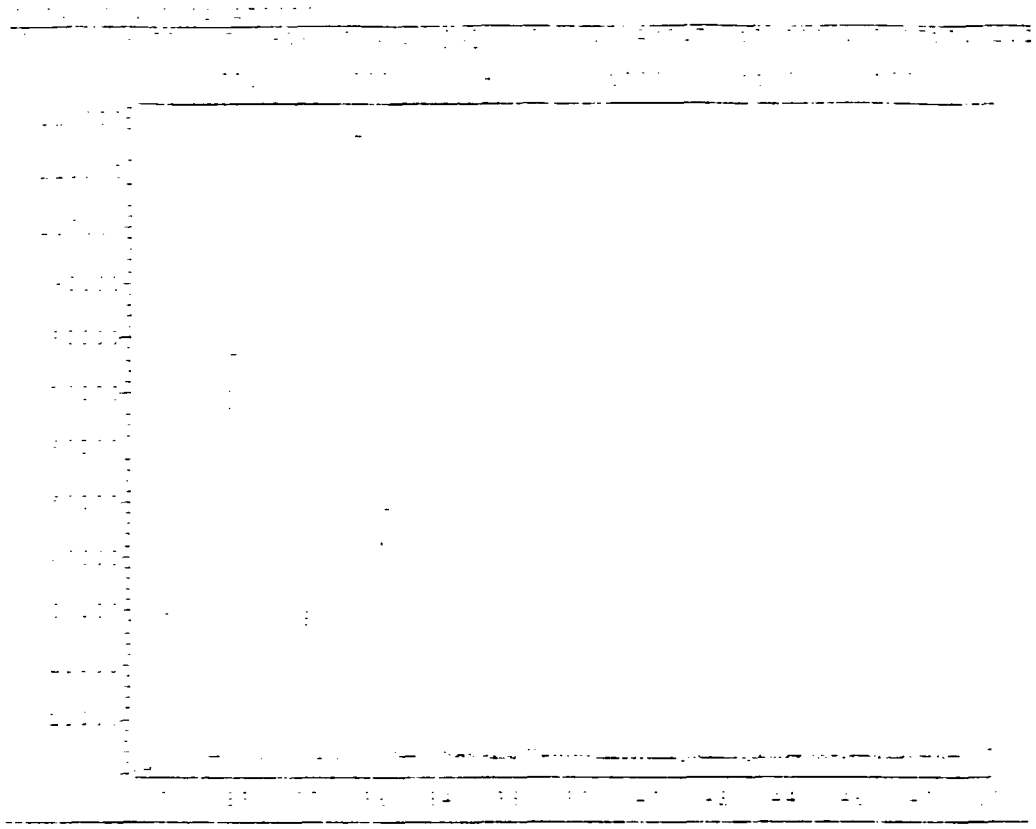
IM File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. B
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 22:51
Injected at: 931205 22:01

TIC page 1 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NON TARGET

8428910244



Data File: >B9177::S1 Quant Output File: 'B9177::QT
Name: INJT 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,5'X2mm 1% SP1000 ON CBP4.5

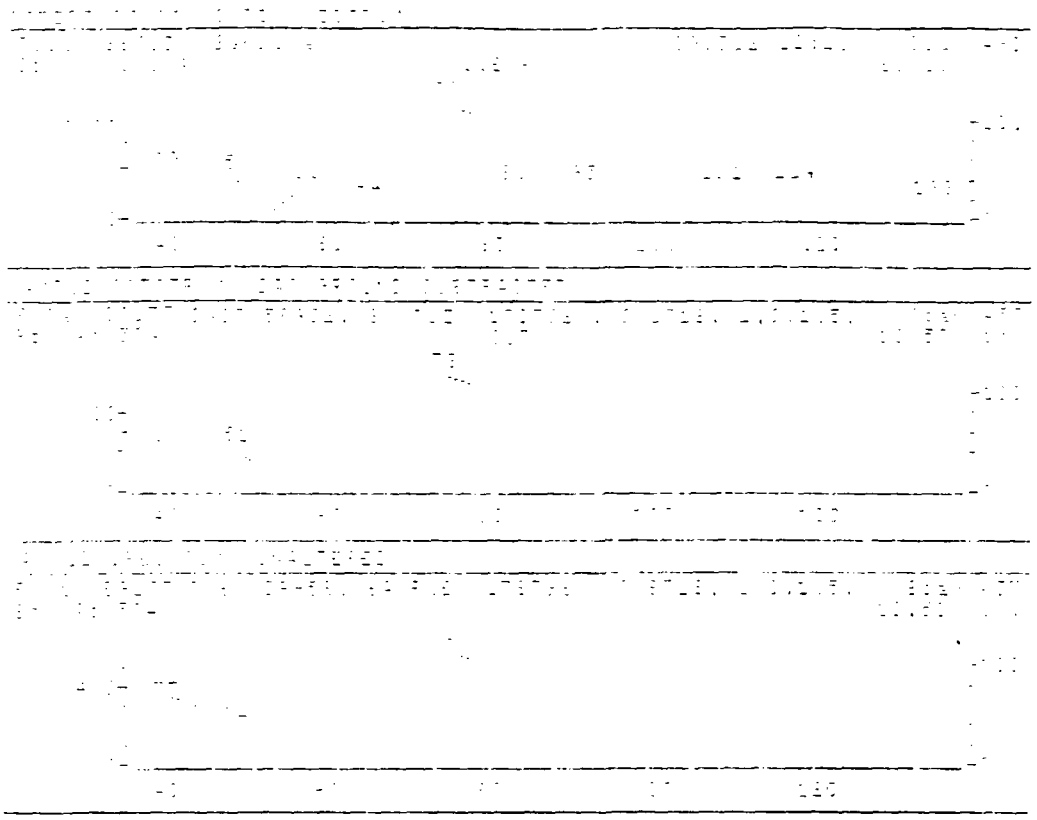
ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 22:52
Injected at: 931205 22:01

TIC page 2 of 2

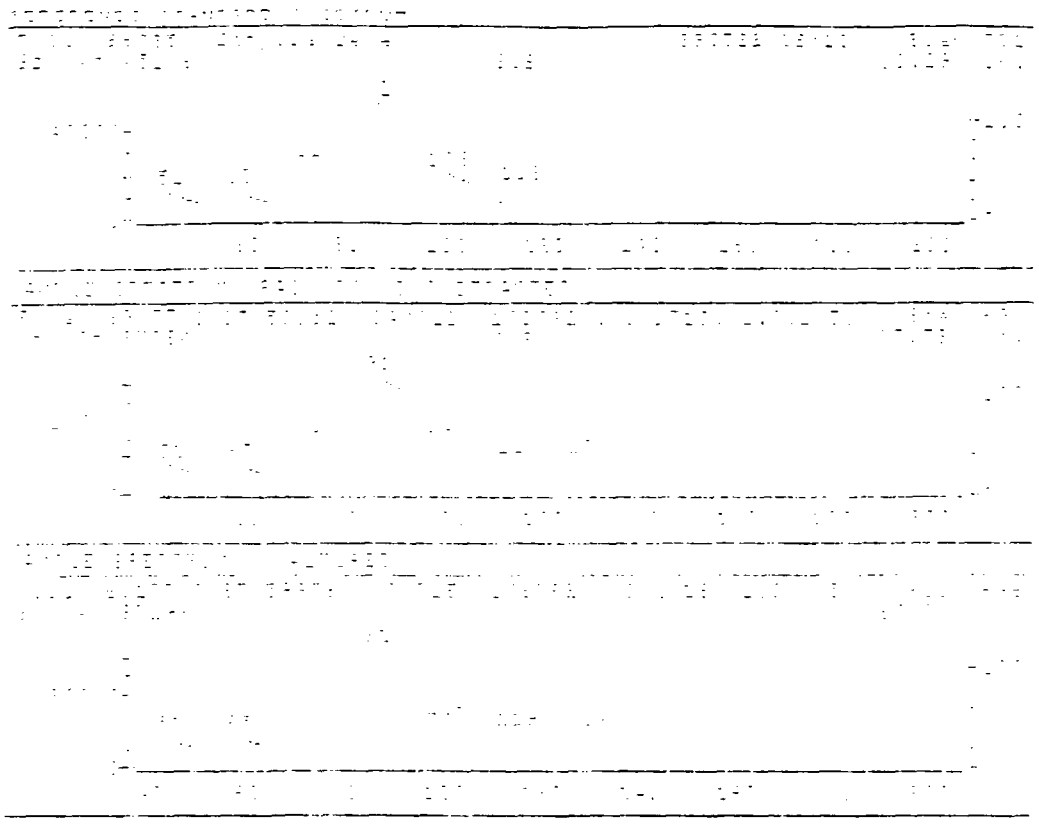
I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT = NON TARGET

8428910245



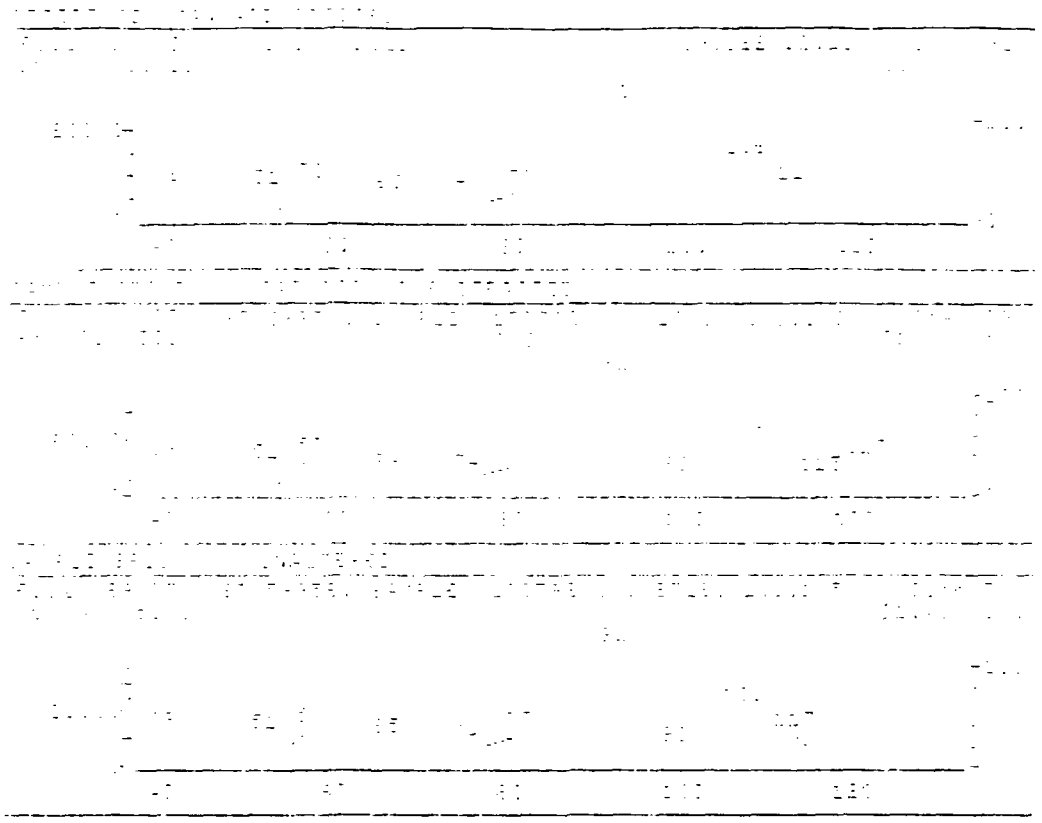
Data File: >B9177::B1 Quant Output File: 'B9177::QT
Name: INST 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB
Quant Time: 931205 22:52 Quant ID File: IDVOB::SC
Injected at: 931205 22:01 Last Calibration: 931205 18:27

Compound No: 27
Compound Name: Benzene
Scan Number: 457
Retention Time: 18.50 min.
Quant Ion: 78.0
Area: 5661
Concentration: 2.66 UG/L
q-value: 91



Data File: B9177::B1 Quant Output File: B9177::QT
Name: INST 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB
Quant Time: 931205 22:52 Quant ID File: IDVOB::SC
Injected at: 931205 22:01 Last Calibration: 931205 18:27

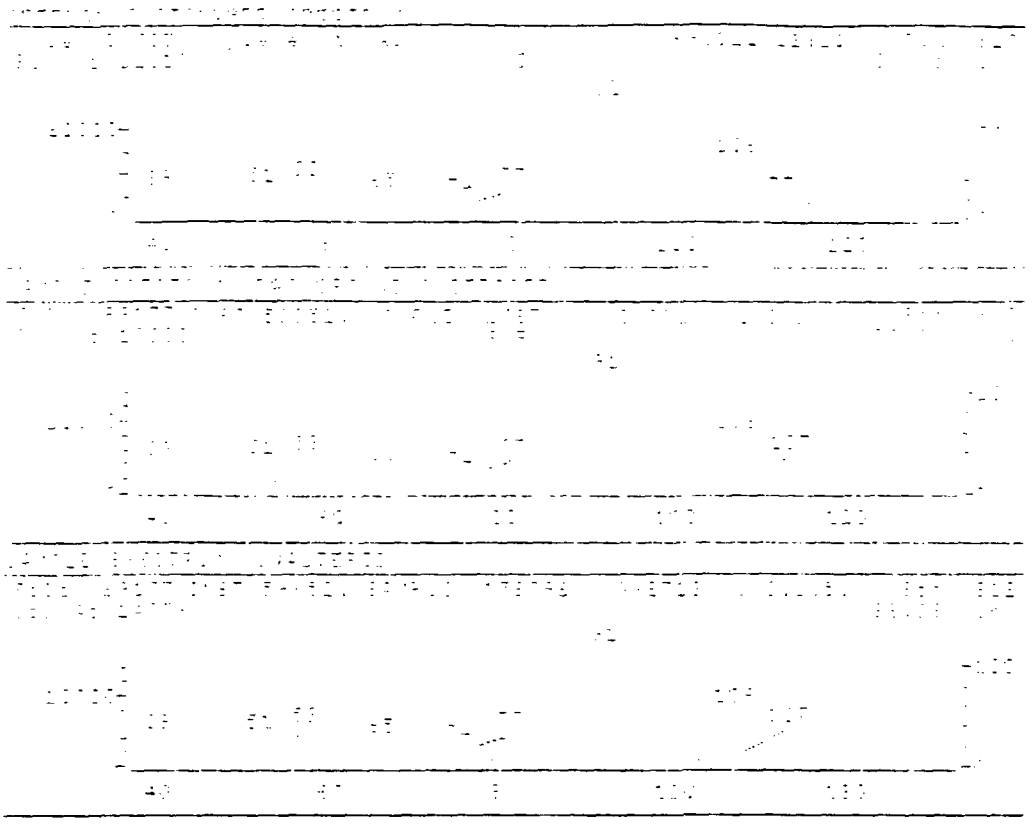
Compound No: 39
Compound Name: Ethylbenzene
Scan Number: 696
Retention Time: 27.78 min.
Quant Ion: 106.0
Area: 100899
Concentration: 117.20 UG/L
q-value: 99



Data File: >B9177::B1 Quant Output File: `B9177::QT
Name: INST 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBFKB
Quant Time: 931205 22:52 Quant ID File: IDVOB::SC
Injected at: 931205 22:01 Last Calibration: 931205 18:27

Compound No: 41
Compound Name: Xylene (total)
Scan Number: 790
Retention Time: 31.43 min.
Quant Ion: 106.0
Area: 308829
Concentration: 279.86 UG/L
q-value: 91

8428910248



Data File: >B9177::B1 Quant Output File: 'B9177::QT
Name: INST 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB
Quant Time: 931205 22:52 Quant ID File: IDVOB::SC
Injected at: 931205 22:01 Last Calibration: 931205 18:27

Compound No: 41
Compound Name: Xylene (total)
Scan Number: 812
Retention Time: 32.28 min.
Quant Ion: 106.0
Area: 127078
Concentration: 115.16 UG/L
q-value: 88

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JANUARY 13, 1994

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

Volatile Organic Analysis by GC/MS

Sample ID: Method Blank
Data File: >B9142
Analysis Date: 12/02/93

Batch No: QV2718
Dilution Factor: 1
Column: 1%SP1000 cbpk b

Matrix: WATER

Init Sample vol= 5

Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Practical Quantitation Limit ug/l	Minimum Detection Limit ug/l
Chloromethane	U	5	1
Bromomethane	U	5	3
Vinyl chloride	U	5	2
Chloroethane	U	5	3
Methylene chloride	U	5	4
Acetone	U	20	7
Carbon disulfide	U	5	2
1,1-Dichloroethene	U	5	1
1,1-Dichloroethane	U	5	1
total-1,2-Dichloroethene	U	5	3
Chloroform	U	5	1
1,2-Dichloroethane	U	5	2
2-Butanone	U	20	11
1,1,1-Trichloroethane	U	5	2
Carbon tetrachloride	U	5	3
Bromodichloromethane	U	5	3
1,2-Dichloropropane	U	5	2
cis-1,3-Dichloropropene	U	5	1
Trichloroethene	U	5	2
Dibromochloromethane	U	5	4
1,1,2-Trichloroethane	U	5	2
Benzene	U	5	1
trans-1,3-Dichloropropene	U	5	1
Bromoform	U	5	4
4-Methyl-2-pentanone	U	20	3
2-Hexanone	U	20	6
Tetrachloroethene	U	5	2
1,1,2,2-Tetrachloroethane	U	5	3
Toluene	U	5	2
Chlorobenzene	U	5	1
Ethylbenzene	U	5	1
Styrene	U	5	2
total Xylenes	U	5	2
t-Butyl methyl ether	U	5	ND
t-Butyl alcohol	U	50	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not determined

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BON

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 16, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

Lab Number: 178793
Client: VECTRE CORPORATION
Sample source: RCI-V2
Sample ID: MW-2
Sample date: 11/30/93
Sampled by: Customer
At lab date: 12/01/93
Matrix: WATER

Data File: >B9176

Analysis Date: 12/05/93
Percent Moisture: 100%
Init Sample vol= 5

Column: 1%SP1000 cbpk b
Dilution Factor: 1
Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Method Blank ug/l	Practical Quantitation Limit ug/l	Minimum Detecti Limit ug/l
Chloromethane	U	U	5	
Bromomethane	U	U	5	
Vinyl chloride	U	U	5	
Chloroethane	U	U	5	
Methylene chloride	U	U	5	
Acetone	U	U	20	
Carbon disulfide	U	U	5	
1,1-Dichloroethene	U	U	5	
1,1-Dichloroethane	U	U	5	
total-1,2-Dichloroethene	U	U	5	
Chloroform	U	U	5	
1,2-Dichloroethane	U	U	5	
2-Butanone	U	U	20	1
1,1,1-Trichloroethane	U	U	5	
Carbon tetrachloride	U	U	5	
Bromodichloromethane	U	U	5	
1,2-Dichloropropane	U	U	5	
cis-1,3-Dichloropropene	U	U	5	
Trichloroethene	U	U	5	[illegible]
Dibromochloromethane	U	U	5	[illegible]
1,1,2-Trichloroethane	U	U	5	[illegible]
Benzene	U	U	5	[illegible]
trans-1,3-Dichloropropene	U	U	5	[illegible]
Bromoform	U	U	5	[illegible]
4-Methyl-2-pentanone	U	U	20	[illegible]
2-Hexanone	U	U	20	6
Tetrachloroethene	U	U	5	2
1,1,2,2-Tetrachloroethane	U	U	5	[illegible]
Toluene	U	U	5	2
Chlorobenzene	U	U	5	1
Ethylbenzene	U	U	5	1
Styrene	U	U	5	2
total Xylenes	U	U	5	2
t-Butyl methyl ether	U	U	5	ND
t-Butyl alcohol	U	U	50	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected at the PQL.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not Determined.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

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INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 13, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >B9176
Lab number: 178793
Fraction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

Scan Number	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
924		36.63	Unknown		16

Estimated total non-target compound concentration (excluding compounds flagged with A, B or **) in ug/l is: 16

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
* Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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MEG

8428910252

QUANT REPORT

Operator ID: [illegible] Quant Rev: 5 Quant Time: [illegible] 21:[illegible]
Output File: [illegible] Imported at: [illegible] 21:12
Data File: [illegible] Dilution Factor: 1.[illegible]
Name: INST 59958, SAMPLE
Misc: 178793 , 072718, 1,5,5,6'K_mm 1% SP1000 ON CBPKB

ID File: RDV0B::80
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*Bromochloromethane	10.62	128.0	26941	50.00	UG/L	[illegible]
14)	1,1-Dichloroethane-d4	13.45	65.0	75824	54.43	UG/L	[illegible]
17)	*1,4-Difluorobenzene	21.02	114.0	115709	50.00	UG/L	[illegible]
31)	*Chlorobenzene-d5	25.79	117.0	91143	50.00	UG/L	[illegible]
36)	Toluene-d8	24.67	98.0	112051	49.24	UG/L	[illegible]
41)	Bromofluorobenzene	29.95	95.0	79193	54.92	UG/L	[illegible]

* Compound is ISTD

8428910253

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931206 20:36
Output File: SB9176::QT Injected at: 931205 21:12
Data File: >B9176::B1 Dilution Factor: 1.00000
Name: INST 33952, SAMPLE
Misc 178793 , QU2718, L 5 5.6'X2mm 1% SP1000 ON CBPKB

ID File: ID00BK::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:29

	Compound	R.T.	Q ion	Area	Conc	Units
1	*Bromochloromethane	10.62	128.0	16041	50.00	UG/L
11)	*1,4-Difluorobenzene	21.02	114.0	115709	50.00	UG/L
15)	*Chlorobenzene-d5	25.79	117.0	61143	50.00	UG/L

* Compound is ISTD

8428910254

MS data file header from : >B9176

Sample: INST 59952, SAMPLE Operator: KS9934 MS 12/06/93 21:11
Misc : 178793 , Q02718, L,5,5,6'x2mm 1% SP1000 ON CBPKB
Sys. #: 2 MS model: 86 SW/HW rev.: IA ALS # : 0
Method file: QOAB Tuning file: APEI02 No. of extra records: 2
Source temp.: 250 Analyzer temp.: 240 Transfer line temp.: 270

Chromatographic temperatures :	40.	220.	221.	0.	0.
Chromatographic times, min. :	4.0	20.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	1.0	0.0	0.0	0.0

>B9176 INST 59952, SAMPLE 178793 , Q02718, L,5,5,6'x2mm 1% SP1000

35.0: 260.0 ADC TIC
Upslope: .20 Area Reject: 17298. Max Peaks: 7 Bunching: 1
Dnslope: 0.00 Results File IB9176 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.58 I	248	253	262	14199	195146	172982	41.40	9.81
2	13.48 S	321	327	333	13810	171913	160095	38.32	9.06
3	21.02 I	515	522	530	27534	303825	303825	72.72	17.13
4	24.67 S	608	616	623	27235	333596	322733	77.24	18.30
5	25.83 I	638	646	655	26610	375683	354900	84.94	20.13
6	29.91 S	743	751	761	22708	484832	417827	100.00	23.70
7	36.63 M	916	924	925	2486	81219	30437	7.28	1.72

Sum of corrected areas: 1762799.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	172982.	10.62	2.01 - 15.82
2	50.0	303825.	21.02	15.82 - 23.40
3	50.0	354900.	25.79	23.40 - 40.08

Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

7:09 PM MON., 6 DEC., 1993

8428910255

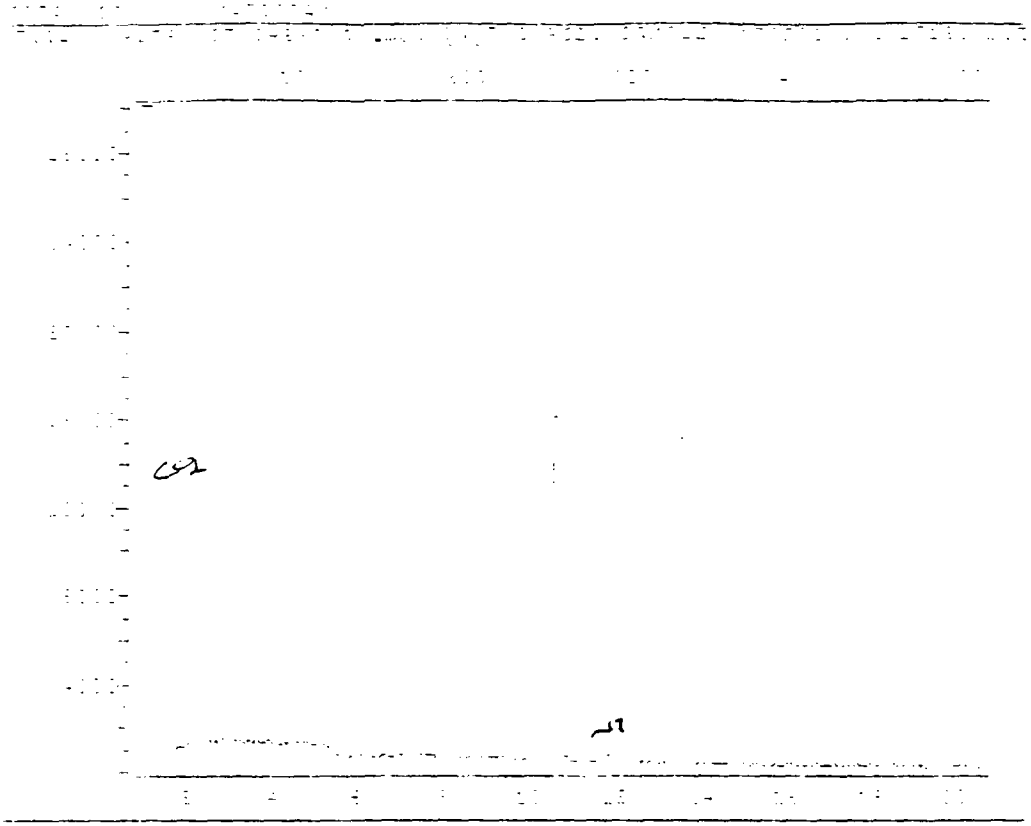
[illegible]/[illegible]/[illegible]:[illegible] INST [illegible], SAMPLE [illegible], [illegible], [illegible]mm 1% SP1000

X-low: 38.28 X-left: 2282. Y-right: 2282.
X-high: 37.58 Results File 18812 Sorted by Time.Area MI

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	38.73	315	323	345	2288	130588	112867	100.00	100.000

16

8428910256



Data File: [illegible]B9176::B1 Quant Output File: [illegible]B9176::QT
Name: INST 59952, SAMPLE
Misc: 178793 , QV2718, L,5,5,5'X2mm 1% SP1000 ON CBPKB

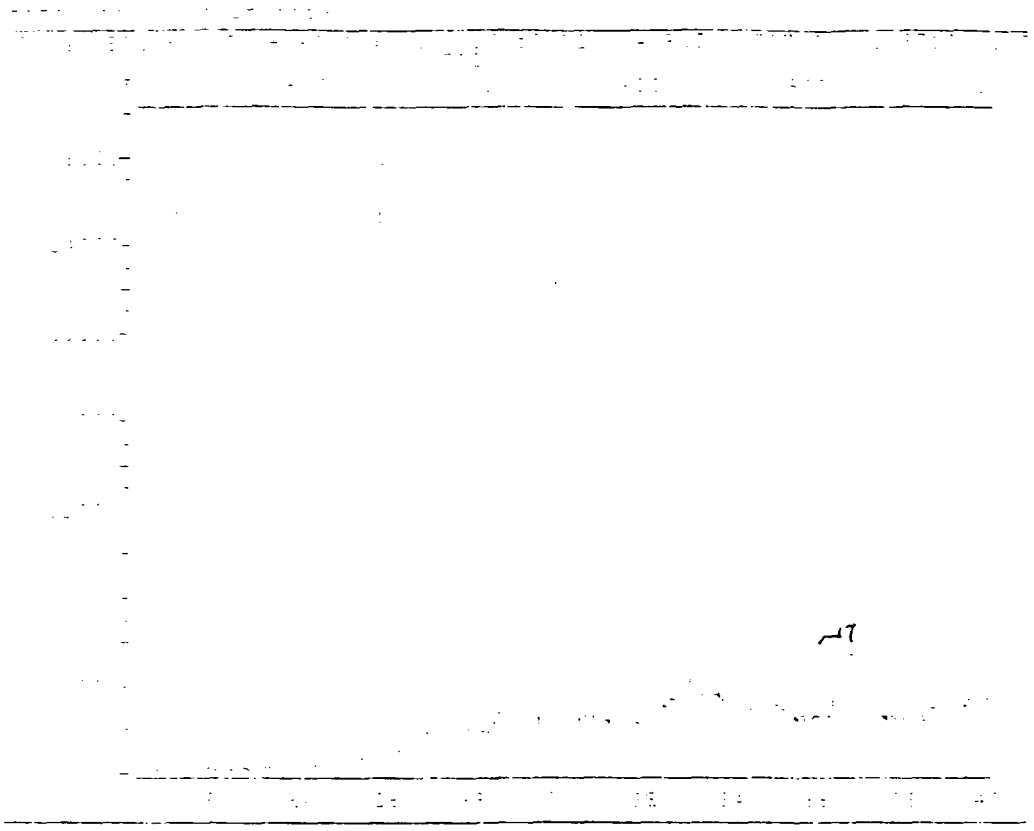
Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 21:53
Injected at: 931205 21:12

TIC page 1 of 2

I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT=NON TARGET

8428910257



Data File: >B9176::B1 Quant Output File: `B9176::QT
Name: INST 59952, SAMPLE
Misc: 178793 , QV2718, L,5,5,5`X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

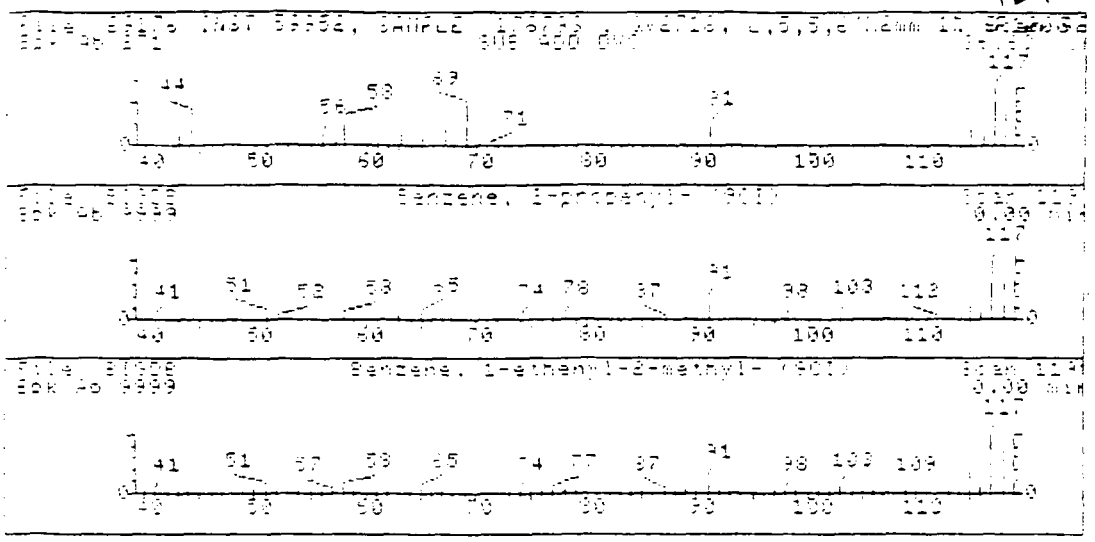
Operator ID: KS9934
Quant Time: 931205 21:53
Injected at: 931205 21:12

TIC page 2 of 2

I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT=NON TARGET

8428910258

924



(5)

(16)

Unknown #.7
Area = 30437.00 Tentative Concentration is ~~4.00~~ 12/10/93

1. Benzene, 2-propenyl- (9CI) 118 C9H10
2. Benzene, 1-ethenyl-2-methyl- (9CI) 118 C9H10

Sample file: >B9176 Spectrum #: 924
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	20*	300572	11978	"BIGDB	33	64	3	0	99	53	5	1
2.	20*	611154	11981	"BIGDB	25	68	3	0	88	53	5	1

8428910259

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931206 22:52
Output File: 'B9177::QT Injected at: 931206 22:01
Data File: 'B9177::B1 Dilution Factor: 1.00000
Name: INST 99852, SAMPLE
Misc: 175792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931206 18:27

	Compound	R.T.	Q ion	Area	Conc	Units	q
1	*Bromochloromethane	10.55	128.0	25515	50.00	UG/L	[illegible]
14	1,1-Dichloroethane-d4	13.45	65.0	76779	56.25	UG/L	
17	*1,4-Difluorobenzene	21.02	114.0	109023	50.00	UG/L	[illegible]
27	Benzene	18.50	78.0	5661	2.66	UG/L	[illegible]
32	*Chlorobenzene-d5	25.79	117.0	93861	50.00	UG/L	[illegible]
35	Toluene-d8	24.67	98.0	110312	49.17	UG/L	[illegible]
39	Ethylbenzene	27.78	106.0	100899	117.20	UG/L	[illegible]
41	Xylene (total)	31.43	106.0	308829	279.36	UG/L	[illegible]
41	Xylene (total)	32.29	106.0	127075	115.18	UG/L	395.02
42	Bromofluorobenzene	29.91	95.0	76444	54.46	UG/L	[illegible]

* Compound is ISTD

8428910260

QUANT REPORT

Operator ID: KS9934 Quant Rev: 5 Quant Time: 931206 20:37
Output File: SB9177::QT Injected at: 931205 22:01
Data File: >B9177::B1 Dilution Factor: 1.00000
Name: INST 59952, SAMPLE
Misc: 178792 , 002718, L.0.1 5.6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBK::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:29

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*Bromochloromethane	10.58	128.0	25515	50.00	UG/L	
11)	*1,4-Difluorobenzene	21.02	114.0	109023	50.00	UG/L	
15)	*Chlorobenzene-d5	25.79	117.0	89861	50.00	UG/L	

* Compound is ISTD

8428910261

MS data file header from : B9177

Sample: INST 59952, SAMPLE Operator: KS9334 MS 12/05/93 22:0_
Misc : 178792 , Q02718, L,0.1.5 6'x2mm 1% SP1000 ON CBPKB
Sys. #: 2 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: 00ABEX Tuning file: APEI00 No. of extra records: 2
Source temp.: 250 Analyzer temp.: 240 Transfer line temp.: 270

Chromatographic temperatures :	40.	220.	121.	0.	0.
Chromatographic times, min. :	4.0	20.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	1.0	0.0	0.0	0.0

B9177 INST 59952, SAMPLE 178792 , Q02718, L 0.1.5.6'x2mm 1% SP100

35.0: 260.0 ADC TIC
Upslope: .20 Area Reject: 17802. Max Peaks: 10 Bunching: 1
Dnslope 0.00 Results File IB9177 Sorted by Time/Area INT

Peak #	R.T. min.		first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.58	I	248	253	263	14199	195620	178018	7.55	2.33
2	13.45	S	320	327	334	14332	176349	163440	6.93	2.73
3	21.02	I	516	522	530	26663	293559	290136	12.31	4.85
4	24.67	S	609	616	624	25651	327052	308119	13.07	5.16
5	25.83	I	639	646	653	26674	360538	329856	13.99	5.52
6	27.27	ST	673	683	685	1204	79157	22341	.95	.37
7	27.78	T	688	696	704	69080	1069320	957570	40.62	16.03
8	29.91	S	742	751	761	22066	511237	399067	16.93	6.68
9	31.47	T	779	791	801	112098	2482723	2357583	100.00	39.48
10	32.28	T	802	812	828	41215	1131703	964554	40.91	16.15

Sum of corrected areas: 5970684.

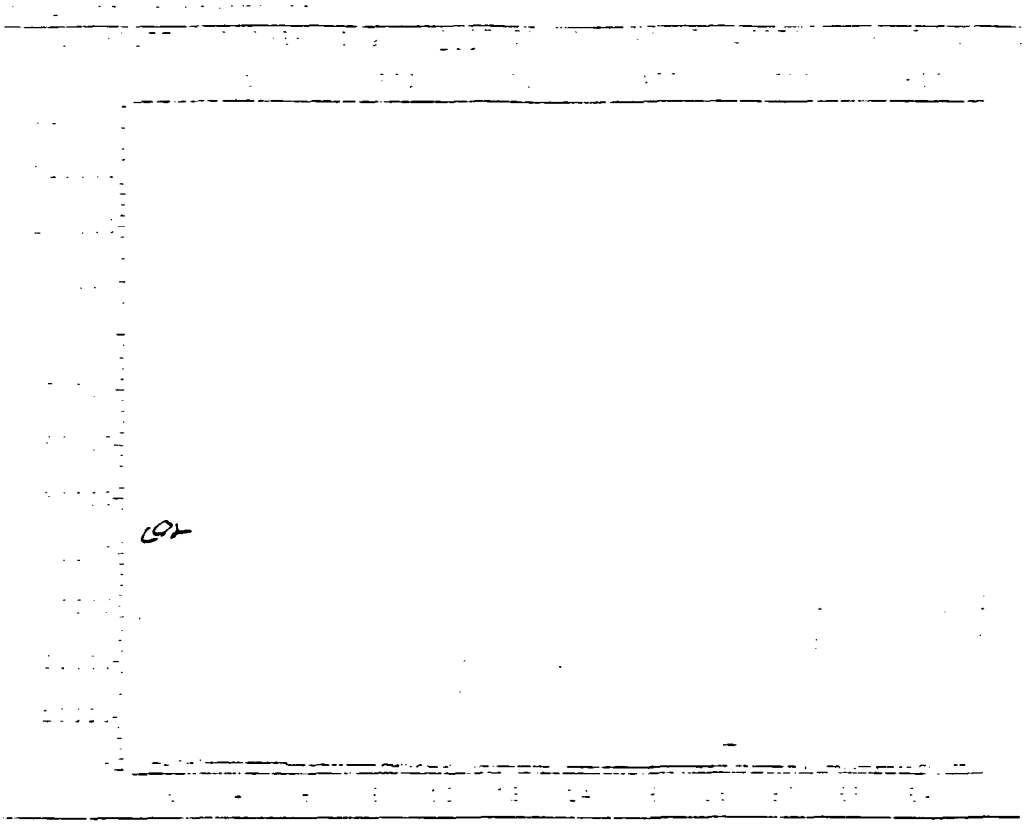
Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	178018.	10.58	2.01 - 15.80
2	50.0	290136.	21.02	15.80 - 23.40
3	50.0	329856.	25.79	23.40 - 50.10

Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$



Data File: 2B9177::B1 Quant Output File: 'B9177::QT
Name: INST 59952, SAMPLE
Misc: 176792 , QV2719, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB

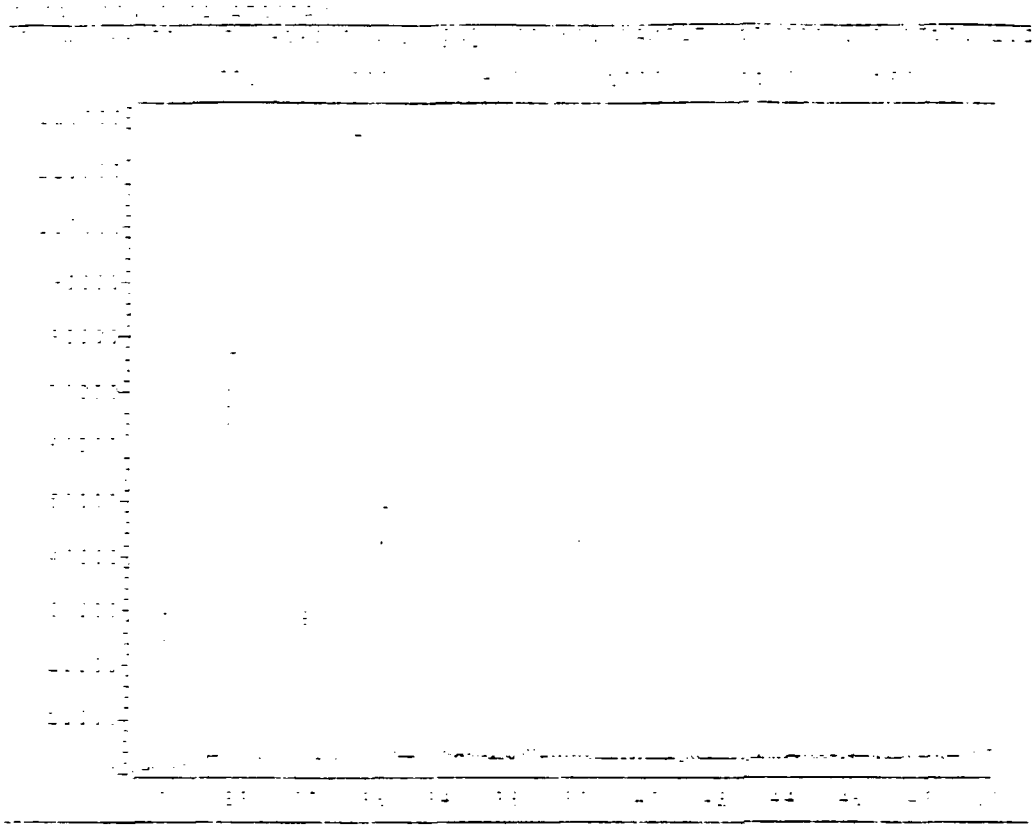
ID File: IDV03::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. B
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 22:51
Injected at: 931205 22:01

TIC page 1 of 2

I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT=NON TARGET

8428910263



Data File: >B9177::81 Quant Output File: B9177::QT
Name: INST 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,s,s X2mm 1% SP1000 CN CBPH3

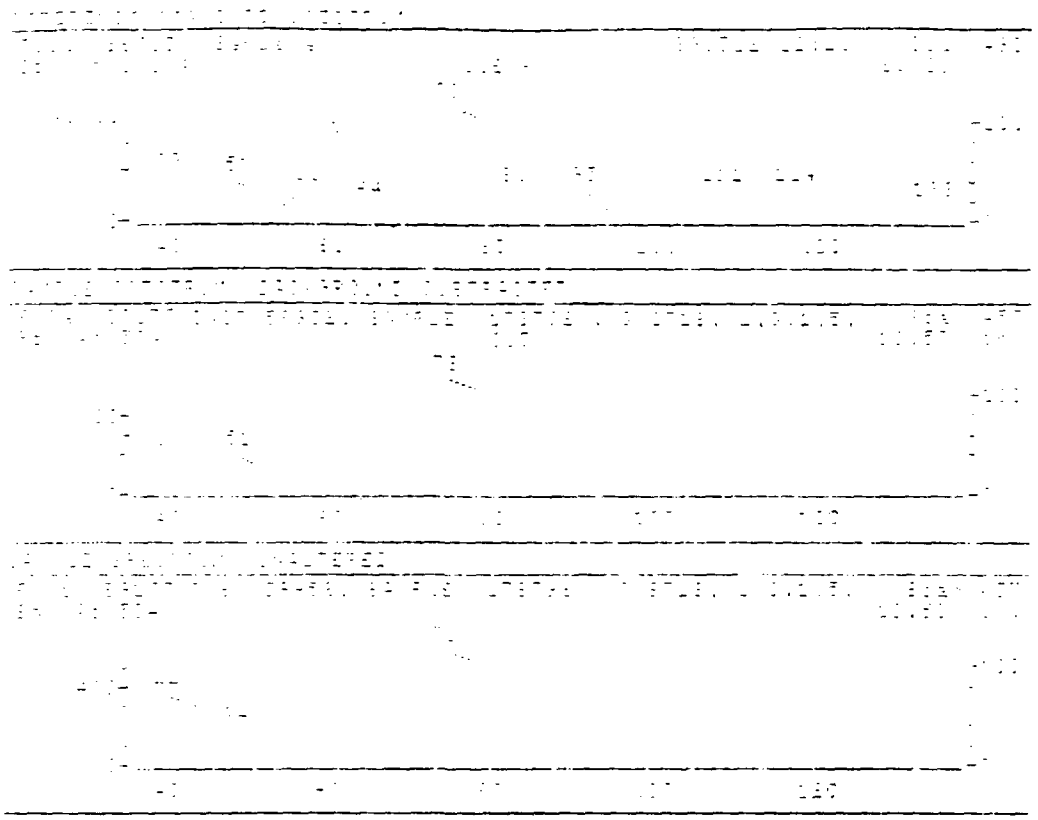
ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 22:52
Injected at: 931205 22:01

TIC page 2 of 2

I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT = NON TARGET

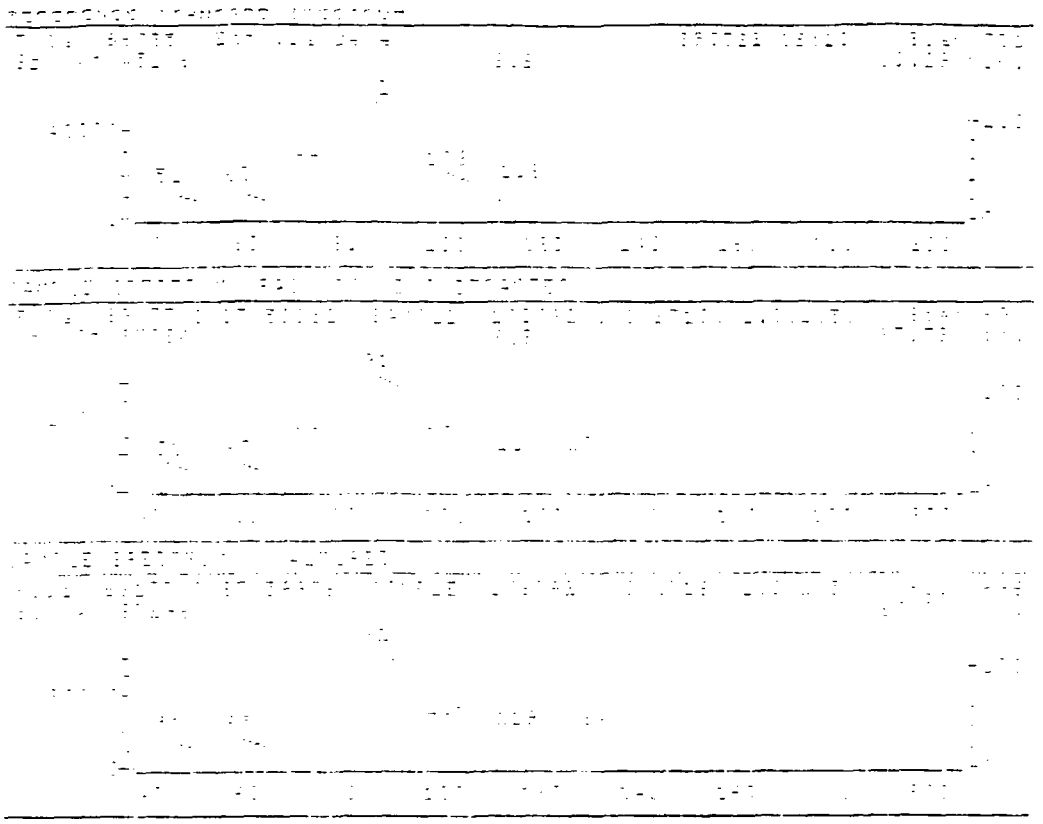
8428910264



Data File: >B9177::B1 Quant Output File: `B9177::QT
Name: INST 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB
Quant Time: 931205 22:52 Quant ID File: IDVOB::SC
Injected at: 931205 22:01 Last Calibration: 931205 18:27

Compound No: 27
Compound Name: Benzene
Scan Number: 457
Retention Time: 18.50 min.
Quant Ion: 78.0
Area: 5661
Concentration: 2.66 UG/L
q-value: 91

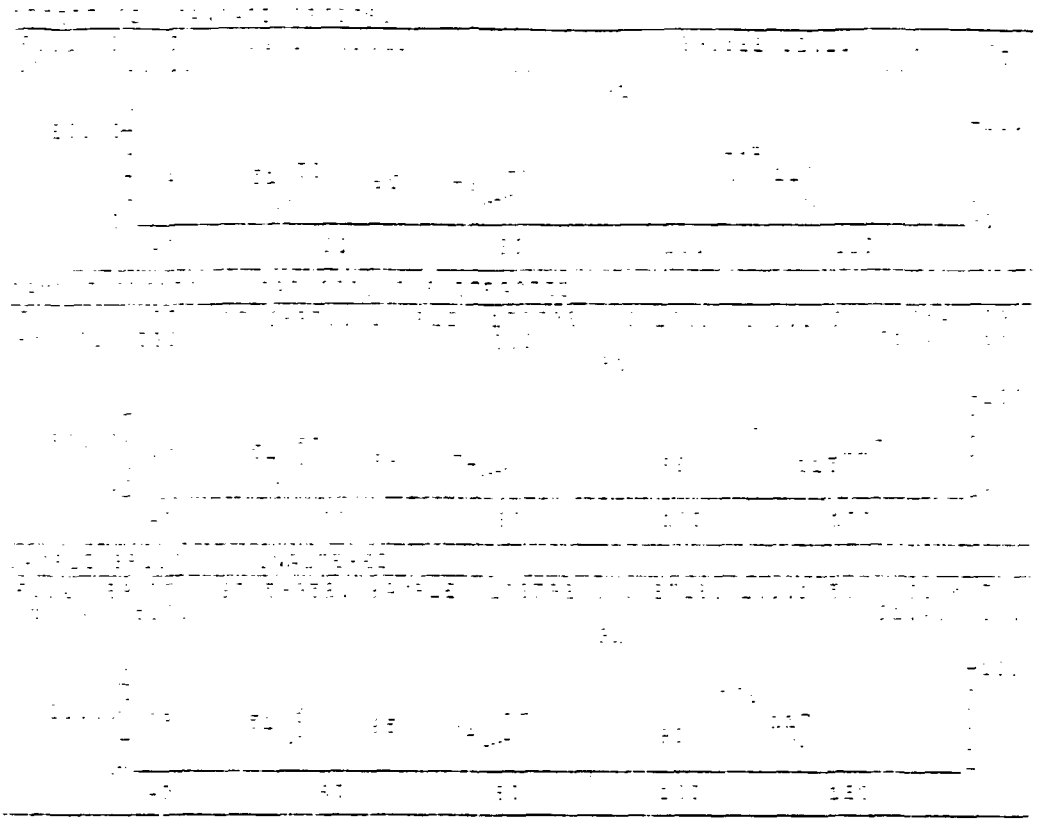
8428910265



Data File: B9177::B1 Quant Output File: B9177::QT
Name: INST 59962, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB
Quant Time: 931205 22:52 Quant ID File: IDVOB::SC
Injected at: 931205 22:01 Last Calibration: 931205 18:27

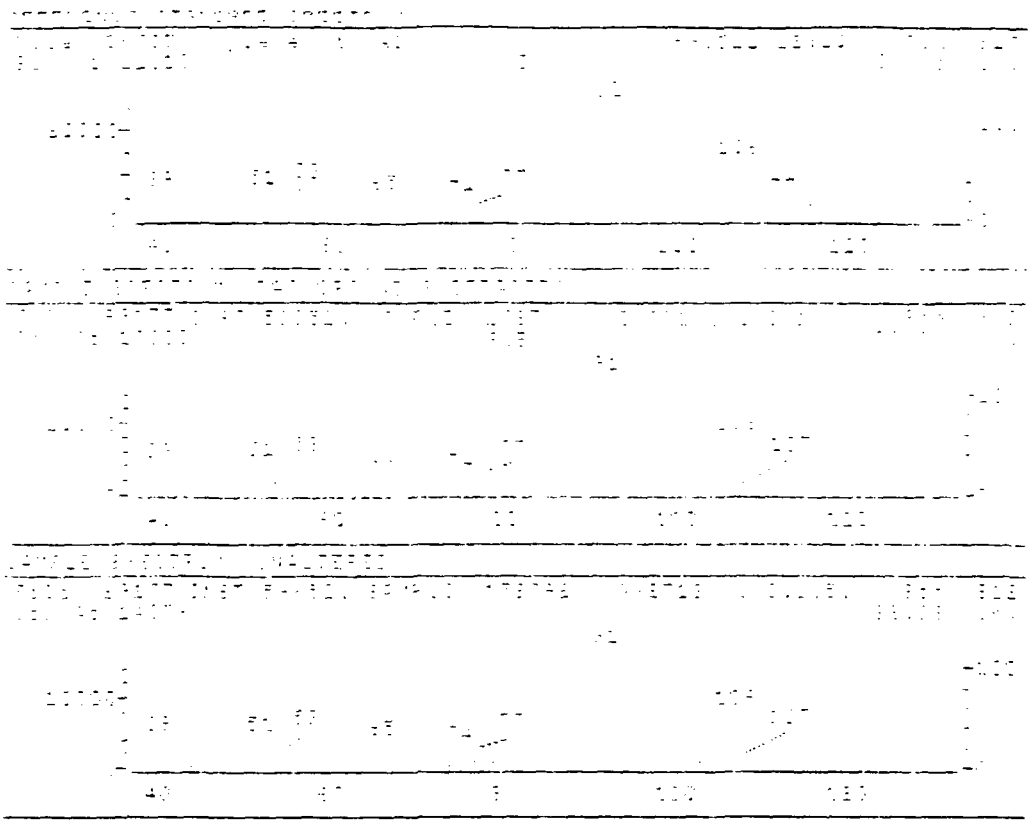
Compound No: 39
Compound Name: Ethylbenzene
Scan Number: 696
Retention Time: 27.78 min.
Quant Ion: 106.0
Area: 100899
Concentration: 117.20 UG/L
q-value: 99

8428910266



Data File: >B9177::B1 Quant Output File: `B9177::QT
Name: INST 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB
Quant Time: 931205 22:52 Quant ID File: IDVOB::SC
Injected at: 931205 22:01 Last Calibration: 931205 18:27

Compound No: 41
Compound Name: Xylene (total)
Scan Number: 790
Retention Time: 31.43 min.
Quant Ion: 106.0
Area: 308829
Concentration: 279.86 UG/L
q-value: 91



Data File: >B9177::B1 Quant Output File: `B9177::QT
Name: INST 59952, SAMPLE
Misc: 178792 , QV2718, L,0.1,5,6'X2mm 1% SP1000 ON CBPKB
Quant Time: 931205 22:52 Quant ID File: IDVOB::SC
Injected at: 931205 22:01 Last Calibration: 931205 18:27

Compound No: 41
Compound Name: Xylene (total)
Scan Number: 812
Retention Time: 32.28 min.
Quant Ion: 106.0
Area: 127078
Concentration: 115.16 UG/L
q-value: 88

8428910268

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JANUARY 13, 1994

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

Volatile Organic Analysis by GC/MS

Sample ID: Method Blank
Data File: >B9142
Analysis Date: 12/02/93

Batch No: QV2718
Dilution Factor: 1
Column: 1%SP1000 cbpk b

Matrix: WATER

Init Sample vol= 5

Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Practical Quantitation Limit ug/l	Minimum Detection Limit ug/l
Chloromethane	U	5	1
Bromomethane	U	5	3
Vinyl chloride	U	5	2
Chloroethane	U	5	3
Methylene chloride	U	5	4
Acetone	U	20	7
Carbon disulfide	U	5	2
1,1-Dichloroethene	U	5	1
1,1-Dichloroethane	U	5	1
total-1,2-Dichloroethene	U	5	3
Chloroform	U	5	1
1,2-Dichloroethane	U	5	2
2-Butanone	U	20	11
1,1,1-Trichloroethane	U	5	2
Carbon tetrachloride	U	5	3
Bromodichloromethane	U	5	3
1,2-Dichloropropane	U	5	2
cis-1,3-Dichloropropene	U	5	1
Trichloroethene	U	5	2
Dibromochloromethane	U	5	4
1,1,2-Trichloroethane	U	5	2
Benzene	U	5	1
trans-1,3-Dichloropropene	U	5	1
Bromoform	U	5	4
4-Methyl-2-pentanone	U	20	3
2-Hexanone	U	20	6
Tetrachloroethene	U	5	2
1,1,2,2-Tetrachloroethane	U	5	3
Toluene	U	5	2
Chlorobenzene	U	5	1
Ethylbenzene	U	5	1
Styrene	U	5	2
total Xylenes	U	5	2
t-Butyl methyl ether	U	5	ND
t-Butyl alcohol	U	50	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not determined

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BON

8428910269

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 16, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

Lab Number: 178793
Client: VECTRE CORPORATION
Sample source: RCI-V2
Sample ID: MW-2
Sample date: 11/30/93
Sampled by: Customer
At lab date: 12/01/93
Matrix: WATER

Data File: >B9176

Analysis Date: 12/05/93
Percent Moisture: 100%
Init Sample vol= 5

Column: 1%SP1000 cbpk b
Dilution Factor: 1
Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Method Blank ug/l	Practical Quantitation Limit ug/l	Minimum Detecti Limit ug/l
Chloromethane	U	U	5	
Bromomethane	U	U	5	
Vinyl chloride	U	U	5	
Chloroethane	U	U	5	
Methylene chloride	U	U	5	
Acetone	U	U	20	
Carbon disulfide	U	U	5	
1,1-Dichloroethene	U	U	5	
1,1-Dichloroethane	U	U	5	
total-1,2-Dichloroethene	U	U	5	
Chloroform	U	U	5	
1,2-Dichloroethane	U	U	5	
2-Butanone	U	U	20	1
1,1,1-Trichloroethane	U	U	5	
Carbon tetrachloride	U	U	5	
Bromodichloromethane	U	U	5	
1,2-Dichloropropane	U	U	5	
cis-1,3-Dichloropropene	U	U	5	1
Trichloroethene	U	U	5	2
Dibromochloromethane	U	U	5	4
1,1,2-Trichloroethane	U	U	5	2
Benzene	U	U	5	1
trans-1,3-Dichloropropene	U	U	5	1
Bromoform	U	U	5	4
4-Methyl-2-pentanone	U	U	20	3
2-Hexanone	U	U	20	6
Tetrachloroethene	U	U	5	2
1,1,2,2-Tetrachloroethane	U	U	5	3
Toluene	U	U	5	2
Chlorobenzene	U	U	5	1
Ethylbenzene	U	U	5	1
Styrene	U	U	5	2
total Xylenes	U	U	5	2
t-Butyl methyl ether	U	U	5	ND
t-Butyl alcohol	U	U	50	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected at the PQL.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not Determined.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

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8428910270

INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 13, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >B9176
Lab number: 178793
Fraction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

Scan Number	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
924		36.63	Unknown		16

Estimated total non-target compound concentration (excluding compounds flagged with A, B or **) in ug/l is: 16

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
* Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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MEG

8428910271

QUANT REPORT

Operator ID: KS9994 Quant Rev: 6 Quant Time: 931205 21:5[illegible]
Output File: 189176::QT Injected at: 9.1205 21:12
Data File: 189176::B1 Dilution Factor: 1.00000
Name: INST 59952, SAMPLE
Misc: 178793 , 972718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

	Compound	R.T.	Q ion	Area	Conc	Units	[illegible]
1)	*Bromochloromethane	10.62	128.0	25141	50.00	UG/L	[illegible]
14)	1,2-Dichloroethane-d4	13.45	65.0	75824	54.43	UG/L	[illegible]
17)	*1,4-Difluorobenzene	21.02	114.0	113709	50.00	UG/L	[illegible]
31)	*Chlorobenzene-d5	25.79	117.0	91143	50.00	UG/L	[illegible]
36)	Toluene-d8	24.67	98.0	112051	49.24	UG/L	[illegible]
41)	Bromofluorobenzene	29.95	95.0	78190	54.92	UG/L	[illegible]

* Compound is ISTD

8428910272

QUANT REPORT

Operator ID: KS3934 Quant Rev: 6 Quant Time: 931206 20:36
Output File: SB9176::QT Injected at: 931205 21:12
Data File: >B9176::B1 Dilution Factor: 1.00000
Name: INST 58952, SAMPLE
Misc 179793 , QU2718, L 5.5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:29

	Compound	R.T.	Q ion	Area	Conc	Units
1	+Bromochloromethane	10.62	128.0	16041	50.00	UG/L
11	+1,4-Difluorobenzene	21.02	114.0	115709	50.00	UG/L
15	+Chlorobenzene-d5	25.79	117.0	91143	50.00	UG/L

+ Compound is ISTD

8428910273

MS data file header from : >B9176

Sample: INST 59952, SAMPLE Operator: KS9934 MS 12/05/93 21:12
Misc : 178793 , Q02718, L,5,5,6'x2mm 1% SP1000 ON CBPKB
Sys. #: 2 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: V0AB Tuning file: APEI02 No. of extra records: 2
Source temp.: 250 Analyzer temp.: 240 Transfer line temp. : 270

Chromatographic temperatures :	40.	220.	221.	0.	0.
Chromatographic times, min.- :	4.0	20.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	1.0	0.0	0.0	0.0

>B9176 INST 59952, SAMPLE 178793 , Q02718, L,5,5,6'x2mm 1% SP1000

35.0: 260.0 ADC TIC
Upslope: .20 Area Reject: 17298. Max Peaks: 7 Bunching: 1
Dnslope: 0.00 Results File IB9176 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.58 I	248	253	262	14199	195146	172982	41.40	9.81
2	13.48 S	321	327	333	13810	171313	160095	38.32	9.08
3	21.02 I	515	522	530	27584	303825	303825	72.72	17.23
4	24.67 S	608	616	623	27235	333596	322733	77.24	18.30
5	25.83 I	638	646	655	26610	375683	354900	84.94	20.13
6	29.91 S	743	751	761	22708	484832	417827	100.00	23.70
7	36.63 NK	918	924	925	2486	81219	30437	7.28	1.72

Sum of corrected areas: 1762799.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	172982.	10.62	2.01 - 15.82
2	50.0	303825.	21.02	15.82 - 23.40
3	50.0	354900.	25.79	23.40 - 40.08

Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

7:09 PM MON., 6 DEC., 1993

8428910274

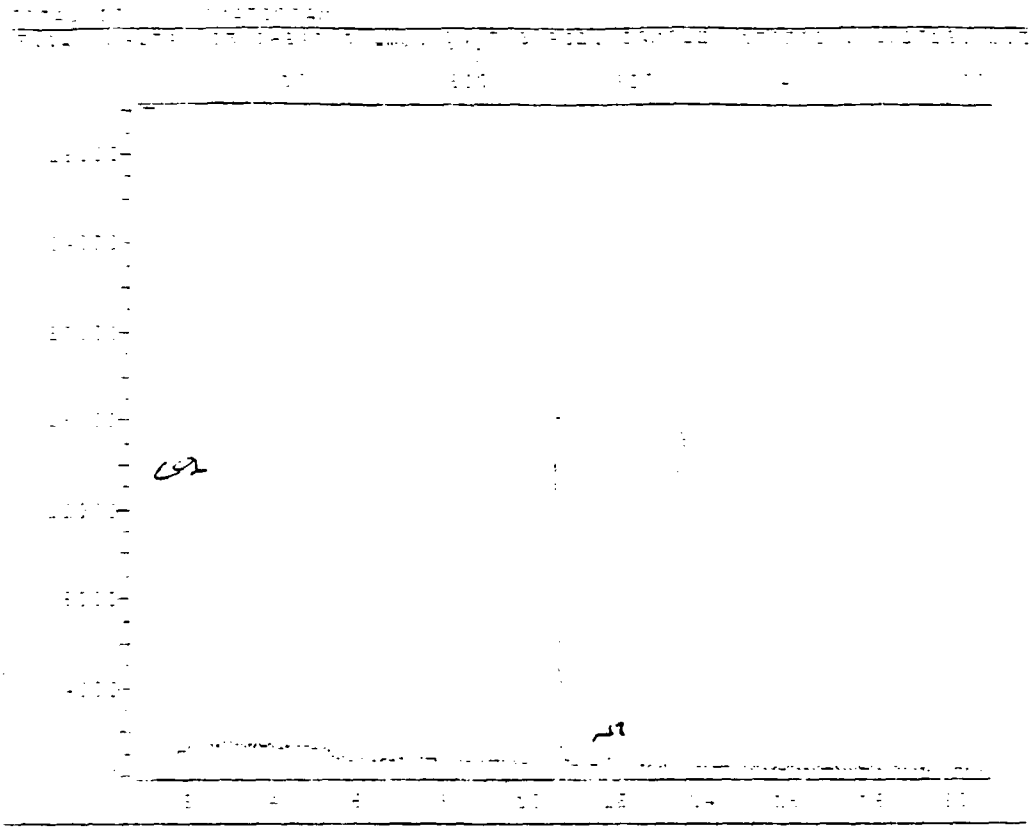
1/8
/83178::81 INST 93952, SAMPLE 178783 , QW2716, L,S,S,5'X2mm 1% SP1000

X-low: 35.29 Y-left: 2282. Y-right: 2282.
X-high: 37.53 Results File 58812 Sorted by Time:Area MI

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	35.73	315	323	343	2283	233583	110387	100.00	100.000

16

8428910275



Data File: :B9176::B1 Quant Output File: :B9176::QT
Name: INST 59952, SAMPLE
Misc: 178793 , QV2718, L,5,5,5'X2mm 1% SP1000 ON CBPKB

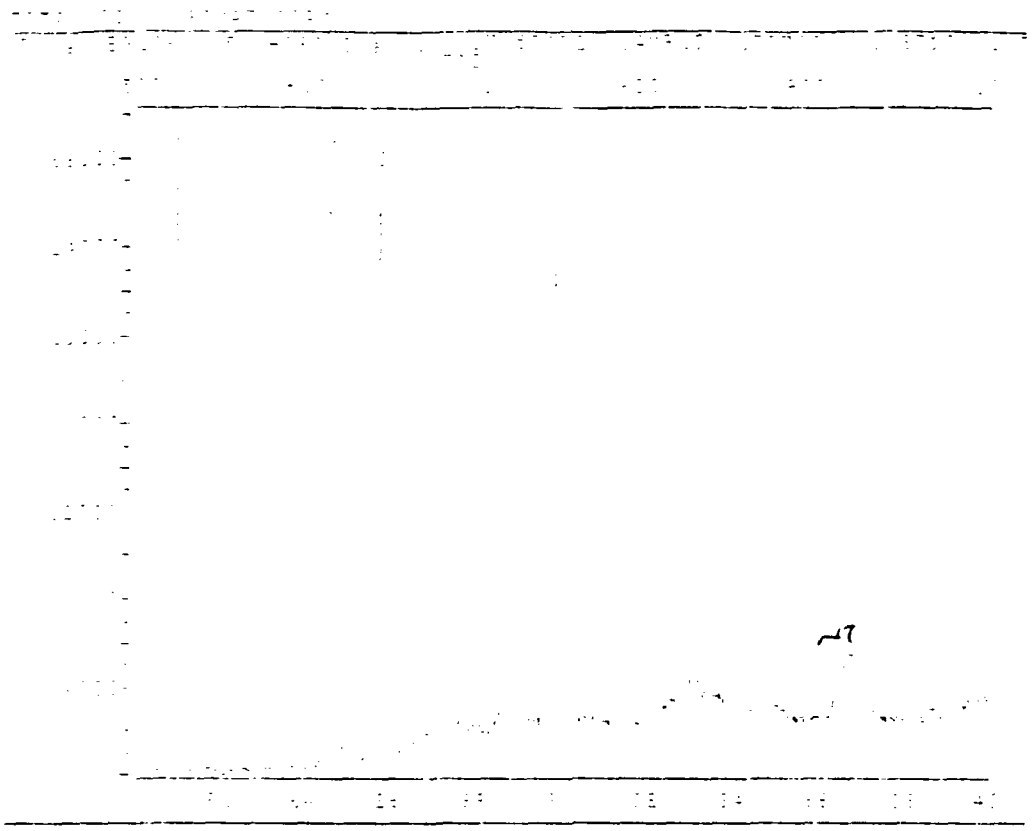
Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 21:53
Injected at: 931205 21:12

TIC page 1 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NON TARGET

8428910276



Data File: >B9176::B1 Quant Output File: `B9176::QT
Name: INST 59952, SAMPLE
Misc: 178793 , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKE

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

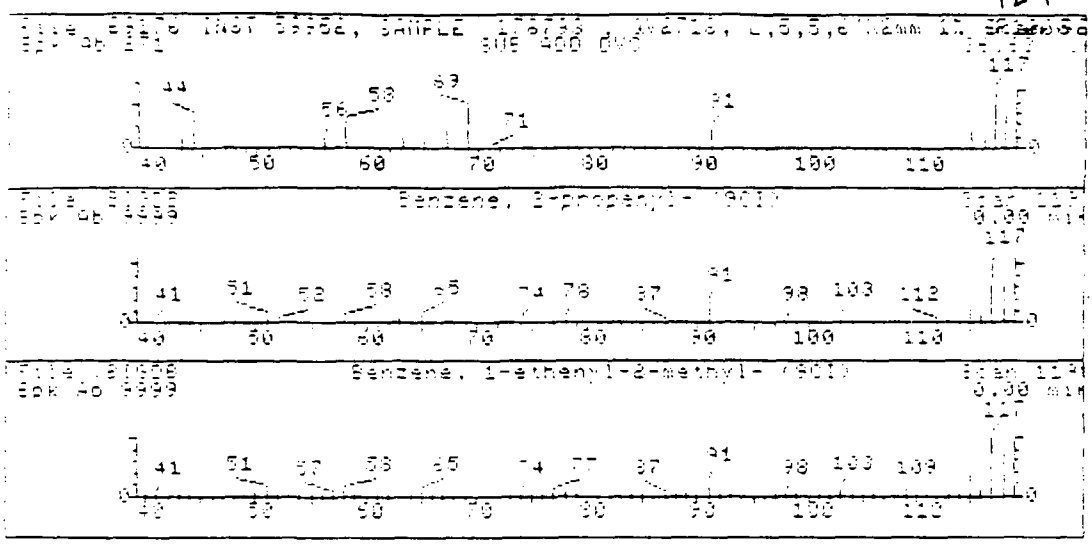
Operator ID: KS9934
Quant Time: 931205 21:53
Injected at: 931205 21:12

TIC page 2 of 2

I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT=NON TARGET

8428910277

924



Unknown #.7
Area = 30437.00 Tentative Concentration is

12/10/93

1. Benzene, 2-propenyl- (9CI) 118 C9H10
2. Benzene, 1-ethenyl-2-methyl- (9CI) 118 C9H10

Sample File: >B9176 Spectrum #: 924
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	20*	300572	11978	"BIGDB	33	64	3	0	99	53	5	1
2.	20*	611154	11981	"BIGDB	25	68	3	0	88	53	5	1

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 16, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

Lab Number: 178794
Client: VECTRE CORPORATION
Sample source: RCI-V2
Sample ID: Field Blank
Sample date: 11/30/93
Sampled by: Customer
At lab date: 12/01/93
Matrix: WATER

Data File: >B9175

Analysis Date: 12/05/93
Percent Moisture: 100%
Init Sample vol= 5

Column: 1%SP1000 cbpk b
Dilution Factor: 1
Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Method Blank ug/l	Practical Quantitation Limit ug/l	Minimum Detectio Limit ug/l
Chloromethane	U	U	5	1
Bromomethane	U	U	5	3
Vinyl chloride	U	U	5	2
Chloroethane	U	U	5	3
Methylene chloride	U	U	5	4
Acetone	U	U	20	7
Carbon disulfide	U	U	5	2
1,1-Dichloroethene	U	U	5	1
1,1-Dichloroethane	U	U	5	1
total-1,2-Dichloroethene	U	U	5	3
Chloroform	U	U	5	1
1,2-Dichloroethane	U	U	5	2
2-Butanone	U	U	20	11
1,1,1-Trichloroethane	U	U	5	2
Carbon tetrachloride	U	U	5	3
Bromodichloromethane	U	U	5	3
1,2-Dichloropropane	U	U	5	2
cis-1,3-Dichloropropene	U	U	5	1
Trichloroethene	U	U	5	2
Dibromochloromethane	U	U	5	4
1,1,2-Trichloroethane	U	U	5	2
Benzene	U	U	5	1
trans-1,3-Dichloropropene	U	U	5	1
Bromoform	U	U	5	4
4-Methyl-2-pentanone	U	U	20	3
2-Hexanone	U	U	20	6
Tetrachloroethene	U	U	5	2
1,1,2,2-Tetrachloroethane	U	U	5	3
Toluene	U	U	5	2
Chlorobenzene	U	U	5	1
Ethylbenzene	U	U	5	1
Styrene	U	U	5	2
total Xylenes	U	U	5	2
t-Butyl methyl ether	U	U	5	ND
t-Butyl alcohol	U	U	50	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected at the PQL.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not Determined.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

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8428910279

INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 13, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >B9175
Lab number: 178794
Fraction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

Scan Number	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

Estimated total non-target compound concentration (excluding compounds flagged with A, B or **) in ug/l is: 0

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
* Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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MEG

8428910280

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931205 11:04
Output File: 'B9175::QT Injected at: 931205 10:31
Data File: B9175::B1 Dilution Factor: 1.00000
Name: INST 59952, SAMPLE
Misc: 178794 , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

	Compound	R.T.	Q ion	Area	Conc	Units	S
1	*Bromochloromethane	10.58	128.0	27595	50.00	UG/L	98
14)	1,2-Dichloroethane-d4	13.45	65.0	75534	52.55	UG/L	77
17)	*1,4-Difluorobenzene	21.02	114.0	121767	50.00	UG/L	[illegible]
31)	*Chlorobenzene-d5	25.79	117.0	46870	50.00	UG/L	[illegible]
36)	Toluene-d8	24.67	98.0	122275	50.55	UG/L	91
42)	Bromofluorobenzene	29.91	95.0	81313	53.74	UG/L	[illegible]

* Compound is ISTD

8428910281

QUANT REPORT

Operator ID: KB9934 Quant Rev: 6 Quant Time: 931206 20:34
Output File: 389175::QT Injected at: 931205 20:23
Data File: >B9175::B1 Dilution Factor: 1.00000
Name: INST 59952. SAMPLE
Misc: 178794 , 002718, L,5,5,6'x2mm 1% SP1000 On CSPNB

ID File: IDVOBK::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:09

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*Bromochloromethane	10.58	128.0	17895	50.00	UG/L	P
11)	*1,4-Difluorobenzene	21.02	114.0	122787	50.00	UG/L	P
15)	*Chlorobenzene-d5	25.79	117.0	96870	50.00	UG/L	P

* Compound is ISTD

8428910282

MS data file header from : 89175

Sample: INST 59952, SAMPLE Operator KS9934 MS 12/05/93 20:23
Misc 178794 , Q02718, L,5,5,6'x2mm 1% SP1000 ON CBPKB
Sys. #: 2 MS model: 86 SW/HW rev.: IR ALS # : 0
Method file: 00AB Tuning file: APEI02 No. of extra records 1
Source temp.: 250 Analyzer temp.: 240 Transfer line temp.: 270

Chromatographic temperatures	40.	220.	221.	0.	0.
Chromatographic times min. :	4.0	20.0	15.0	0.0	1.0
Chromatographic rate, deg/min:	6.0	1.0	0.0	0.0	1.0

89175 INST 59952, SAMPLE 178794 , Q02718, L 5,5,6'x2mm 1% SP1000

35.0, 260.0 ADC TIC
Upslope: .20 Area Reject: 19291. Max Peaks: 6 Bunching: 1
Dnslope 0.00 Results File IB9175 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.58	248	253	262	15734	209237	192908	50.71	11.00
2	13.45	320	327	334	14546	183915	168444	44.54	9.66
3	21.02	515	522	530	28778	319981	319981	84.12	18.23
4	24.67	609	616	623	30393	350832	340889	89.62	19.47
5	25.83	640	646	655	28484	370862	346376	91.06	19.79
6	29.91	742	751	760	22149	477574	380392	100.00	21.73

Sum of corrected areas: 1749990.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	192908.	10.58	2.01 - 15.80
2	50.0	319981.	21.02	15.80 - 23.41
3	50.0	350863.	25.79	23.41 - 40.12

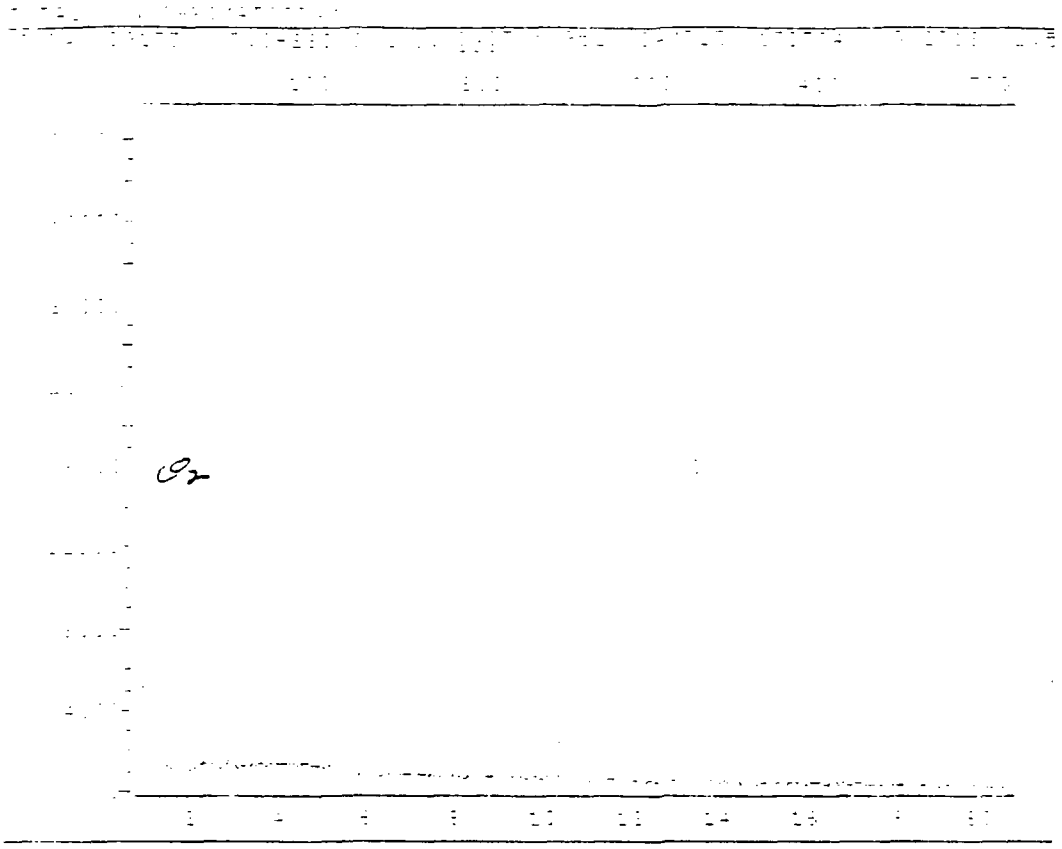
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

6:50 PM MON., 6 DEC., 1993

8428910283



Data File: >B9175::B1 Quant Output File: ^B9175::QT
Name: INST 59952, SAMPLE
Misc: 178794 , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

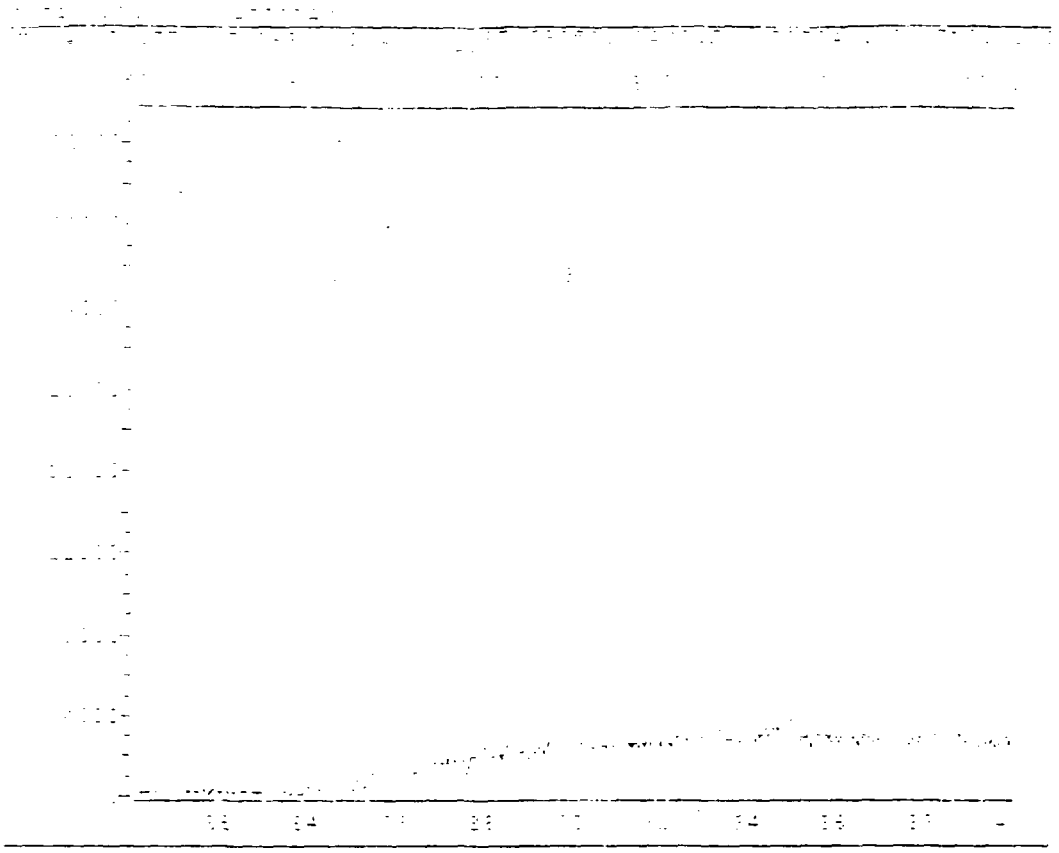
Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 21:04
Injected at: 931205 20:23

TIC page 1 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NONTARGET

8428910284



Data File: >B9175::B1 Quant Output File: ^B9175::QT
Name: INST 59952, SAMPLE
Misc: 178794 , QV1718, L,5,5,5'X2mm 1% SP1000 ON CBPKB

Id File: IDV0B::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 21:04
Injected at: 931205 20:23

TIC page 2 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NON TARGET

8428910285

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 16, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

TARGET COMPOUND LIST - VOLATILE ORGANIC ANALYSIS BY GC/MS
PLUS 10 PEAKS

Lab Number: 178795
Client: VECTRE CORPORATION
Sample source: RCI-V2
Sample ID: Trip Blank
Sample date: 11/30/93
Sampled by: Customer
At lab date: 12/01/93
Matrix: WATER

Data File: >B9174

Analysis Date: 12/05/93
Percent Moisture: 100%
Init Sample vol= 5

Column: 1%SP1000 cbpk b
Dilution Factor: 1
Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Method Blank ug/l	Practical Quantitation Limit ug/l	Minimum Detecti Limit ug/l
Chloromethane	U	U	5	
Bromomethane	U	U	5	
Vinyl chloride	U	U	5	
Chloroethane	U	U	5	
Methylene chloride	U	U	5	
Acetone	U	U	20	
Carbon disulfide	U	U	5	
1,1-Dichloroethene	U	U	5	
1,1-Dichloroethane	U	U	5	
total-1,2-Dichloroethene	U	U	5	
Chloroform	U	U	5	[illegible]
1,2-Dichloroethane	U	U	5	[illegible]
2-Butanone	U	U	20	1[illegible]
1,1,1-Trichloroethane	U	U	5	[illegible]
Carbon tetrachloride	U	U	5	[illegible]
Bromodichloromethane	U	U	5	[illegible]
1,2-Dichloropropane	U	U	5	2
cis-1,3-Dichloropropene	U	U	5	1
Trichloroethene	U	U	5	2
Dibromochloromethane	U	U	5	4
1,1,2-Trichloroethane	U	U	5	2
Benzene	U	U	5	1
trans-1,3-Dichloropropene	U	U	5	1
Bromoform	U	U	5	4
4-Methyl-2-pentanone	U	U	20	3
2-Hexanone	U	U	20	6
Tetrachloroethene	U	U	5	2
1,1,2,2-Tetrachloroethane	U	U	5	3
Toluene	U	U	5	2
Chlorobenzene	U	U	5	1
Ethylbenzene	U	U	5	1
Styrene	U	U	5	2
total Xylenes	U	U	5	2
t-Butyl methyl ether	U	U	5	ND
t-Butyl alcohol	U	U	50	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected at the PQL.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.
B: Indicates that the analyte was found in the blank as well as the sample. It indicates possible/probable blank contamination.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not Determined.

cis and trans 1,2-Dichloroethene are not resolved by this method, therefore total-1,2-Dichloroethene is reported.

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INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 13, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >B9174
Lab number: 178795
Fraction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

Scan Number	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

Estimated total non-target compound concentration (excluding compounds flagged with A, B or **) in ug/l is: 0

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
* Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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MEG

8428910287

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time 931206 20:33
Output File: SB9174:QT Injected at: 931205 19:35
Data File: >B9174:21 Dilution Factor: 1.00000
Name: INST 59952, SAMPLE
Misc: 178795 , 002718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: ID00BK:.SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:29

	Compound	R.T.	Q ion	Area	Conc	Units	Q
1)	*Bromochloromethane	10.63	128.0	29946	50.00	UG/L	9
11)	*1,4-Difluorobenzene	21.06	114.0	135427	50.00	UG/L	9
15)	*Chlorobenzene-d5	25.84	117.0	110367	50.00	UG/L	99

* Compound is ISTD

8428910288

MS data file header from : IB9174

Sample INST 59952, SAMPLE Operator: KS9934 MS 12/05/93 19:35
Misc 178795 , Q02718, L,5,5,6'X2mm 1% SP1000 ON CBPKB
Sys. # 2 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: QCAB Tuning file: APEI01 No. of extra records: 1
Source temp.: 250 Analyzer temp.: 240 Transfer line temp.: 270

Chromatographic temperatures :	40.	220.	221.	0.	0.
Chromatographic times, min. :	4.0	20.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	1.0	0.0	0.0	1.0

IB9174 INST 59952, SAMPLE 178795 , Q02718, L,5,5,6'X2mm 1% SP1000

35.1: 260.0 ADC TIC
Upslope: .20 Area Reject: 20587. Max Peaks: 6 Bunching: 1
Dnslope: 0.00 Results File IB9174 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.63 I	248	254	262	17306	222388	206872	47.42	10.59
2	13.48 S	321	327	335	15852	192291	188217	43.15	9.63
3	21.06 I	516	523	528	31699	351869	348357	79.86	17.83
4	24.71 S	609	617	625	31798	395024	385880	88.46	19.75
5	25.84 I	639	646	653	32101	412854	387425	88.81	19.83
6	29.30 S	742	751	762	24411	520634	436221	100.00	22.33

Sum of corrected areas: 1952972.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	206872.	10.63	2.01 - 15.84
2	50.0	350930.	21.06	15.84 - 23.45
3	50.0	387425.	25.83	23.45 - 40.09

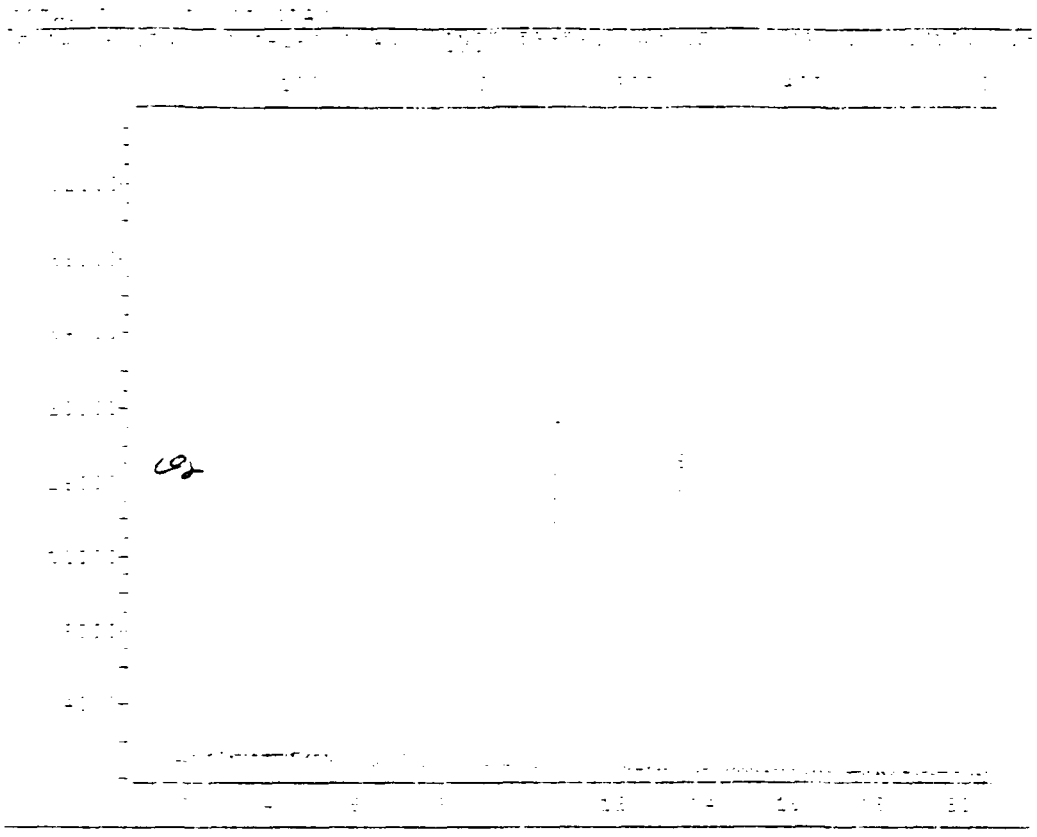
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

6:29 PM MON., 6 DEC., 1993

8428910289



Data File: >B9174::B1 Quant Output File: `B9174::QT
Name: INST 59952, SAMPLE
Mich: 178795 , QV2716, L,5,5,6'X2mm 1% SP1000 ON CBPKB

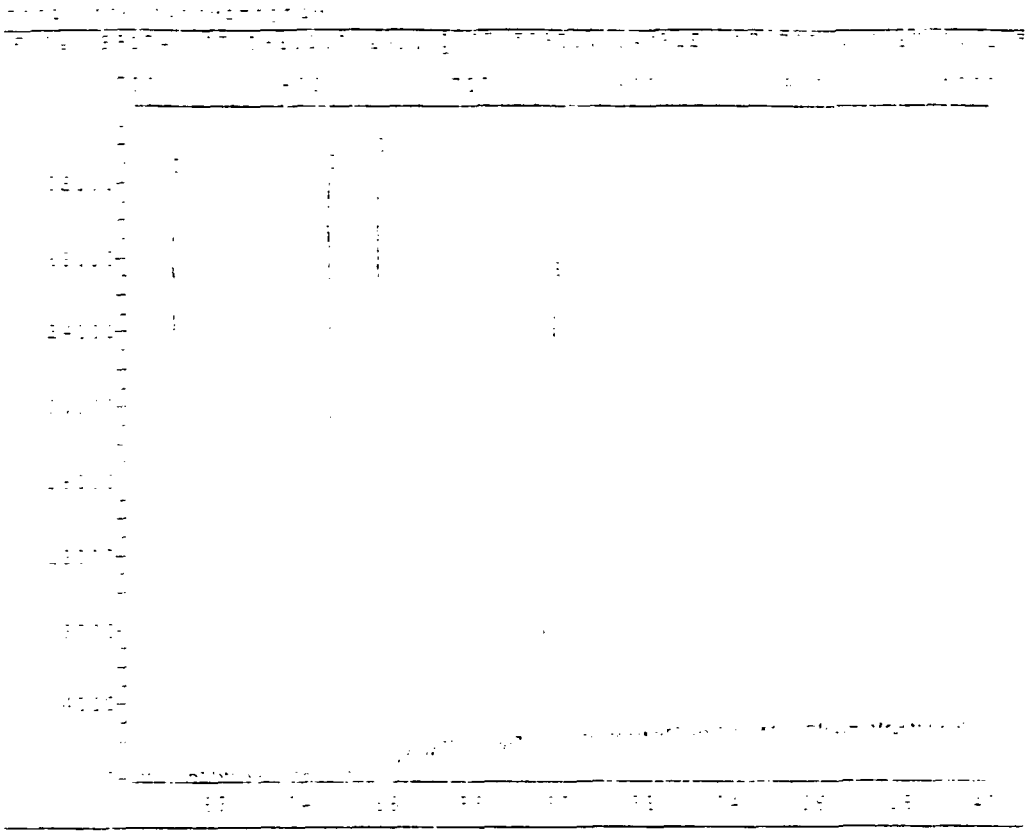
II File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 20:16
Injected at: 931205 19:35

TIC page 1 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NON TARGET

8428910290



Data File: >B9174::B1 Quant Output File: 'B9174::QT
Name: INST 59952, SAMPLE
Misc: 178795 , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 20:16
Injected at: 931205 19:35

TIC page 2 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NON TARGET

8428910291

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931206 20:33
Output File: SB9174::QT Injected at: 931205 19:35
Data File: >B9174::B1 Dilution Factor: 1.00000
Name: INST 59952, SAMPLE
Misc: 178795 , Q02718, L,5,5,6'X2mm 1% SP1000 ON CEPKB

ID File: ID00BX::3C
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:29

	Compound	R.T.	Q ion	Area	Conc	Units	E
10	*Bromochloromethane	10.63	128.0	29946	50.00	UG/L	3
11	*1,4-Difluorobenzene	21.06	114.0	135427	50.00	UG/L	3
15	*Chlorobenzene-d5	25.84	117.0	110367	50.00	UG/L	55

* Compound is ISTD

8428910292

MS data file header from : >B9174

Sample INST 59952, SAMPLE Operator: KS9934 MS 12/06/93 19:35
Misc 178795 , Q02718, L,5,5,6'X2mm 1% SP1000 ON CBPKB
Sys. # 2 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: OCAB Tuning file: APEI02 No. of extra records: 2
Source temp.: 250 Analyzer temp.: 240 Transfer line temp.: 270

Chromatographic temperatures :	40.	220.	221.	0.	0.
Chromatographic times, min. :	4.0	20.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	1.0	0.0	0.0	0.0

>B9174 INST 59952, SAMPLE 178795 , Q02718, L,5,5,6'X2mm 1% SP1000

35.0: 250.0 ADC TIC
Upslope: .20 Area Reject: 20687. Max Peaks: 6 Bunching: 1
Dnslope: 0.00 Results File IB9174 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.63 I	248	254	262	17306	222388	206872	47.42	10.59
2	13.46 S	321	327	335	15852	192291	188217	43.15	9.63
3	21.06 I	516	523	528	31699	351869	348357	79.86	17.83
4	24.71 S	609	617	625	31798	395024	385880	88.46	19.75
5	25.84 I	639	646	653	32101	412854	387425	88.81	19.83
6	29.32 S	742	751	762	24411	520634	436221	100.00	22.33

Sum of corrected areas: 1952972.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	206872.	10.63	2.01 - 15.84
2	50.0	350930.	21.06	15.84 - 23.45
3	50.0	387425.	25.83	23.45 - 40.09

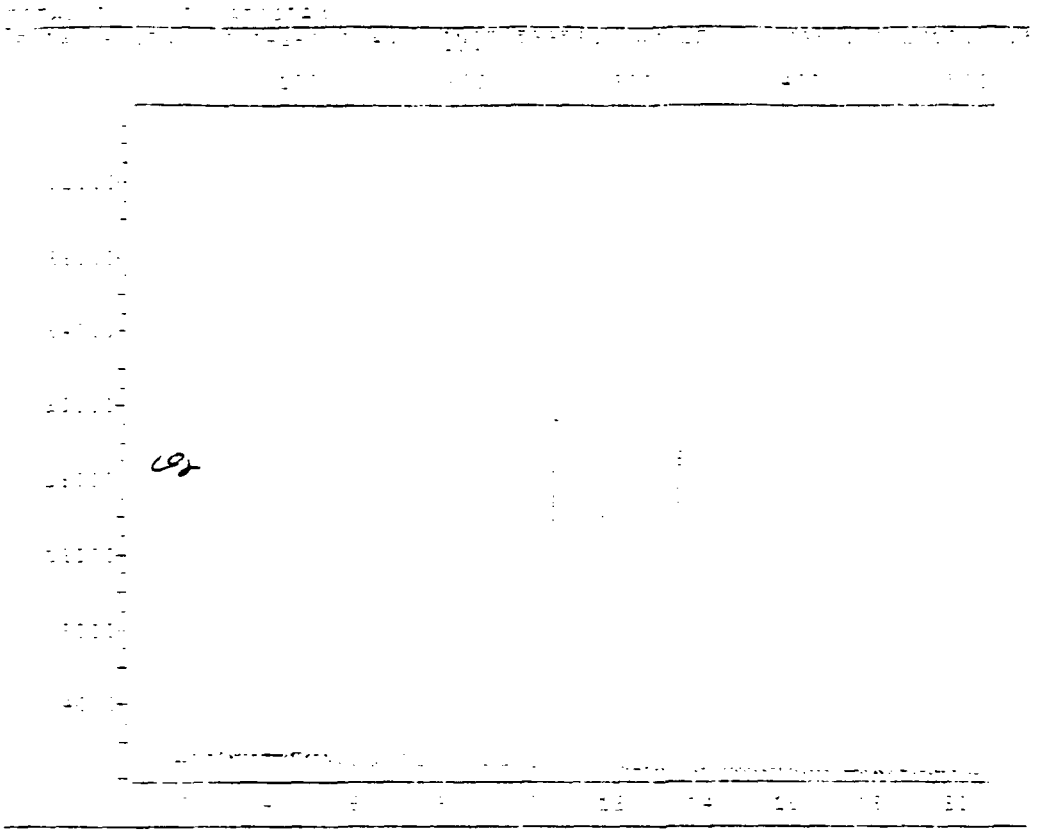
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

6:29 PM MON., 6 DEC., 1993

8428910293



Data File: >B9174::B1 Quant Output File: `B9174::QT
Name: INST 59952, SAMPLE
Misc: 178795 , QV2718, 1,5,5,6'X2mm 1% SP1000 ON CBPKB

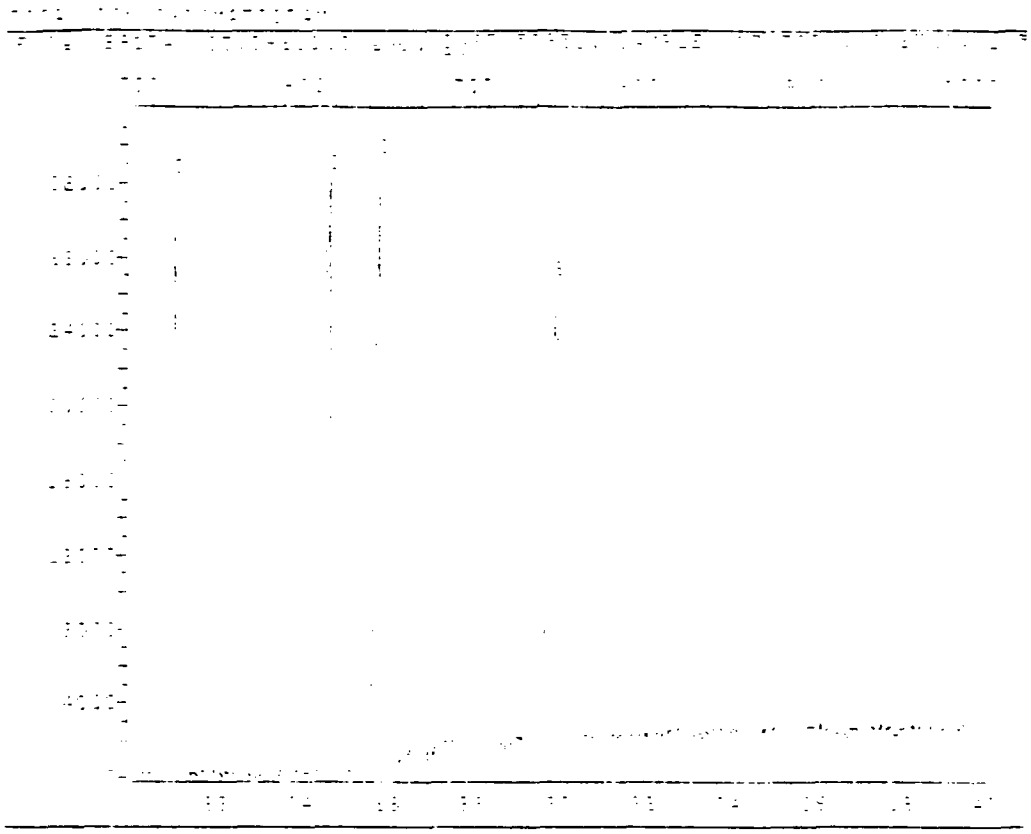
II File: IDV0B::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 20:16
Injected at: 931205 19:35

TIC page 1 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NON TARGET

8428910294



Data File: >B9174::B1 Quant Output File: `B9174::QT
Name: INST 59952, SAMPLE
Misc: 178795 , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 20:16
Injected at: 931205 19:35

TIC page 2 of 2

I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT=NON TARGET

8428910295

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

BROMOFLUOROBENZENE (BFB) GC/MS TUNING AND MASS CALIBRATION
VOLATILE ORGANIC COMPOUNDS

INSTRUMENT ID: 59952
LAB FILE NO: >B9050
BFB INJECTION DATE: 11/26/93

BATCH #: QV2718
BFB INJECTION TIME: 14:44

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

LAB SAMPLE ID	DATA FILE	ANALYSIS DATE	ANALYSIS TIME
VSTD500	>B9056	11/26/93	19:38
VSTD250	>B9057	11/26/93	20:26
VSTD100	>B9058	11/26/93	21:15
VSTD050	>B9059	11/26/93	22:03
VSTD020	>B9060	11/26/93	22:52

See next page for ION ABUNDANCE CRITERIA and Spectra

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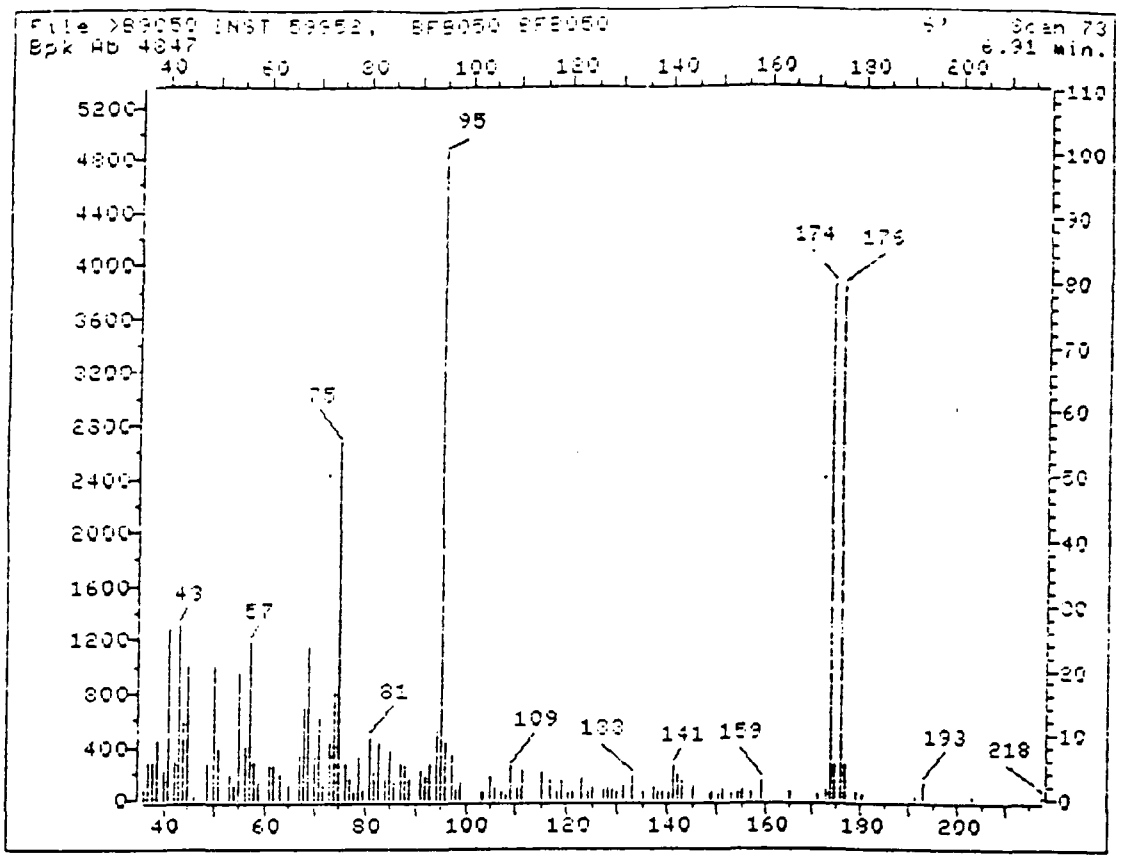
MEG



GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.53	20.53	Ok
75	30-60% of mass 95	54.98	54.98	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.69	8.69	Ok
173	Less than 2% of mass 174	1.46	1.84	Ok
174	Greater than 50% of mass 95	79.68	79.68	Ok
175	5-9% of mass 174	5.43	6.81	Ok
176	95-101% of mass 174	79.35	99.59	Ok
177	5-9% of mass 176	5.51	6.94	Ok

Injection Date: 11/26/93 Data File: >B9050
Injection Time: 14:44 Scan: 73

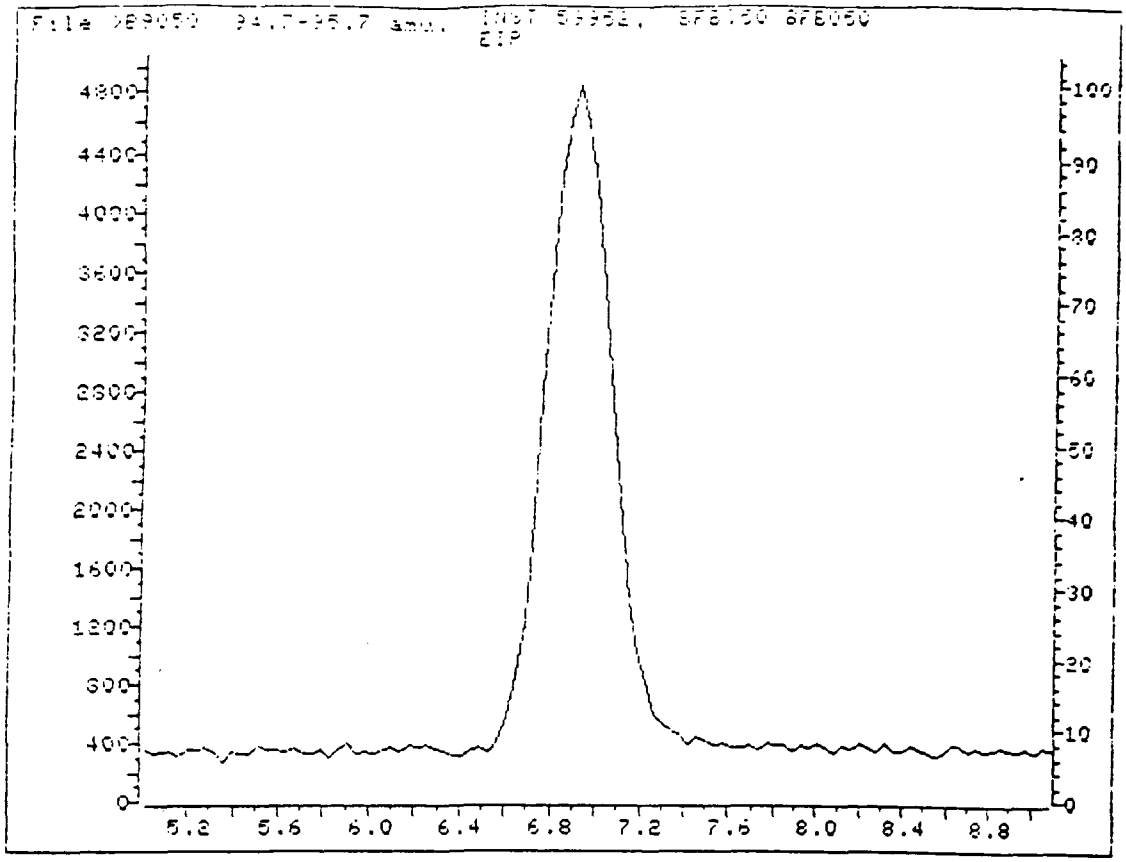
Analyst's Signature: A. Santacana Batch#: _____

Sample Numbers: _____

_____

8428910297

8428910298



>B9050 INST 59952, BFB050 BFB050 6'x2mm 1% SP1

73 NRM

File: >B9050 Scan #: 73 Retn. time: 6.91

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	1.300	63.05	3.631	88.00	5.137	117.95	.990	148.70	.805
37.00	5.694	65.05	2.084	89.00	3.136	118.95	2.682	148.90	.887
38.00	5.737	67.05	6.602	91.00	4.498	120.05	1.052	150.10	.660
39.00	9.202	68.05	14.298	92.00	3.280	121.05	.949	151.10	1.547
40.10	4.374	69.05	23.478	92.90	5.447	123.05	2.930	152.90	.805
41.10	26.161	70.05	6.561	94.00	10.460	124.15	.887	154.10	.970
42.10	5.632	71.05	12.606	95.00	100.000	125.15	1.774	155.00	1.300
43.10	26.965	71.95	1.919	96.00	8.686	127.05	1.485	157.00	.887
44.00	11.946	73.05	8.645	97.10	6.746	128.05	1.795	159.10	2.868
45.10	20.425	74.05	16.629	98.00	1.362	128.95	1.485	165.10	.908
46.20	.454	75.05	54.982	99.10	2.476	129.85	1.114	171.00	.805
48.95	5.364	76.05	5.405	103.10	.970	130.95	2.063	173.00	1.465
50.05	20.528	77.05	3.074	103.90	1.032	133.05	3.549	173.85	79.678
51.05	7.799	77.95	.949	105.00	3.384	134.95	.970	174.85	5.426
53.05	3.672	78.95	6.272	106.00	1.609	137.15	1.754	175.85	79.348
53.95	1.939	79.90	1.320	107.10	.990	138.05	.928	176.85	5.509
55.05	19.373	81.00	9.449	108.10	.825	139.05	1.032	179.15	1.052
56.05	8.253	82.00	3.982	109.10	4.972	140.05	.908	180.15	.557
57.05	24.366	83.00	8.603	110.10	1.609	141.05	5.220	191.05	.433
58.05	5.797	84.00	3.198	111.05	4.291	142.05	3.879	193.05	2.393
59.05	2.290	85.00	7.407	114.95	4.188	142.90	2.600	202.85	.675

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

BROMOFLUOROBENZENE (BFB) GC/MS TUNING AND MASS CALIBRATION
VOLATILE ORGANIC COMPOUNDS

INSTRUMENT ID: 59952
LAB FILE NO: >B9140
BFB INJECTION DATE: 12/02/93

BATCH #: QV2718
BFB INJECTION TIME: 19:22

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

LAB SAMPLE ID	DATA FILE	ANALYSIS DATE	ANALYSIS TIME
VSTD050	>B9141	12/02/93	19:51
BLANK	>B9142	12/02/93	20:58
178654 S	>B9143	12/02/93	21:57
178654 SD	>B9144	12/02/93	22:47

See next page for ION ABUNDANCE CRITERIA and Spectra

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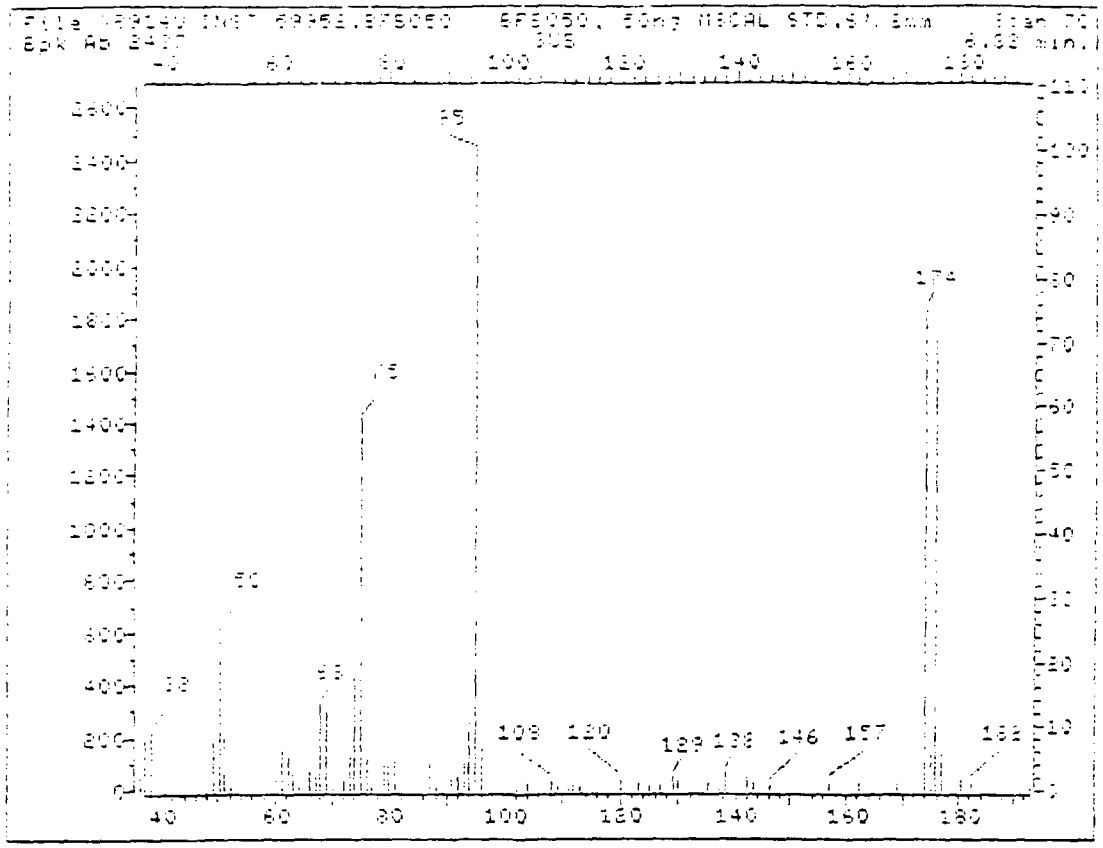
MEG



GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

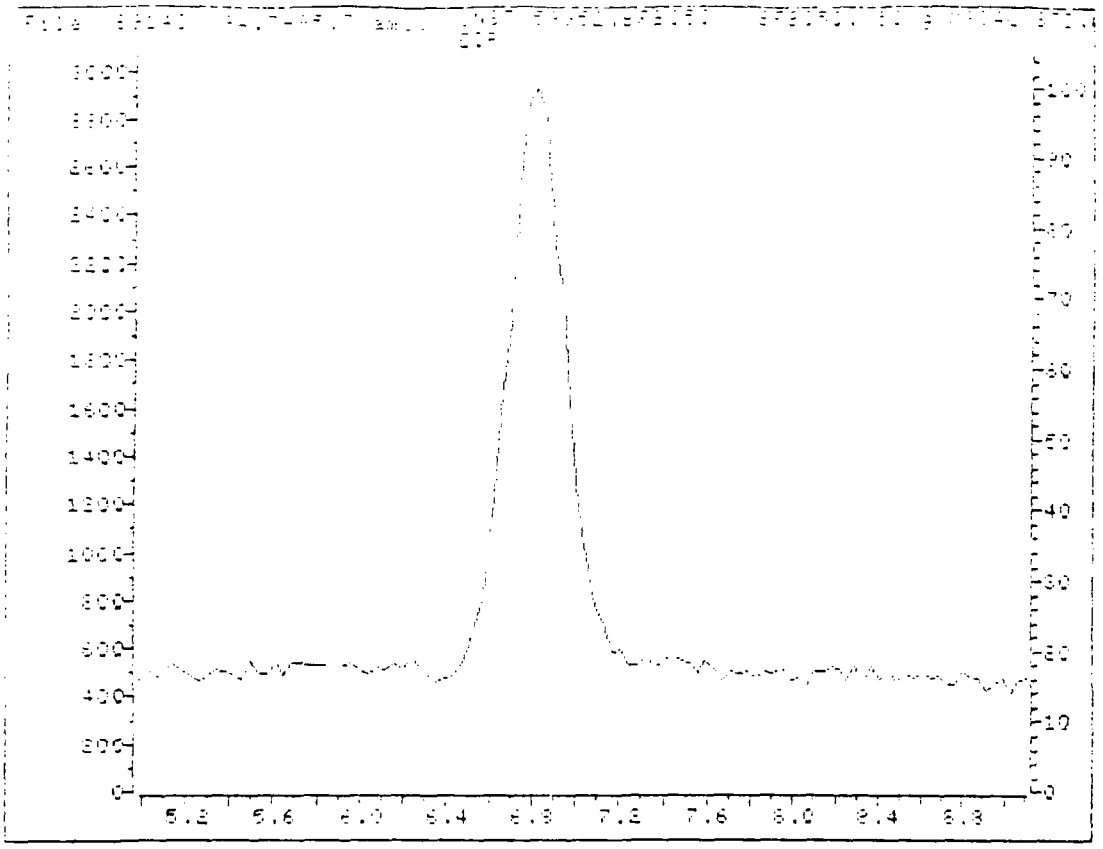
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	25.40	25.40	Ok
75	30-60% of mass 95	57.98	57.98	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.40	6.40	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	75.30	75.30	Ok
175	5-9% of mass 174	5.70	7.57	Ok
176	95-101% of mass 174	73.98	98.26	Ok
177	5-9% of mass 176	5.79	7.82	Ok

Injection Date: 12/02/93 Data File: >B9140
Injection Time: 19:22 Scan: 70

Analyst's Signature: Suzanne M Lahl Batch#: _____

Sample Numbers: _____

8428910300



>B9140 INST 59952,BFB050 BFB050, 50ng MSCAL STD,6'X2mm 1% SP1000

70 SUB NRM

File: >B9140 Scan #: 70 Retn. time: 6.82

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.10	2.216	66.05	2.749	81.00	4.596	109.10	.410	142.15	2.052
37.10	7.920	67.05	1.888	87.00	4.021	111.15	.041	143.00	1.559
38.10	9.151	68.05	13.336	88.00	3.406	112.05	.739	146.00	.739
49.05	7.509	69.05	12.269	91.00	1.641	113.05	.246	157.00	1.436
50.05	25.400	70.05	.205	92.00	1.970	120.05	1.559	162.10	.985
51.05	8.248	72.05	1.436	93.00	4.144	123.05	.944	169.20	1.108
52.05	.287	73.05	5.211	94.00	10.546	125.15	.657	173.85	75.298
54.05	.205	74.05	17.439	95.00	100.000	127.05	.574	174.95	5.704
60.05	1.682	75.05	57.981	96.10	6.401	129.05	2.175	175.85	73.984
61.05	6.073	76.05	4.719	102.00	.205	130.05	1.477	176.95	5.786
62.05	5.540	77.05	.287	104.00	1.149	135.05	.944	180.15	1.847
63.05	2.380	79.05	3.570	106.10	.041	137.05	.164	182.05	1.518
64.05	.246	80.00	3.898	108.20	1.436	138.15	2.790	193.15	.287

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

BROMOFLUOROBENZENE (BFB) GC/MS TUNING AND MASS CALIBRATION
VOLATILE ORGANIC COMPOUNDS

INSTRUMENT ID: 59952
LAB FILE NO: >B9171
BFB INJECTION DATE: 12/05/93

BATCH #: QV2718
BFB INJECTION TIME: 17:14

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

LAB SAMPLE ID	DATA FILE	ANALYSIS DATE	ANALYSIS TIME
VSTD050	>B9172	12/05/93	17:39
BLANK	>B9173	12/05/93	18:39
178795	>B9174	12/05/93	19:35
178794	>B9175	12/05/93	20:23
178793	>B9176	12/05/93	21:12
178792	>B9177	12/05/93	22:01

See next page for ION ABUNDANCE CRITERIA and Spectra

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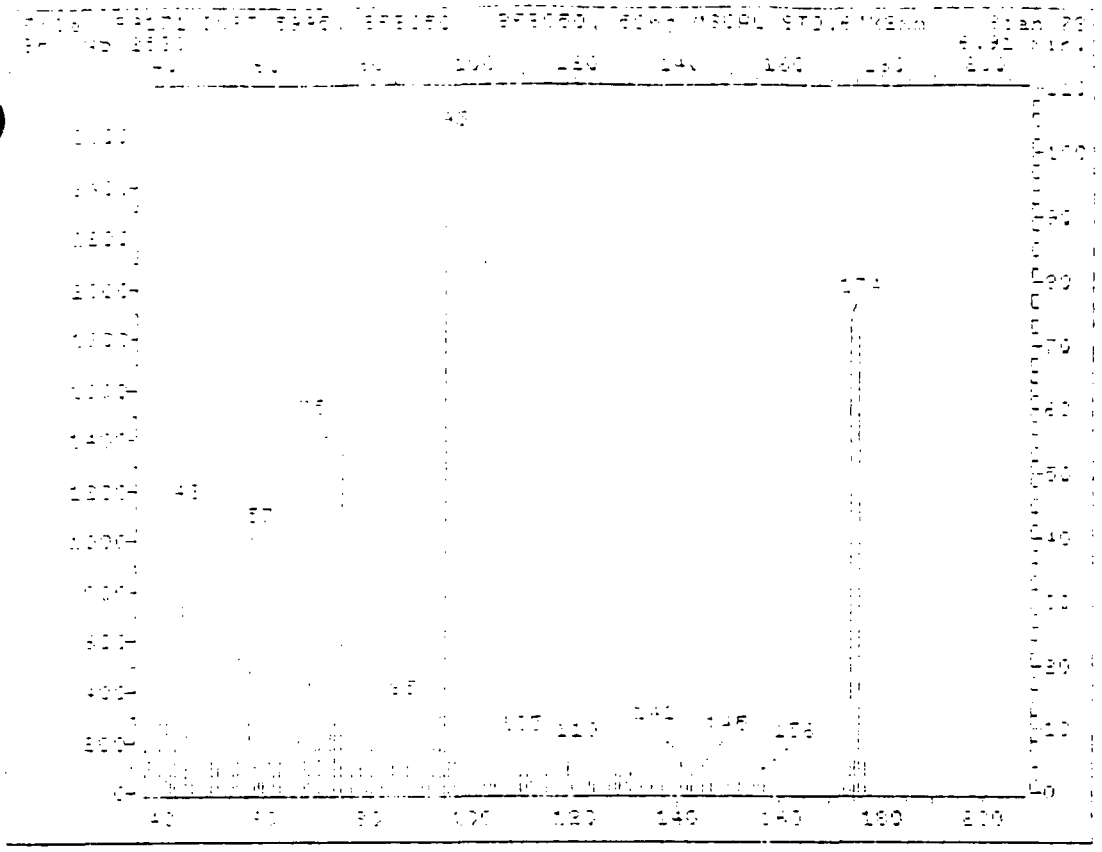
MEG

8428910302



GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

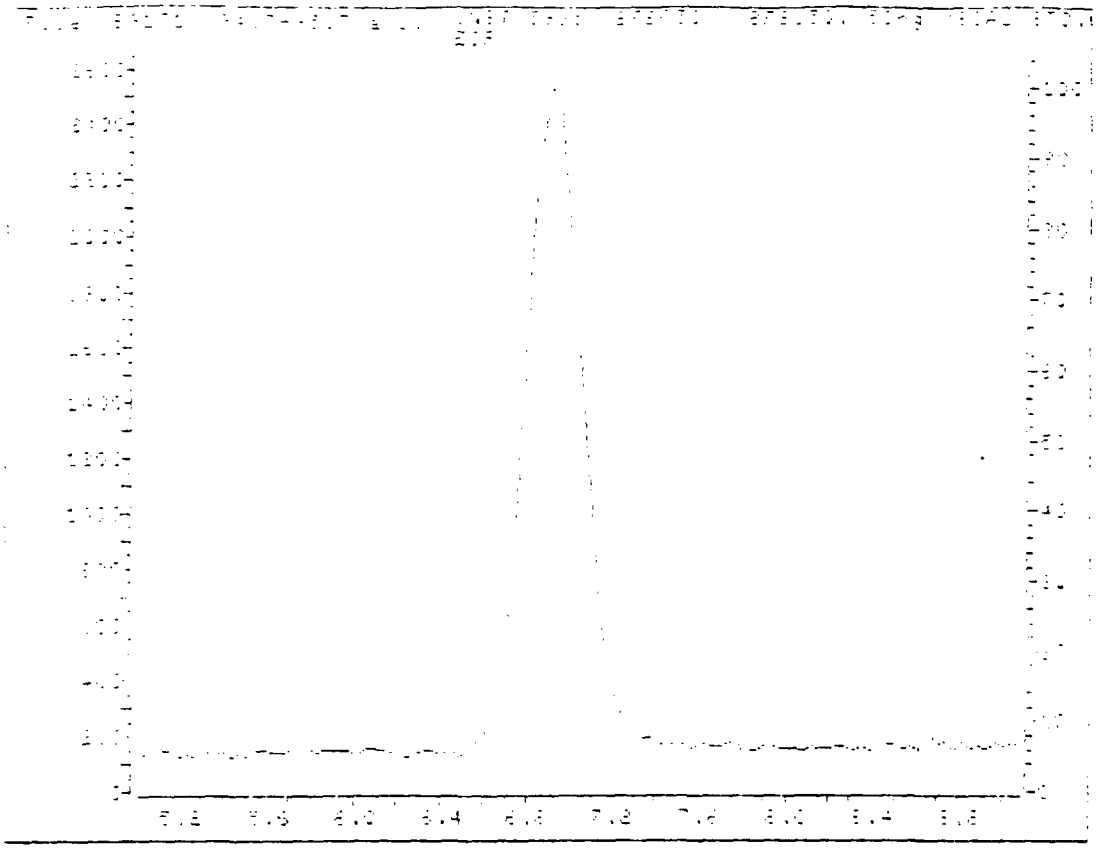
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	15-40% of mass 95	24.70	24.70	Ok
75	30-60% of mass 95	52.92	52.92	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.34	8.34	Ok
173	Less than 2% of mass 174	.87	1.17	Ok
174	Greater than 50% of mass 95	74.15	74.15	Ok
175	5-9% of mass 174	5.97	8.05	Ok
176	95-101% of mass 174	71.19	96.00	Ok
177	5-9% of mass 176	4.86	6.83	Ok

Injection Date: 12/05/93 Data File: >B9171
Injection Time: 17:14 Scan: 73

Analyst's Signature: Suzanne M Lahl Batch#: _____

Sample Numbers: _____

8428910303



>B9171 INST 5995, BFB050 BFB050, 50ng MSCAL STD,6'X2mm 1% SP 1000

73 NRM

File: >B9171 Scan #: 73 Retn. time: 6.91

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.10	2.767	57.05	38.814	81.00	8.893	110.10	2.727	137.05	2.213
37.10	7.549	58.05	8.261	82.00	4.506	111.05	2.925	141.05	4.822
38.10	6.166	59.05	2.727	83.10	8.577	112.05	2.095	142.05	1.976
39.10	10.870	59.95	2.411	85.10	11.304	113.15	1.621	142.90	2.767
40.00	13.004	60.95	5.455	86.00	2.569	114.95	2.964	145.10	3.202
41.10	36.008	62.05	5.810	86.90	5.178	115.95	1.660	146.80	1.225
42.10	9.605	63.05	4.862	88.00	8.972	118.05	2.055	150.00	1.186
43.10	42.292	64.95	1.779	89.00	3.162	119.05	4.704	152.10	2.016
44.00	30.711	67.05	7.984	91.00	6.206	119.95	1.028	155.00	2.134
45.10	18.182	68.05	14.150	92.00	3.478	123.15	2.095	156.00	2.253
46.10	1.383	69.05	27.431	93.00	6.680	124.05	1.186	156.90	1.304
48.95	5.217	70.05	8.538	94.00	11.897	127.05	2.134	159.10	1.660
50.05	24.704	71.15	19.012	95.00	100.000	128.05	2.767	172.70	.870
51.05	8.300	73.05	12.095	96.00	8.340	128.95	2.332	173.85	74.150
52.05	.830	74.05	16.324	97.10	5.771	130.05	1.225	174.85	5.968
53.05	4.743	75.05	52.925	102.90	2.292	131.05	3.043	175.85	71.186
54.05	3.123	77.05	4.427	104.00	1.542	133.15	2.016	176.95	4.862
55.05	21.621	79.05	5.336	104.30	1.186	134.25	1.067	208.80	.791
56.05	11.304	80.00	1.897	105.10	3.399	135.05	4.387		

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 14, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

Volatile Method Blank Summary by GC/MS

Data File: >B9142
Batch No : QV2718

Matrix: WATER

ASSOCIATED SAMPLES

Sample #	Data File	Analysis Date
178654 S	>B9143	12/02/93
178654 SD	>B9144	12/02/93

8428910305

QUANT REPORT

Operator ID: DD9617 Quant Rev: 6 Quant Time: 931202 21:40
Output File: ^B9142::QT Injected at: 931202 20:58
Data File: >B9142::B1 Dilution Factor: 1.00000
Name: INST 59952, BLANK MD 12/7/93
Misc: BLANK , QV2718, ~~S~~ L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931202 20:45

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.66	128.0	31521	50.00	UG/L	82
14)	1,2-Dichloroethane-d4	13.46	65.0	87700	42.22	UG/L	79
17)	*1,4-Difluorobenzene	21.06	114.0	127337	50.00	UG/L	90
31)	*Chlorobenzene-d5	25.84	117.0	107370	50.00	UG/L	98
~~32)~~	~~2-Hexanone~~ SL 12/9	~~23.24~~	~~43.0~~	~~3455~~	~~4.10~~	~~UG/L~~	100
36)	Toluene-d8	24.67	98.0	132825	47.77	UG/L	94
42)	Bromofluorobenzene	29.85	95.0	85430	48.37	UG/L	85

* Compound is ISTD

8428910306

MS data file header from : >B9142

Sample: INST 59952, BLANK Operator: DD9617 MS 12/02/93 20:58
Misc : BLANK , QV2718, S,5,5,6'X2mm 1% SP1000 ON CBPKB
Sys. #: 2 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: VOAB Tuning file: APEI02 No. of extra records: 2
Source temp.: 250 Analyzer temp.: 240 Transfer line temp. : 270

Chromatographic temperatures :	40.	220.	221.	0.	0.
Chromatographic times, min. :	4.0	20.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	1.0	0.0	0.0	0.0

>B9142 INST 59952, BLANK BLANK , QV2718, S,5,5,6'X2mm 1% SP1000

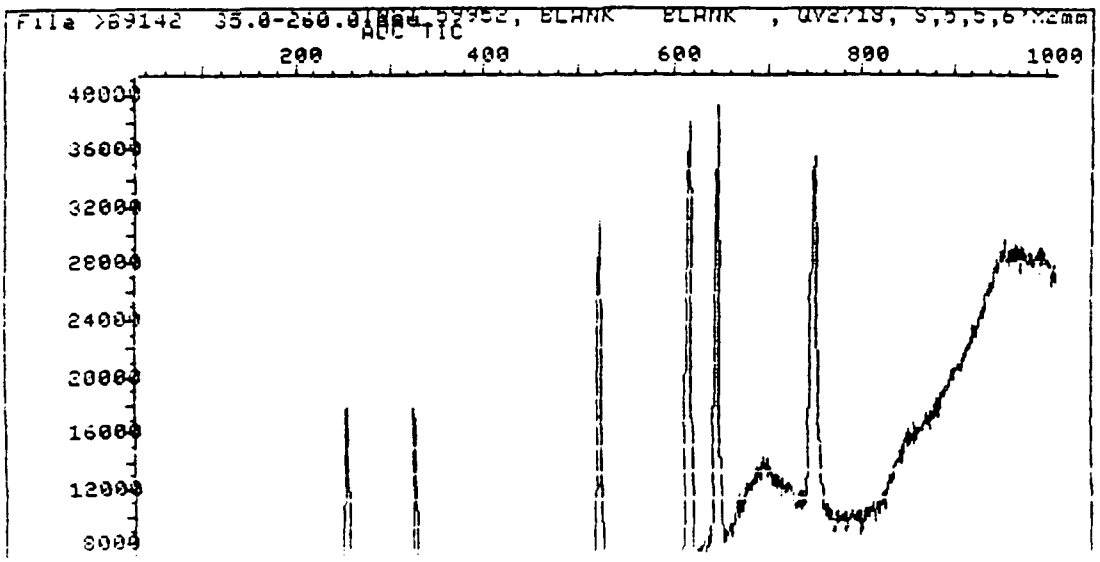
35.0: 260.0 ADC TIC
Upslope: .20 Area Reject: 21388. Max Peaks: 6 Bunching: 1
Dnslope: 0.00 Results File IB9142 Sorted by Time/Area INT

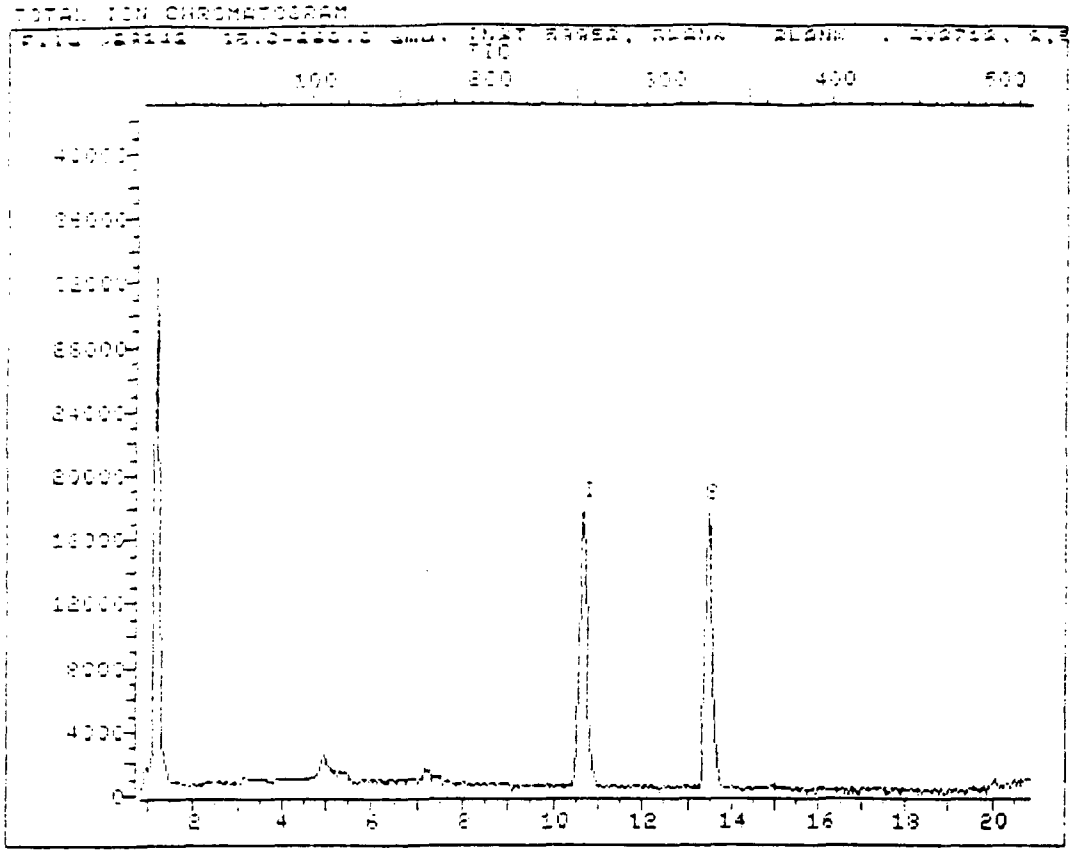
Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.66 I	248	255	264	17281	229745	213876	46.53	10.93
2	13.46 S	321	327	340	17158	211369	192965	41.98	9.86
3	21.06 I	517	523	530	30014	376349	346857	75.46	17.73
4	24.67 S	610	616	623	30493	592209	361346	78.61	18.47
5	25.84 I	639	646	653	31147	641938	380752	82.83	19.47
6	29.85 S	741	748	759	24876	900365	459669	100.00	23.50

Sum of corrected areas: 1955465.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	213876.	10.66	2.01 - 15.86
2	50.0	1:57 PM	TUE., 7	DEC., 1993 23.45
3	50.0	380752.	25.84	23.45 - 40.10





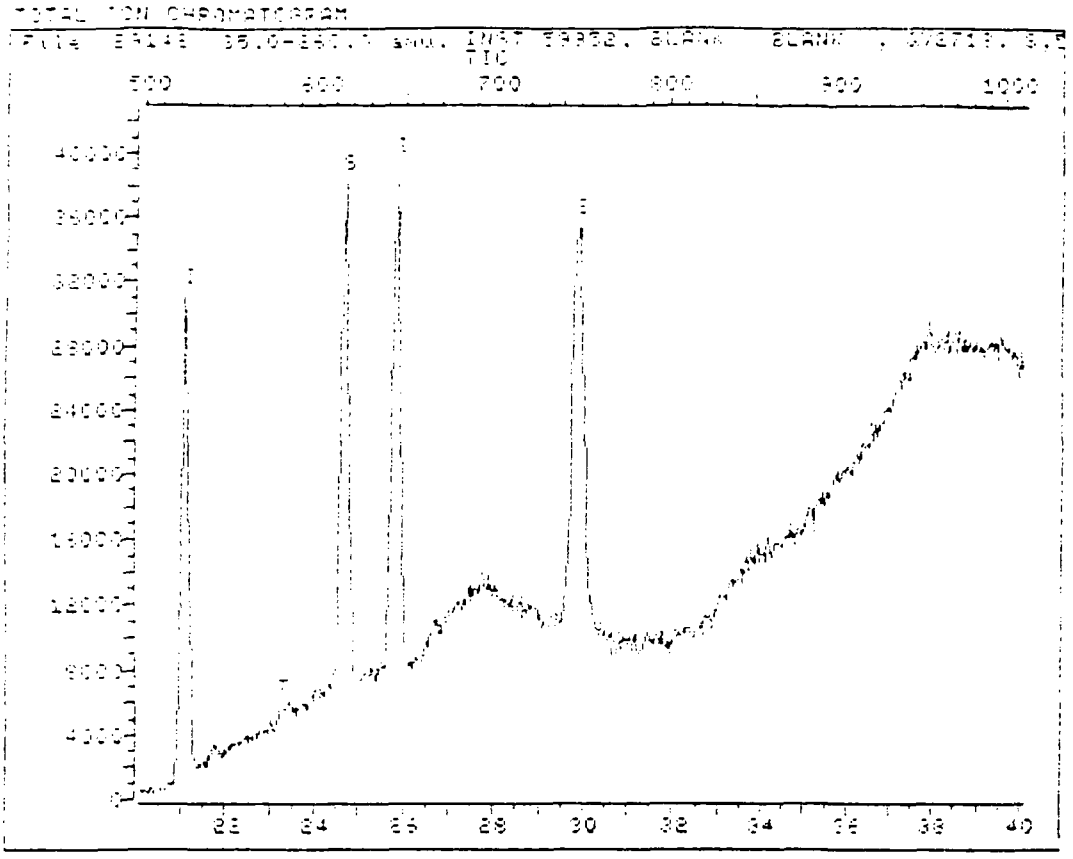
Data File: >B9142::B1 Quant Output File: ^B9142::QT
Name: INST 59952, BLANK
Misc: BLANK , QV2718, 5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931202 20:45

Operator ID: DD9617
Quant Time: 931202 21:40
Injected at: 931202 20:58

TIC page 1 of 2

8428910308



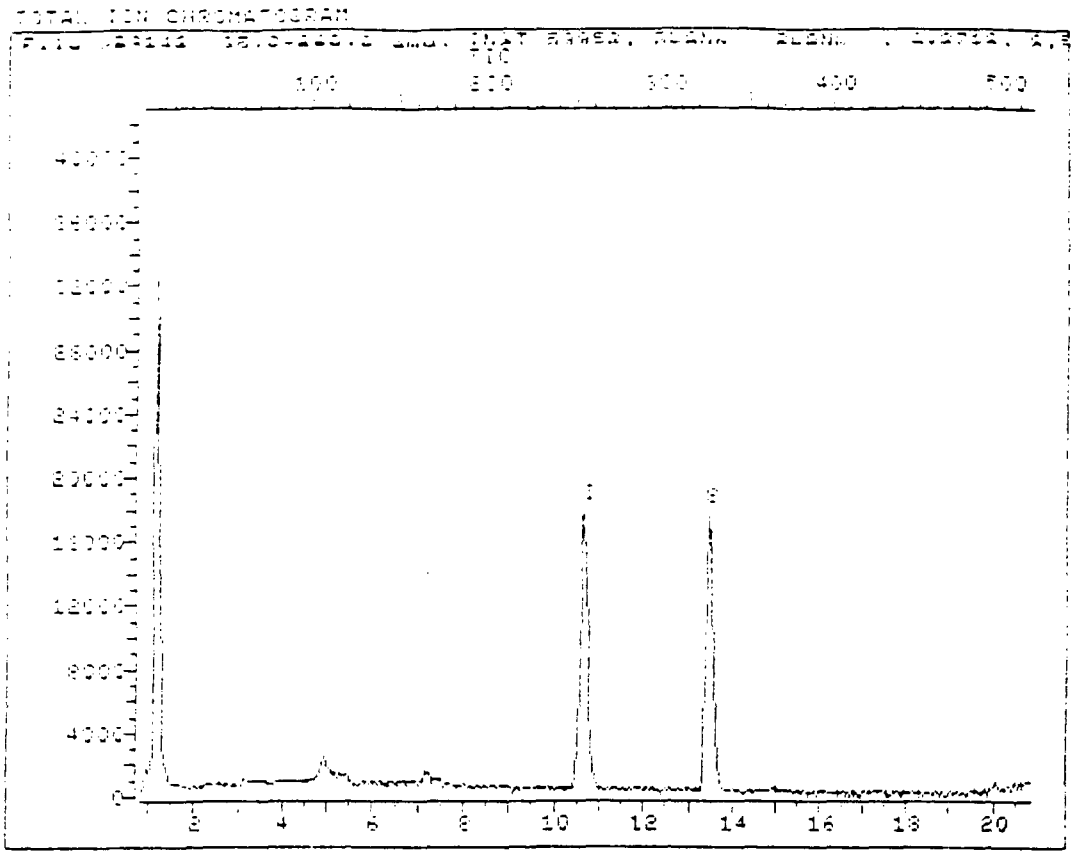
Data File: >B9142::B1 Quant Output File: ^B9142::QT
Name: INST 59952, BLANK
Misc: BLANK , QV2718, 5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931202 20:45

Operator ID: DD9617
Quant Time: 931202 21:40
Injected at: 931202 20:58

TIC page 2 of 2

8428910309



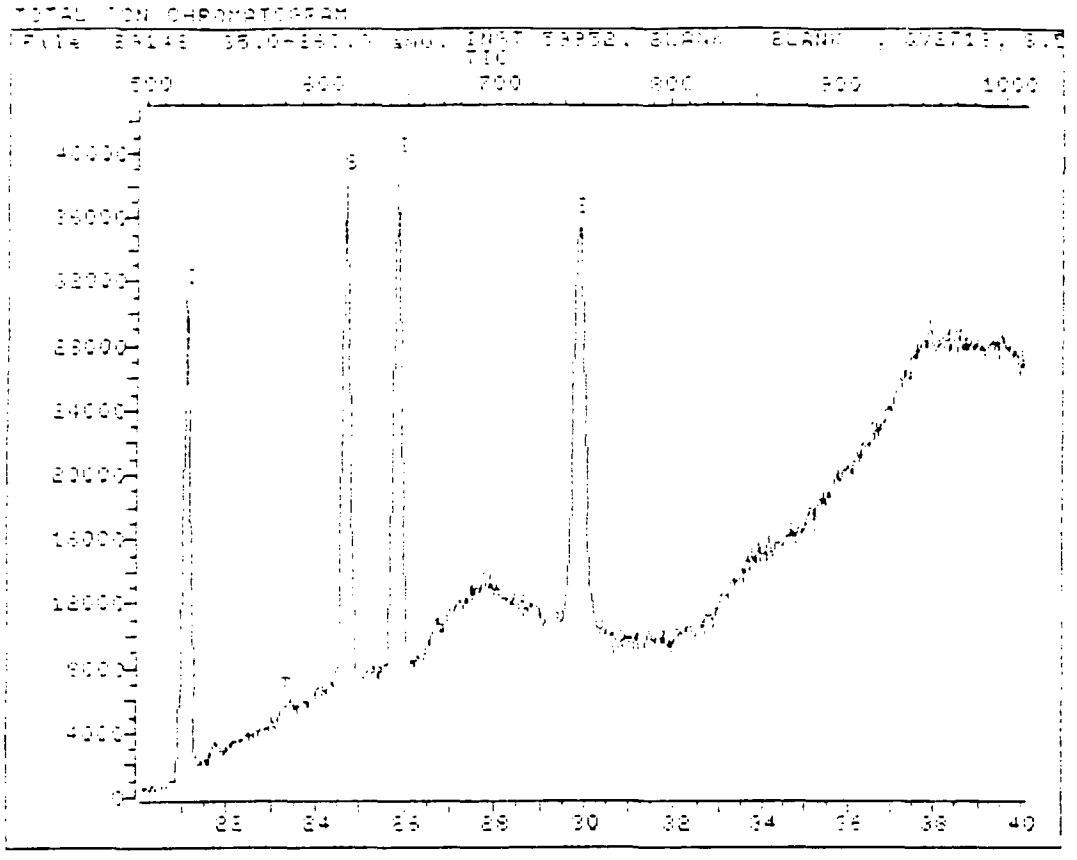
Data File: >B9142::B1 Quant Output File: ^B9142::QT
Name: INST 59952, BLANK
Misc: BLANK , QV2718, 5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931202 20:45

Operator ID: DD9617
Quant Time: 931202 21:40
Injected at: 931202 20:58

TIC page 1 of 2

8428910310



Data File: >B9142::B1 Quant Output File: ^B9142::QT
Name: INST 59952, BLANK
Misc: BLANK , QV2718, 5,5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931202 20:45

Operator ID: DD9617
Quant Time: 931202 21:40
Injected at: 931202 20:58

TIC page 2 of 2

8428910311

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 14, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

Volatile Method Blank Summary by GC/MS

Data File: >B9173
Batch No : QV2718

Matrix: WATER

ASSOCIATED SAMPLES

Sample #	Data File	Analysis Date
178795	>B9174	12/05/93
178794	>B9175	12/05/93
178793	>B9176	12/05/93
178792	>B9177	12/05/93

8428910312

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JANUARY 14, 1994

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

Volatile Organic Analysis by GC/MS

Sample ID: Method Blank
Data File: >B9173
Analysis Date: 12/05/93

Batch No: QV2718
Dilution Factor: 1
Column: 1%SP1000 cbpk b

Matrix: WATER

Init Sample vol= 5

Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Practical Quantitation Limit ug/l	Minimum Detection Limit ug/l
Chloromethane	U	5	1
Bromomethane	U	5	3
Vinyl chloride	U	5	2
Chloroethane	U	5	3
Methylene chloride	U	5	4
Acetone	U	20	7
Carbon disulfide	U	5	2
1,1-Dichloroethene	U	5	1
1,1-Dichloroethane	U	5	1
total-1,2-Dichloroethene	U	5	3
Chloroform	U	5	1
1,2-Dichloroethane	U	5	2
2-Butanone	U	20	11
1,1,1-Trichloroethane	U	5	2
Carbon tetrachloride	U	5	3
Bromodichloromethane	U	5	3
1,2-Dichloropropane	U	5	2
cis-1,3-Dichloropropene	U	5	1
Trichloroethene	U	5	2
Dibromochloromethane	U	5	4
1,1,2-Trichloroethane	U	5	2
Benzene	U	5	1
trans-1,3-Dichloropropene	U	5	1
Bromoform	U	5	4
4-Methyl-2-pentanone	U	20	3
2-Hexanone	U	20	6
Tetrachloroethene	U	5	2
1,1,2,2-Tetrachloroethane	U	5	3
Toluene	U	5	2
Chlorobenzene	U	5	1
Ethylbenzene	U	5	1
Styrene	U	5	2
total Xylenes	U	5	2
t-Butyl methyl ether	U	5	ND
t-Butyl alcohol	U	50	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not determined

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KAT

8428910313

INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 13, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >B9173
Lab number: BLANK
Fraction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

This BLANK corresponds to the following lab numbers:
178795 178794 178793 178792 178890 178892 178889 178888

Scan Number	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

Estimated total non-target compound concentration (excluding compounds flagged with A, B or **) in ug/l is: 0

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
* Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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MEG

8428910314

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931205 19:20
Output File: 'B9173::QT Injected at: 931205 18:39
Data File: >B9173::B1 Dilution Factor: 1.00000
Name: INST 59952, BLANK
Misc: BLANK , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.64	128.0	31201	50.00	UG/L	86
14)	1,2-Dichloroethane-d4	13.47	65.0	84737	50.77	UG/L	79
17)	*1,4-Difluorobenzene	21.08	114.0	137168	50.00	UG/L	91
31)	*Chlorobenzene-d5	25.81	117.0	109186	50.00	UG/L	96
~~33)~~	~~2-Hexanone~~ KS 12/10/93	23.25	43.0	2928	3.52	UG/L	100
36)	Toluene-d8	24.69	98.0	132576	48.63	UG/L	98
42)	Bromofluorobenzene	29.78	95.0	83992	49.25	UG/L	79

* Compound is ISTD

8428910315

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931206 20:31
Output File: SB9173::QT Injected at: 931205 18:39
Data File: >B9173::B1 Dilution Factor: 1.00000
Name: INST 59952, BLANK
Misc: BLANK , QU2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:29

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*Bromochloromethane	10.64	128.0	31201	50.00	UG/L	
11)	*1,4-Difluorobenzene	21.08	114.0	137168	50.00	UG/L	
15)	*Chlorobenzene-d5	25.81	117.0	109186	50.00	UG/L	

* Compound is ISTD

8428910316

MS data file header from : >B9173

Sample: INST 59952, BLANK Operator: KS9934 MS 12/05/93 18:39
Misc : BLANK , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB
Sys. #: 2 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: VOAB Tuning file: APEI02 No. of extra records: 2
Source temp.: 250 Analyzer temp.: 240 Transfer line temp. : 270

Chromatographic temperatures :	40.	220.	221.	0.	0.
Chromatographic times, min. :	4.0	20.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	1.0	0.0	0.0	0.0

>B9173 INST 59952, BLANK BLANK , QV2718, L,5,5,6'X2mm 1% SP1000

35.01 260.0 ADC TIC
Upslope: .20 Area Reject: 21533. Max Peaks: 6 Bunching: 1
Dnslope: 0.00 Results File IB9173 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.64 I	248	254	263	17888	232549	215331	50.66	11.19
2	13.47 S	321	327	336	16191	200657	186688	43.92	9.70
3	21.08 I	516	523	533	32284	359246	354377	83.37	18.42
4	24.69 S	609	616	622	31863	381151	364894	85.84	18.96
5	25.81 I	639	645	652	32484	406678	377432	88.79	19.61
6	29.86 S	739	749	758	23972	512360	425083	100.00	22.09

Sum of corrected areas: 1923805.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	215331.	10.64	1.99 - 15.86
2	50.0	354377.	21.08	15.86 - 23.44
3	50.0	381684.	25.81	23.44 - 40.10

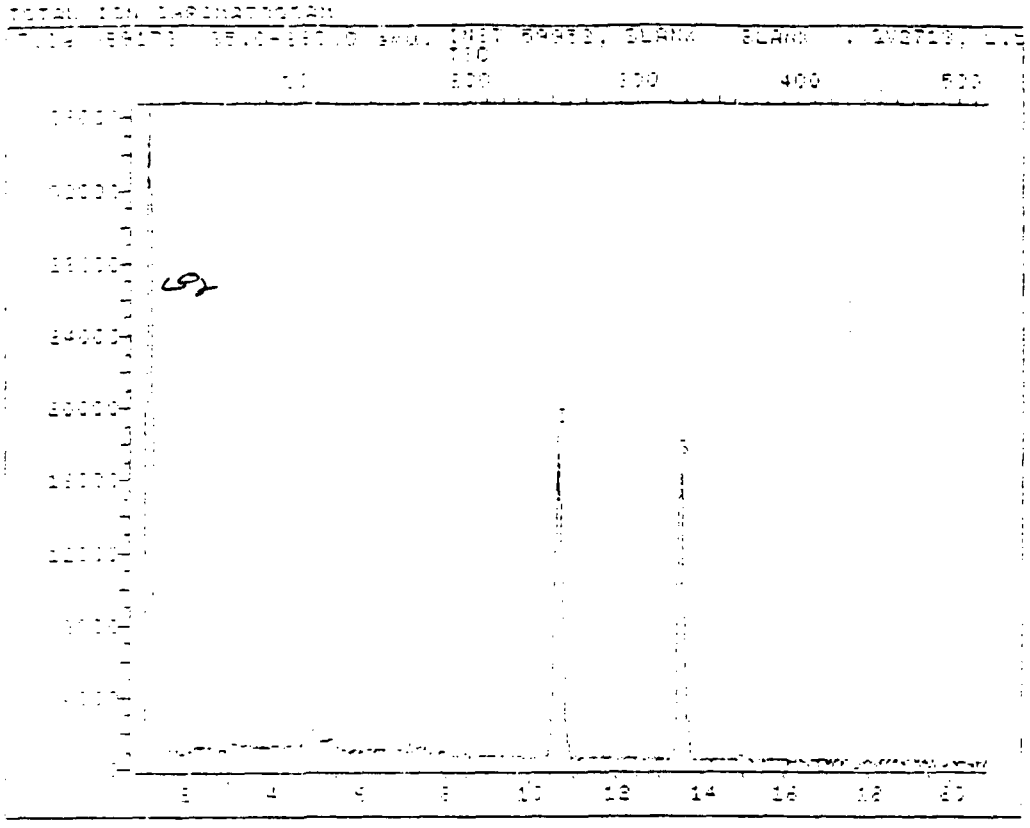
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

2:51 PM TUE., 7 DEC., 1993

8428910317



Data File: >B9173::B1 Quant Output File: ^B9173::QT
Name: INST 59952, BLANK
Misc: BLANK , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

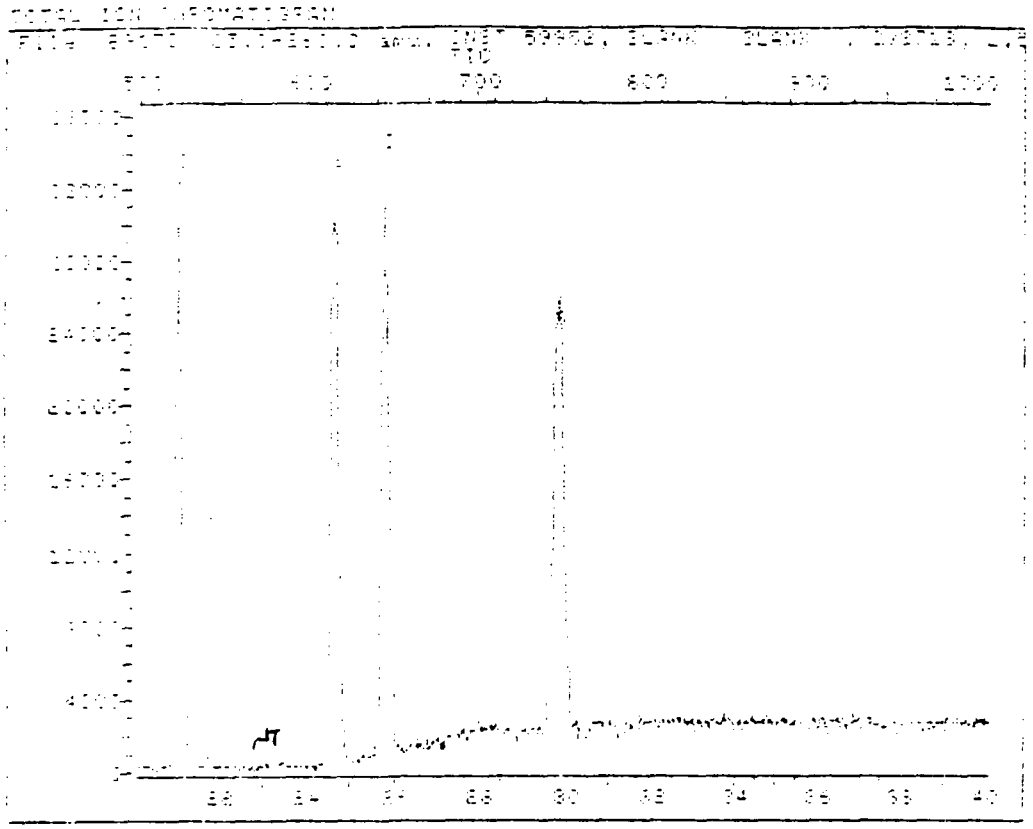
Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 19:20
Injected at: 931205 18:39

TIC page 1 of 2

I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT = NON TARGET

8428910318



Data File: >B9173::B1 Quant Output File: ^B9173::QT
Name: INST 59952, BLANK
Misc: BLANK , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 19:20
Injected at: 931205 18:39

TIC page 2 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NON TARGET

8428910319

HSL Compounds

QV2718
Blank > B9142
178654 S
178654 SD
Blank > B9173
178795
178794
178793
178792

Case No:

Instrument ID: 28

Contractor: ICM Inc.

Calibration Date: 11/24/93

Contract No:

Minimum $\overline{RF}$ for SPCC is .30 Maximum % RSD for CCC is 30%

Laboratory ID:	>B9060	>B9059	>B9058	>B9057	>B9056					
	RF	RF	RF	RF	RF					
Compound	20.00	50.00	100.00	250.00	500.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Chloromethane	1.25022	1.32159	1.30735	1.30823	1.20139	.196	1.27775	3.974		**
Bromomethane	.25287	.32981	.33243	.37155	.39088	.295	.33551	15.797		
Vinyl Chloride	.29397	.31623	.35629	.37895	.42001	.340	.35309	14.169	*	
Chloroethane	.58749	.60312	.60546	.66559	.63918	.454	.61977	5.142		
Methylene Chloride	1.80261	1.51580	1.39473	1.42153	1.33109	.681	1.49315	12.411		
Acetone	.59904	.46432	.44526	.44662	.40610	.775	.47227	15.667		
Carbon Disulfide	3.51376	3.84895	3.75951	4.16327	3.95980	.828	3.84506	6.200		
Trichlorofluoromethane	3.63515	3.53248	3.61363	3.78566	3.68444	.886	3.65027	2.560		
1,1-Dichloroethene	1.14658	1.15493	1.14123	1.20621	1.16379	.955	1.16255	2.225	*	
1,1-Dichloroethane	2.63211	2.56386	2.62766	2.73513	2.62637	1.080	2.63703	2.338		**
1,2-Dichloroethene (total)	1.22163	1.28619	1.26675	1.34105	1.28809	1.151	1.28074	3.361		
Chloroform	3.41688	3.19101	3.24149	3.36550	3.27091	1.203	3.29713	2.799	*	
1,2-Dichloroethane	3.09036	3.30784	3.26905	3.09072	2.95440	1.274	3.14251	4.615		
1,2-Dichloroethane-d4	2.64829	2.58963	2.69528	3.04148	3.53167	1.264	2.90131	13.575		(Conc=50.0,50.0,50.0,50.0
2-Butanone	.72630	.64167	.69859	.68871	.59103	1.272	.66930	7.970		
1,1,1-Trichloroethane	.70999	.69337	.68906	.72473	.66040	.705	.69551	3.479		
Carbon Tetrachloride	.60017	.62438	.62376	.66796	.64272	.723	.63180	3.994		
Vinyl Acetate	.57226	.53464	.55821	.57715	.54382	.736	.55722	3.252		
Bromodichloromethane	.74821	.71139	.72018	.75636	.73684	.749	.73459	2.556		
1,2-Dichloropropane	.38025	.35364	.35737	.37298	.35236	.814	.36332	3.451	*	
trans-1,3-Dichloropropene	.63635	.59179	.60741	.62429	.57707	.867	.60738	3.937		
Trichloroethene	.49761	.45226	.46602	.45888	.41991	.854	.45894	6.079		
Dibromochloromethane	.63160	.58002	.60904	.59232	.57211	.879	.59702	3.992		
1,1,2-Trichloroethane	.34330	.31506	.32219	.31906	.29484	.885	.31889	5.430		
Benzene	1.03873	.96775	.96746	1.02392	.93295	.880	.98614	4.455		
cis-1,3-Dichloropropene	.64106	.60303	.62278	.65233	.61753	.825	.62735	3.108		
2-Chloroethylvinylether	.23014	.20482	.21178	.21521	.21691	.938	.21577	4.298		
Bromoform	.52529	.51140	.54997	.55927	.53451	1.004	.53609	3.562		**
4-Methyl-2-Pentanone	.53159	.46704	.48191	.47121	.43580	.840	.47751	7.280		
2-Hexanone	.46027	.33526	.39038	.35844	.31261	.899	.37139	15.461		

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 14, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

Volatile Method Blank Summary by GC/MS

Data File: >B9173
Batch No : QV2718

Matrix: WATER

ASSOCIATED SAMPLES

Sample #	Data File	Analysis Date
178795	>B9174	12/05/93
178794	>B9175	12/05/93
178793	>B9176	12/05/93
178792	>B9177	12/05/93

8428910321

INDUSTRIAL CORROSION MANAGEMENT, INC.
1152 Route 10
Randolph, NJ 07869
201-584-0330
JANUARY 14, 1994

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

Volatile Organic Analysis by GC/MS

Sample ID: Method Blank
Data File: >B9173
Analysis Date: 12/05/93

Batch No: QV2718
Dilution Factor: 1
Column: 1%SP1000 cbpk b

Matrix: WATER

Init Sample vol= 5

Final volume= 5

Conc. in Sample = (Conc. on Quant Report/Initial Volume)*Final Volume

Parameter	Result ug/l	Practical Quantitation Limit ug/l	Minimum Detection Limit ug/l
Chloromethane	U	5	1
Bromomethane	U	5	3
Vinyl chloride	U	5	2
Chloroethane	U	5	3
Methylene chloride	U	5	4
Acetone	U	20	7
Carbon disulfide	U	5	2
1,1-Dichloroethene	U	5	1
1,1-Dichloroethane	U	5	1
total-1,2-Dichloroethene	U	5	3
Chloroform	U	5	1
1,2-Dichloroethane	U	5	2
2-Butanone	U	20	11
1,1,1-Trichloroethane	U	5	2
Carbon tetrachloride	U	5	3
Bromodichloromethane	U	5	3
1,2-Dichloropropane	U	5	2
cis-1,3-Dichloropropene	U	5	1
Trichloroethene	U	5	2
Dibromochloromethane	U	5	4
1,1,2-Trichloroethane	U	5	2
Benzene	U	5	1
trans-1,3-Dichloropropene	U	5	1
Bromoform	U	5	4
4-Methyl-2-pentanone	U	20	3
2-Hexanone	U	20	6
Tetrachloroethene	U	5	2
1,1,2,2-Tetrachloroethane	U	5	3
Toluene	U	5	2
Chlorobenzene	U	5	1
Ethylbenzene	U	5	1
Styrene	U	5	2
total Xylenes	U	5	2
t-Butyl methyl ether	U	5	ND
t-Butyl alcohol	U	50	ND

ug/l = micrograms/liter or ppb

U: Indicates a compound was analyzed for but not detected.
J: Indicates an estimated value. It is utilized when a reported value meets the identification criteria but the result is less than the specified detection limit but greater than zero.

Note: Dichlorobenzenes, when applicable analyzed as semi-volatiles.
ND: Not determined

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KAT

8428910322

INDUSTRIAL CORROSION MANAGEMENT, Inc.
1152 Route 10
Randolph, NJ 07869
201-584-0330
DECEMBER 13, 1993

Certified for: NJ, PA, DE, and NY(DOH)
NJ #14116 NY #11376
US EPA Historic CLP Lab

LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH
ESTIMATED CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS.

Data file name: >B9173
Lab number: BLANK
Fraction: VOLATILE

Initial Sample Wt/Vol=5 Final Volume=5

This BLANK corresponds to the following lab numbers:
178795 178794 178793 178792 178890 178892 178889 178888

Scan Number	CAS No.	Retention Time	Compound Name	Molecular Weight	Estimated Concentration ug/l
			None found		

Estimated total non-target compound concentration (excluding compounds flagged with A, B or **) in ug/l is: 0

A: Indicates that the compound is an acetone based aldol-type condensation product formed by concentrating the extraction solvent (1:1 acetone/methylene chloride).
B: Indicates that the analyte was found in the blank as well as the sample. It further indicates possible/probable blank contamination.
C: Co-eluting and/or poorly resolved non-target compounds cause superimposed spectra that prevent identification of individual compounds.
* Compounds flagged are from diluted analysis.
** This compound is not flagged B; it was not found in the corresponding blank. However, it is commonly found as a laboratory contaminant.

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MEG

8428910323

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931205 19:20
Output File: >B9173::QT Injected at: 931205 18:39
Data File: >B9173::B1 Dilution Factor: 1.00000
Name: INST 59952, BLANK
Misc: BLANK , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.64	128.0	31201	50.00	UG/L	86
14)	1,2-Dichloroethane-d4	13.47	65.0	84737	50.77	UG/L	79
17)	*1,4-Difluorobenzene	21.08	114.0	137168	50.00	UG/L	91
31)	*Chlorobenzene-d5	25.81	117.0	109186	50.00	UG/L	96
~~33)~~	~~2-Hexanone~~ 12/10/93	23.25	43.0	2928	3.52	UG/L	100
36)	Toluene-d8	24.69	98.0	132576	48.63	UG/L	98
42)	Bromofluorobenzene	29.78	95.0	83992	49.25	UG/L	79

* Compound is ISTD

8428910324

QUANT REPORT

Operator ID: KB9934 Quant Rev: 6 Quant Time: 931206 20:31
Output File: SB9173::QT Injected at: 931205 18:39
Data File: >B9173::B1 Dilution Factor: 1.00000
Name: INST 59952, BLANK
Misc: BLANK , QU2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931206 20:29

	Compound	R.T.	Q ion	Area	Conc	Units
1)	*Bromochloromethane	10.64	128.0	31201	50.00	UG/L
11)	*1,4-Difluorobenzene	21.08	114.0	137168	50.00	UG/L
15)	*Chlorobenzene-d5	25.81	117.0	109186	50.00	UG/L

* Compound is ISTD

8428910325

MS data file header from : >B9173

Sample: INST 59952, BLANK Operator: KS9934 MS 12/05/93 18:
Misc : BLANK , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB
Sys. #: 2 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: VOAB Tuning file: APEI02 No. of extra records: 2
Source temp.: 250 Analyzer temp.: 240 Transfer line temp. : 270

Chromatographic temperatures :	40.	220.	221.	0.	0.
Chromatographic times, min. :	4.0	20.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	1.0	0.0	0.0	0.0

>B9173 INST 59952, BLANK BLANK , QV2718, L,5,5,6'X2mm 1% SP1000

35.01 260.0 ADC TIC
Upslope: .20 Area Reject: 21533. Max Peaks: 6 Bunching: 1
Dnslope: 0.00 Results File IB9173 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% o tot
1	10.64 I	248	254	263	17888	232549	215331	50.66	11.
2	13.47 S	321	327	336	16191	200657	186688	43.92	9.
3	21.08 I	516	523	533	32284	359246	354377	83.37	18.
4	24.69 S	609	616	622	31863	381151	364894	85.84	18.
5	25.81 I	639	645	652	32484	406678	377432	88.79	19.
6	29.86 S	739	749	758	23972	512360	425083	100.00	22.

Sum of corrected areas: 1923805.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	215331.	10.64	1.99 - 15.86
2	50.0	354377.	21.08	15.86 - 23.44
3	50.0	381684.	25.81	23.44 - 40.10

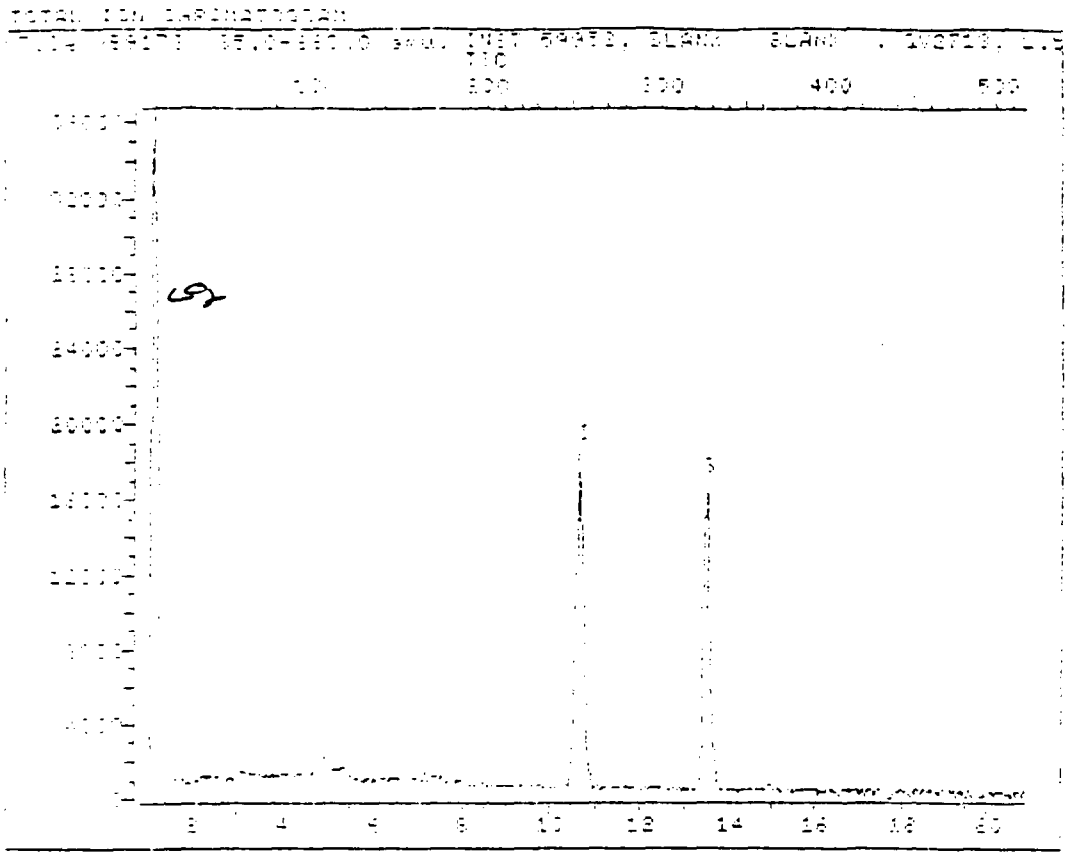
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

2:51 PM TUE., 7 DEC., 1993

8428910326



Data File: >B9173::B1 Quant Output File: ^B9173::QT
Name: INST 59952, BLANK
Misc: BLANK , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

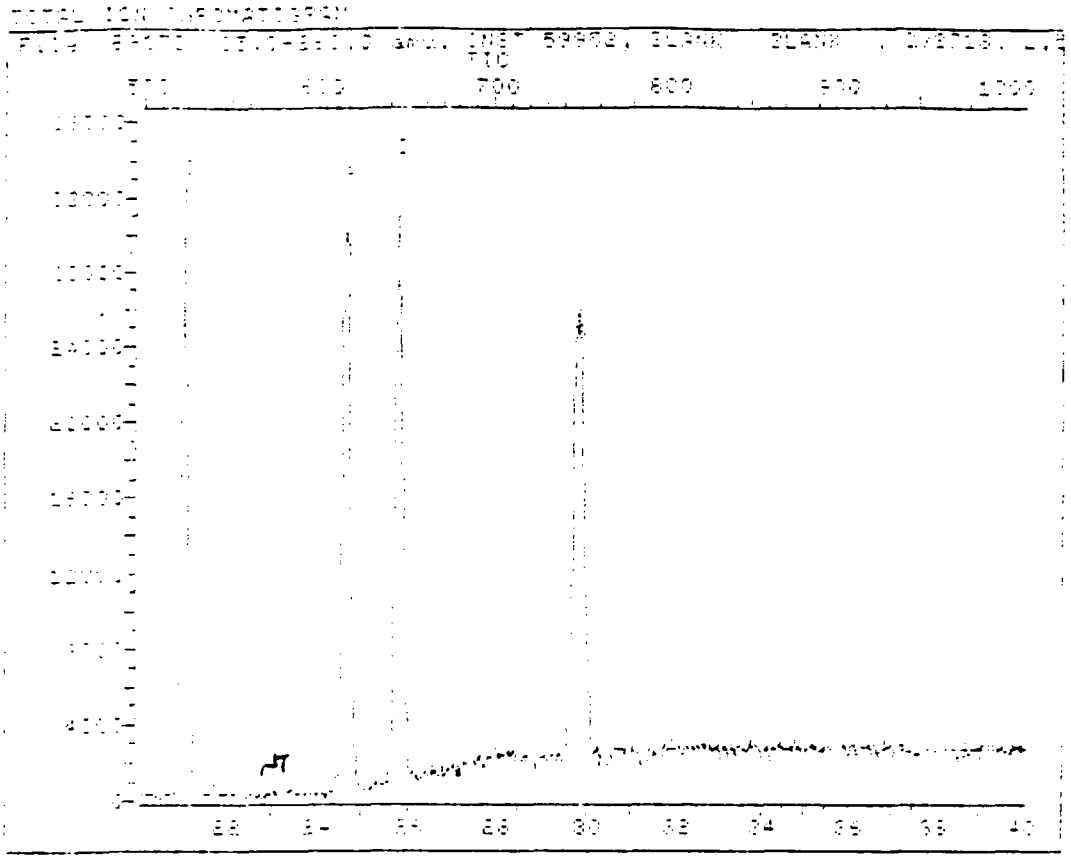
Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 19:20
Injected at: 931205 18:39

TIC page 1 of 2

I = INTERNAL STANDARD
S = SURROGATE
T = TARGET
NT = NON TARGET

8428910327



Data File: >B9173::B1 Quant Output File: ^B9173::QT
Name: INST 59952, BLANK
Misc: BLANK , QV2718, L,5,5,6'X2mm 1% SP1000 ON CBPKB

Id File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931205 18:27

Operator ID: KS9934
Quant Time: 931205 19:20
Injected at: 931205 18:39

TIC page 2 of 2

I =INTERNAL STANDARD
S =SURROGATE
T =TARGET
NT=NON TARGET

8428910328

QV2718
Blank > B9142
178654 S
178654 SD
Blank > B9173
178795
178794
178793
178792

Case No:

Instrument ID: 2B

Contractor: ICM Inc.

Calibration Date: 11/26/93

Contract No:

Minimum $\overline{RF}$ for SPCC is .30 Maximum % RSD for CCC is 30%

Compound	>B9060 RF 20.00	>B9059 RF 50.00	>B9058 RF 100.00	>B9057 RF 250.00	>B9056 RF 500.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Chloromethane	1.25022	1.32159	1.30735	1.30823	1.20139	.196	1.27775	3.974		**
Bromomethane	.25287	.32981	.33243	.37155	.39088	.295	.33551	15.797		
Vinyl Chloride	.29597	.31625	.35629	.37895	.42001	.340	.35309	14.169	*	
Chloroethane	.58749	.60312	.60546	.66559	.63918	.454	.61977	5.142		
Methylene Chloride	1.80261	1.51580	1.39473	1.42153	1.33109	.681	1.49315	12.411		
Acetone	.59904	.46432	.44526	.44662	.40610	.775	.47227	15.667		
Carbon Disulfide	3.51376	3.84895	3.75951	4.16327	3.93980	.828	3.84506	6.200		
Trichlorofluoromethane	3.63515	3.53248	3.61363	3.78566	3.68444	.886	3.65027	2.560		
1,1-Dichloroethene	1.14658	1.15493	1.14123	1.20621	1.16379	.955	1.16255	2.225	*	
1,1-Dichloroethane	2.63211	2.56386	2.62766	2.73513	2.62637	1.080	2.63703	2.358		**
1,2-Dichloroethene (total)	1.22163	1.28619	1.26675	1.34105	1.28809	1.151	1.28074	3.361		
Chloroform	3.41688	3.19101	3.24149	3.36550	3.27091	1.203	3.29713	2.799	*	
1,2-Dichloroethane	3.09036	3.30784	3.26905	3.09092	2.95440	1.274	3.14251	4.615		
1,2-Dichloroethane-d4	2.64829	2.58963	2.69528	3.04148	3.53167	1.264	2.90131	13.575		(Conc=50.0,50.0,50.0,50.
2-Butanone	.72630	.64167	.69659	.68891	.59103	1.272	.66930	7.970		
1,1,1-Trichloroethane	.70999	.69337	.68906	.72473	.66040	.705	.69551	3.479		
Carbon Tetrachloride	.60017	.62438	.62376	.66796	.64272	.723	.63180	3.994		
Vinyl Acetate	.57226	.53464	.55821	.57715	.54382	.736	.55722	3.252		
Bromodichloromethane	.74821	.71139	.72018	.75636	.73684	.749	.73459	2.556		
1,2-Dichloropropane	.38025	.35364	.35737	.37298	.35236	.814	.36332	3.451	*	
trans-1,3-Dichloropropene	.63635	.59179	.60741	.62429	.57707	.867	.60738	3.937		
Trichloroethene	.49761	.45226	.46602	.45888	.41991	.854	.45894	6.079		
Dibromochloromethane	.63160	.58002	.60904	.59232	.57211	.879	.59702	3.992		
1,1,2-Trichloroethane	.34330	.31506	.32219	.31906	.29484	.885	.31889	5.430		
Benzene	1.03873	.96775	.96746	1.02392	.93285	.880	.98614	4.455		
cis-1,3-Dichloropropene	.64106	.60303	.62278	.65233	.61753	.925	.62735	3.108		
2-Chloroethylvinylether	.23014	.20482	.21178	.21521	.21691	.938	.21577	4.298		
Bromoform	.52529	.51140	.54997	.55927	.53451	1.004	.53609	3.562		**
4-Methyl-2-Pentanone	.53159	.46704	.48191	.47121	.43580	.840	.47751	7.280		
2-Hexanone	.46027	.33526	.39038	.35944	.31261	.899	.37139	15.461		

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

HSL Compounds

Case No: ----------

Instrument ID: 2B

Contractor: ICM Inc.

Calibration Date: 11/24/93 11/30/94

Contract No: ----------

Minimum $\overline{RF}$ for SPCC is .30 Maximum % RSD for CCC is 30%

Laboratory ID:	>B9060	>B9059	>B9058	>B9057	>B9056						
	RF	RF	RF	RF	RF						
Compound	20.00	50.00	100.00	250.00	500.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
Tetrachloroethene	.42731	.42984	.40673	.42814	.39479	.911	.41736	3.776			
1,1,2,2-Tetrachloroethane	.48500	.45213	.44552	.46178	.46029	.907	.46094	3.246		**	
Toluene-d8	1.25455	1.29759	1.23292	1.27182	1.27097	.955	1.26557	1.867			(Conc=50.0,50.0,50.0,50.0
Toluene	.79996	.77019	.74840	.75778	.73107	.963	.76148	3.390	*		
Chlorobenzene	.99040	.98737	.96651	.96835	.92950	1.005	.96243	2.508		**	
Ethylbenzene	.50998	.50070	.47168	.48290	.46336	1.076	.48572	4.011	*		
Styrene	1.06038	1.02823	1.02799	1.02801	1.02487	1.207	1.03390	1.438			
Xylene (total)	.63421	.60167	.58993	.59852	.58967	1.249	.60280	3.041			(Conc=40.0,100.0,200.0,50
Bromofluorobenzene	.77177	.83829	.77947	.83542	.86092	1.158	.81718	4.909			(Conc=50.0,50.0,50.0,50.0

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Calibration Report

QN2718
Blank >89173
178795
178794
178793
178792

Title: CRFILE FOR EXTRA VOA COMPOUNDS
Calibrated: 951206 20:24

Compound	Files: >89056 RF 500.00	>89057 RF 250.00	>89058 RF 100.00	>89059 RF 50.00	>89060 RF 20.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Dichlorodifluoromethane	.68552	.59947	.54537	.51266	.50882	.549	.56759	12.744	(Conc=40.0,100.0,200.0,500.0,1000
Acrolein	.09963	.12000	.12240	.09368	.09414	.771	.10417	15.082	(Conc=2500.0,1250.0,500.0,250.0,
Acrylonitrile	.53091	.56335	.54972	.52529	.54355	.856	.54316	4.179	(Conc=2500.0,1250.0,500.0,250.0,
t-Butyl methyl ether	4.39119	4.35935	4.46703	4.21155	4.73965	1.379	4.45353	4.583	
t-Butyl alcohol	.18505	.19255	.17437	.15805	.19264	1.132	.18052	8.099	(Conc=1250.0,625.0,250.0,125.0,5
Diisopropyl ether	1.36425	1.35600	1.25919	1.20213	1.31047	.929	1.30440	5.990	(Conc=1250.0,625.0,250.0,125.0,6
Ethylene dibromide	.35139	.40799	.43057	.42317	.48584	.926	.42179	10.578	(Conc=1250.0,625.0,250.0,125.0,6
1,4-Dioxane	.00284	.00311	.00315	.00296	.00284	1.840	.00297	4.751	(Conc=25000.,12500.,5000.0,2500.
m-Dichlorobenzene	1.03081	1.02149	1.05959	1.05749	1.05651	1.366	1.04495	1.678	
o-Dichlorobenzene	.85690	.76382	1.00053	.91677	.92787	1.396	.93359	5.799	
p-Dichlorobenzene	1.07927	1.06331	.95518	1.06812	1.26102	1.418	1.08159	10.762	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

RRSD - Percent Relative Standard Deviation

8428910331

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931126 20:19
Output File: ^B9056::QT Injected at: 931126 19:38
Data File: >B9056::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD500
Misc: VSTD500 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931124 09:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.66	128.0	34294	50.00	UG/L	88
2)	Chloromethane	2.08	50.0	412004	729.04	UG/L	95
3)	Bromomethane	3.13	94.0	134047M	602.08	UG/L	88
4)	Vinyl Chloride	3.59	62.0	144038M	717.89	UG/L	94
5)	Chloroethane	4.84	64.0	219200	557.35	UG/L	96
6)	Methylene Chloride	7.24	84.0	456483	477.65	UG/L	85
7)	Acetone	8.21	43.0	139269	401.22	UG/L	75
8)	Carbon Disulfide	8.80	76.0	1351114	588.48	UG/L	100
9)	Trichlorofluoromethane	9.42	101.0	1263543	519.87	UG/L	100
10)	1,1-Dichloroethene	10.15	96.0	399109	515.05	UG/L	94
11)	1,1-Dichloroethane	11.47	63.0	900687	484.35	UG/L	94
12)	1,2-Dichloroethene (total)	12.21	96.0	441739	506.13	UG/L	89
13)	Chloroform	12.79	83.0	1121727	470.21	UG/L	91
14)	1,2-Dichloroethane-d4	13.45	65.0	121115	58.07	UG/L	80
15)	1,2-Dichloroethane	13.53	62.0	1013181	387.66	UG/L	95
16)	2-Butanone	13.53	43.0	202689	450.48	UG/L	97
17)	*1,4-Difluorobenzene	21.02	114.0	148245	50.00	UG/L	90
18)	1,1,1-Trichloroethane	14.85	97.0	979013	438.50	UG/L	77
19)	Carbon Tetrachloride	14.85	117.0	123703	61.32	UG/L	68
19)	Carbon Tetrachloride	15.24	117.0	952796	472.28	UG/L	88
20)	Vinyl Acetate	15.47	43.0	806182	537.11	UG/L	70
21)	Bromodichloromethane	15.74	83.0	1092321	514.11	UG/L	86
22)	1,2-Dichloropropane	17.14	63.0	522360	493.82	UG/L	93
23)	cis-1,3-Dichloropropene	17.37	75.0	915458	497.32	UG/L	97
24)	Trichloroethene	17.96	130.0	622501	419.88	UG/L	95
25)	Dibromochloromethane	18.50	129.0	848118	483.17	UG/L	97
26)	1,1,2-Trichloroethane	18.62	97.0	437093	465.50	UG/L	96
27)	Benzene	18.50	78.0	1382898	486.20	UG/L	88
28)	trans-1,3-Dichloropropene	18.66	75.0	855477	468.13	UG/L	99
29)	2-Chloroethylvinylether	19.74	63.0	321565	496.24	UG/L	65
30)	Bromoform	21.10	173.0	792385	535.75	UG/L	98
31)	*Chlorobenzene-d5	25.80	117.0	117690	50.00	UG/L	96
32)	4-Methyl-2-Pentanone	21.68	43.0	512890	453.96	UG/L	91
33)	2-Hexanone	23.20	43.0	367910	442.37	UG/L	100
34)	Tetrachloroethene	23.51	164.0	464623	455.81	UG/L	96
35)	1,1,2,2-Tetrachloroethane	23.39	83.0	541720	669.87	UG/L	96
36)	Toluene-d8	24.63	98.0	149580	47.66	UG/L	93
37)	Toluene	24.83	92.0	860391	507.15	UG/L	91
38)	Chlorobenzene	25.92	112.0	1093929	491.13	UG/L	91
39)	Ethylbenzene	27.76	106.0	545325	468.46	UG/L	95
40)	Styrene	31.10	104.0	1206173	505.07	UG/L	78
41)	Xylene (total)	31.38	106.0	701873^	493.21	UG/L	90
41)	Xylene (total)	32.19	106.0	1387977	975.34	UG/L	92

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	Compound	R.T.	Q ion	Area	Conc	Units	q
42)	Bromofluorobenzene	29.90	95.0	101322	50.79	UG/L	8

* Compound is ISTD

8428910333

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931129 13:54
Output File: SB9056::QT Injected at: 931126 19:38
Data File: >B9056::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD500
Misc: VSTD500 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931124 14:26

	Compound	R.T.	Q ion	Area	Conc	Units
1)	*Bromochloromethane	10.66	128.0	34294	50.00	UG/L
2)	Dichlorodifluoromethane	3.71	85.0	18747M	30.85	UG/L
2)	Dichlorodifluoromethane	3.71	85.0	9796	16.12	UG/L
3)	Acrolein	8.17	56.0	155408	4272.72	UG/L
4)	Acrylonitrile	8.87	53.0	567412	3328.73	UG/L
6)	t-Butyl alcohol	12.02	59.0	158652M	1842.37	UG/L
9)	t-Butyl methyl ether	14.66	73.0	1505916	532.18	UG/L
10)	1,4-Dioxane	19.55	88.0	48635	23899.59	UG/L
11)	*1,4-Difluorobenzene	21.02	114.0	148245	50.00	UG/L
12)	Ethylene dibromide	19.47	107.0	1340098	1185.35	UG/L
13)	Diisopropyl ether	19.55	45.0	5055995	1617.77	UG/L
15)	*Chlorobenzene-d5	25.80	117.0	117690	50.00	UG/L
17)	m-Dichlorobenzene	35.22	146.0	1240889	524.55	UG/L
17)	m-Dichlorobenzene	35.22	146.0	1213157M	512.83	UG/L
18)	o-Dichlorobenzene	35.22	146.0	1240889	595.53	UG/L
18)	o-Dichlorobenzene	36.00	146.0	1008480M	483.99	UG/L
19)	p-Dichlorobenzene	35.22	146.0	1240889	582.16	UG/L
19)	p-Dichlorobenzene	36.62	146.0	1270198M	595.91	UG/L

* Compound is ISTD

8428910334

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931126 21:07
Output File: ^B9057::QT Injected at: 931126 20:26
Data File: >B9057::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD250
Misc: VSTD250 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931124 09:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.63	128.0	38717	50.00	UG/L	89
2)	Chloromethane	2.09	50.0	253253	396.94	UG/L	94
3)	Bromomethane	3.17	94.0	71927M	286.16	UG/L	88
4)	Vinyl Chloride	3.64	62.0	73359M	323.85	UG/L	93
5)	Chloroethane	4.84	64.0	128849	290.19	UG/L	95
6)	Methylene Chloride	7.25	84.0	275187	255.05	UG/L	91
7)	Acetone	8.26	43.0	86458	220.62	UG/L	75
8)	Carbon Disulfide	8.80	76.0	805946	310.93	UG/L	100
9)	Trichlorofluoromethane	9.42	101.0	732846	267.07	UG/L	100
10)	1,1-Dichloroethene	10.16	96.0	233505	266.91	UG/L	95
11)	1,1-Dichloroethane	11.48	63.0	529480	252.20	UG/L	94
12)	1,2-Dichloroethene (total)	12.22	96.0	259608	263.47	UG/L	84
13)	Chloroform	12.80	83.0	651510	241.90	UG/L	98
14)	1,2-Dichloroethane-d4	13.42	65.0	117757	50.01	UG/L	80
15)	1,2-Dichloroethane	13.54	62.0	598356	202.79	UG/L	95
16)	2-Butanone	13.50	43.0	133363	262.54	UG/L	97
17)	*1,4-Difluorobenzene	21.03	114.0	162939	50.00	UG/L	90
18)	1,1,1-Trichloroethane	14.82	97.0	590430	240.61	UG/L	82
19)	Carbon Tetrachloride	14.82	117.0	74557	33.62	UG/L	88
19)	Carbon Tetrachloride	15.21	117.0	544181	245.41	UG/L	90
20)	Vinyl Acetate	15.48	43.0	470202	285.02	UG/L	70
21)	Bromodichloromethane	15.75	83.0	616202	263.87	UG/L	91
22)	1,2-Dichloropropane	17.11	63.0	303864	261.36	UG/L	93
23)	cis-1,3-Dichloropropene	17.34	75.0	531448	262.67	UG/L	93
24)	Trichloroethene	17.96	130.0	373844	229.42	UG/L	96
25)	Dibromochloromethane	18.47	129.0	482557	250.12	UG/L	97
26)	1,1,2-Trichloroethane	18.62	97.0	259934	251.86	UG/L	92
27)	Benzene	18.51	78.0	834179	266.83	UG/L	95
28)	trans-1,3-Dichloropropene	18.66	75.0	508603	253.22	UG/L	99
29)	2-Chloroethylvinylether	19.75	63.0	175332	246.17	UG/L	64
30)	Bromoform	21.11	173.0	455637	280.28	UG/L	93
31)	*Chlorobenzene-d5	25.81	117.0	133075	50.00	UG/L	94
32)	4-Methyl-2-Pentanone	21.65	43.0	313529	245.42	UG/L	92
33)	2-Hexanone	23.20	43.0	238498	253.61	UG/L	100
34)	Tetrachloroethene	23.51	164.0	284876	247.16	UG/L	97
35)	1,1,2,2-Tetrachloroethane	23.40	83.0	307254	336.01	UG/L	96
36)	Toluene-d8	24.68	98.0	169248	47.69	UG/L	99
37)	Toluene	24.83	92.0	504205	262.84	UG/L	86
38)	Chlorobenzene	25.92	112.0	644314	255.83	UG/L	90
39)	Ethylbenzene	27.76	106.0	321308	244.11	UG/L	99
40)	Styrene	31.14	104.0	684013	253.31	UG/L	70
41)	Xylene (total)	31.41	106.0	402718^	250.28	UG/L	87
41)	Xylene (total)	32.19	106.0	796483	494.99	UG/L	89

8428910335

	Compound	R.T.	Q ion	Area	Conc	Units	q
42)	Bromofluorobenzene	29.90	95.0	111174	49.29	UG/L	88

* Compound is ISTD

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931129 13:38
Output File: SB9057::QT Injected at: 931126 20:26
Data File: >B9057::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD250
Misc: VSTD250 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931124 14:26

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*Bromochloromethane	10.63	128.0	38717	50.00	UG/L	
2)	Dichlorodifluoromethane	3.72	85.0	45645M	66.53	UG/L	1
2)	Dichlorodifluoromethane	3.72	85.0	23266	33.91	UG/L	1
3)	Acrolein	8.18	56.0	100059	2436.71	UG/L	1
3)	Acrolein	8.18	56.0	116155M	2828.69	UG/L	1
4)	Acrylonitrile	8.88	53.0	351698	1827.54	UG/L	
5)	Isopropanol	8.84	45.0	1877	35.26	UG/L	
6)	t-Butyl alcohol	12.02	59.0	93176	958.41	UG/L	
9)	t-Butyl methyl ether	14.66	73.0	843900	264.16	UG/L	
10)	1,4-Dioxane	19.55	88.0	30073	13089.85	UG/L	
11)	*1,4-Difluorobenzene	21.03	114.0	162939	50.00	UG/L	
12)	Ethylene dibromide	19.48	107.0	830966	668.73	UG/L	
13)	Diisopropyl ether	19.55	45.0	2843292M	827.72	UG/L	
15)	*Chlorobenzene-d5	25.81	117.0	133075	50.00	UG/L	
17)	m-Dichlorobenzene	35.26	146.0	661096	247.15	UG/L	
17)	m-Dichlorobenzene	35.26	146.0	679669M	254.09	UG/L	
18)	o-Dichlorobenzene	35.26	146.0	661096	280.59	UG/L	
18)	o-Dichlorobenzene	36.00	146.0	642631M	272.76	UG/L	
19)	p-Dichlorobenzene	35.26	146.0	661096	274.29	UG/L	
19)	p-Dichlorobenzene	36.58	146.0	707501M	293.55	UG/L	

* Compound is ISTD

8428910337

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931126 21:56
Output File: ^B9058::QT Injected at: 931126 21:15
Data File: >B9058::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD100
Misc: VSTD100 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931124 09:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.62	128.0	42340	50.00	UG/L	92
2)	Chloromethane	2.08	50.0	110706	158.67	UG/L	94
3)	Bromomethane	3.17	94.0	28150M	102.41	UG/L	89
4)	Vinyl Chloride	3.63	62.0	30171M	121.80	UG/L	90
5)	Chloroethane	4.84	64.0	51101M	105.24	UG/L	97
6)	Methylene Chloride	7.24	84.0	118106	100.10	UG/L	87
7)	Acetone	8.25	43.0	37705	87.98	UG/L	75
8)	Carbon Disulfide	8.79	76.0	318355	112.31	UG/L	100
9)	Trichlorofluoromethane	9.41	101.0	306002	101.98	UG/L	100
10)	1,1-Dichloroethene	10.11	96.0	96639	101.01	UG/L	92
11)	1,1-Dichloroethane	11.47	63.0	222510	96.92	UG/L	95
12)	1,2-Dichloroethene (total)	12.21	96.0	107268	99.55	UG/L	90
13)	Chloroform	12.75	83.0	274489	93.20	UG/L	93
14)	1,2-Dichloroethane-d4	13.41	65.0	114118	44.32	UG/L	81
15)	1,2-Dichloroethane	13.53	62.0	276823	85.79	UG/L	97
16)	2-Butanone	13.49	43.0	59157	106.49	UG/L	95
17)	*1,4-Difluorobenzene	21.02	114.0	180092	50.00	UG/L	90
18)	1,1,1-Trichloroethane	14.81	97.0	248190	91.51	UG/L	79
19)	Carbon Tetrachloride	14.81	117.0	32127	13.11	UG/L	81
19)	Carbon Tetrachloride	15.20	117.0	224670	91.67	UG/L	84
20)	Vinyl Acetate	15.47	43.0	201057	110.27	UG/L	71
21)	Bromodichloromethane	15.74	83.0	259396	100.50	UG/L	92
22)	1,2-Dichloropropane	17.10	63.0	128720	100.17	UG/L	92
23)	cis-1,3-Dichloropropene	17.37	75.0	224316	100.31	UG/L	97
24)	Trichloroethene	17.95	130.0	167852	93.20	UG/L	99
25)	Dibromochloromethane	18.46	129.0	219367	102.87	UG/L	99
26)	1,1,2-Trichloroethane	18.61	97.0	116046	101.73	UG/L	96
27)	Benzene	18.50	78.0	348462	100.85	UG/L	87
28)	trans-1,3-Dichloropropene	18.65	75.0	218781	98.55	UG/L	99
29)	2-Chloroethylvinylether	19.70	63.0	76280	96.90	UG/L	61
30)	Bromoform	21.10	173.0	198089	110.25	UG/L	98
31)	*Chlorobenzene-d5	25.79	117.0	143790	50.00	UG/L	96
32)	4-Methyl-2-Pentanone	21.68	43.0	138587	100.40	UG/L	95
33)	2-Hexanone	23.19	43.0	112266	110.48	UG/L	100
34)	Tetrachloroethene	23.50	164.0	116967	93.92	UG/L	96
35)	1,1,2,2-Tetrachloroethane	23.39	83.0	128122	129.67	UG/L	95
36)	Toluene-d8	24.63	98.0	177281	46.23	UG/L	98
37)	Toluene	24.82	92.0	215225	103.84	UG/L	90
38)	Chlorobenzene	25.91	112.0	277949	102.14	UG/L	95
39)	Ethylbenzene	27.75	106.0	135646	95.37	UG/L	97
40)	Styrene	31.13	104.0	295628	101.32	UG/L	73
41)	Xylene (total)	31.40	106.0	172741^	99.35	UG/L	90
41)	Xylene (total)	32.22	106.0	339303	195.15	UG/L	88

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	Compound	R.T.	Q ion	Area	Conc	Units	q
42)	Bromofluorobenzene	29.85	95.0	112080	45.99	UG/L	9t

* Compound is ISTD

8428910339

QUANT REPORT

Operator ID: KS9334 Quant Rev: 6 Quant Time: 931129 13:39
Output File: SB9058::QT Injected at: 931126 21:15
Data File: >B9058::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD100
Misc: VSTD100 ,Q02703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931124 14:26

	Compound	R.T.	Q ion	Area	Conc	Units
1)	*Bromochloromethane	10.62	128.0	42340	50.00	UG/L
2)	Dichlorodifluoromethane	3.67	85.0	92109M	122.77	UG/L
2)	Dichlorodifluoromethane	3.67	85.0	50617	67.47	UG/L
3)	Acrolein	8.17	56.0	42566	947.90	UG/L
3)	Acrolein	8.17	56.0	51825M	1154.08	UG/L
4)	Acrylonitrile	8.87	53.0	148070	703.58	UG/L
6)	t-Butyl alcohol	12.01	59.0	36914	347.21	UG/L
9)	t-Butyl methyl ether	14.65	73.0	378272	108.27	UG/L
10)	1,4-Dioxane	19.51	88.0	13249	5273.42	UG/L
11)	*1,4-Difluorobenzene	21.02	114.0	180092	50.00	UG/L
12)	Ethylene dibromide	19.47	107.0	387533	282.17	UG/L
13)	Diisopropyl ether	19.51	45.0	1133847M	298.64	UG/L
15)	*Chlorobenzene-d5	25.79	117.0	143790	50.00	UG/L
17)	m-Dichlorobenzene	35.21	146.0	296956	102.74	UG/L
17)	m-Dichlorobenzene	35.21	146.0	304716M	105.43	UG/L
18)	o-Dichlorobenzene	35.21	146.0	296956	116.65	UG/L
18)	o-Dichlorobenzene	36.03	146.0	287748M	113.03	UG/L
19)	p-Dichlorobenzene	35.21	146.0	296956	114.03	UG/L
19)	p-Dichlorobenzene	36.61	146.0	268939M	103.27	UG/L

* Compound is ISTD

8428910340

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931126 22:44
Output File: ^B9059::QT Injected at: 931126 22:03
Data File: >B9059::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD050
Misc: VSTD050 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931124 09:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.62	128.0	41239	50.00	UG/L	90
2)	Chloromethane	2.08	50.0	54501	80.20	UG/L	93
3)	Bromomethane	3.09	94.0	13601M	50.80	UG/L	87
4)	Vinyl Chloride	3.63	62.0	13041M	54.05	UG/L	93
5)	Chloroethane	4.80	64.0	24872	52.59	UG/L	94
6)	Methylene Chloride	7.20	84.0	62510	54.39	UG/L	80
7)	Acetone	8.21	43.0	19148	45.87	UG/L	76
8)	Carbon Disulfide	8.79	76.0	158727	57.49	UG/L	100
9)	Trichlorofluoromethane	9.41	101.0	145676	49.84	UG/L	100
10)	1,1-Dichloroethene	10.15	96.0	47628	51.11	UG/L	91
11)	1,1-Dichloroethane	11.47	63.0	105731	47.28	UG/L	94
12)	1,2-Dichloroethene (total)	12.25	96.0	53041	50.54	UG/L	92
13)	Chloroform	12.79	83.0	131594	45.87	UG/L	94
14)	1,2-Dichloroethane-d4	13.45	65.0	106802	42.58	UG/L	79
15)	1,2-Dichloroethane	13.53	62.0	136412	43.40	UG/L	97
16)	2-Butanone	13.53	43.0	26462	48.91	UG/L	99
17)	*1,4-Difluorobenzene	21.02	114.0	173087	50.00	UG/L	91
18)	1,1,1-Trichloroethane	14.81	97.0	120013	46.04	UG/L	69
19)	Carbon Tetrachloride	14.81	117.0	14933	6.34	UG/L	87
19)	Carbon Tetrachloride	15.20	117.0	108072	45.88	UG/L	89
20)	Vinyl Acetate	15.47	43.0	92540	52.81	UG/L	72
21)	Bromodichloromethane	15.74	83.0	123133	49.64	UG/L	90
22)	1,2-Dichloropropane	17.10	63.0	61211	49.56	UG/L	94
23)	cis-1,3-Dichloropropene	17.33	75.0	104377	48.56	UG/L	95
24)	Trichloroethene	17.95	130.0	78280	45.22	UG/L	96
25)	Dibromochloromethane	18.46	129.0	100394	48.99	UG/L	97
26)	1,1,2-Trichloroethane	18.61	97.0	54533	49.74	UG/L	95
27)	Benzene	18.50	78.0	167505	50.44	UG/L	87
28)	trans-1,3-Dichloropropene	18.65	75.0	102431	48.01	UG/L	99
29)	2-Chloroethylvinylether	19.70	63.0	35451	46.86	UG/L	66
30)	Bromoform	21.10	173.0	88517	51.26	UG/L	99
31)	*Chlorobenzene-d5	25.79	117.0	138103	50.00	UG/L	98
32)	4-Methyl-2-Pentanone	21.64	43.0	64499	48.65	UG/L	88
33)	2-Hexanone	23.19	43.0	46301	47.44	UG/L	100
34)	Tetrachloroethene	23.50	164.0	59362	49.63	UG/L	95
35)	1,1,2,2-Tetrachloroethane	23.39	83.0	62441	65.80	UG/L	93
36)	Toluene-d8	24.63	98.0	179201	48.66	UG/L	99
37)	Toluene	24.82	92.0	106366	53.43	UG/L	89
38)	Chlorobenzene	25.91	112.0	136359	52.17	UG/L	97
39)	Ethylbenzene	27.73	106.0	69148	50.62	UG/L	95
40)	Styrene	31.14	104.0	142002	50.67	UG/L	78
41)	Xylene (total)	31.38	106.0	88141^	52.78	UG/L	92
41)	Xylene (total)	32.23	106.0	166186	99.52	UG/L	90

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	Compound	R.T.	Q ion	Area	Conc	Units	q
42)	Bromofluorobenzene	29.86	95.0	115771	49.46	UG/L	8

* Compound is ISTD

8428910342

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931129 13:36
Output File: SB9059::QT Injected at: 931126 22:03
Data File: >B9059::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD050
Misc: VSTD050 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931124 14:26

	Compound	R.T.	Q ion	Area	Conc	Units
1)	*Bromochloromethane	10.62	128.0	41239	50.00	UG/L
2)	Dichlorodifluoromethane	3.71	85.0	211335M	289.20	UG/L
2)	Dichlorodifluoromethane	3.71	85.0	114542	156.74	UG/L
3)	Acrolein	8.17	56.0	18672	426.91	UG/L
3)	Acrolein	8.17	56.0	19317M	441.65	UG/L
4)	Acrylonitrile	8.87	53.0	67691	330.23	UG/L
6)	t-Butyl alcohol	12.01	59.0	16293	157.34	UG/L
9)	t-Butyl methyl ether	14.65	73.0	173680	51.04	UG/L
10)	1,4-Dioxane	19.54	88.0	6105	2494.81	UG/L
11)	*1,4-Difluorobenzene	21.02	114.0	173087	50.00	UG/L
12)	Ethylene dibromide	19.47	107.0	183113	138.72	UG/L
13)	Diisopropyl ether	19.54	45.0	520183	142.55	UG/L
15)	*Chlorobenzene-d5	25.79	117.0	138103	50.00	UG/L
17)	m-Dichlorobenzene	35.22	146.0	142336	51.27	UG/L
17)	m-Dichlorobenzene	35.22	146.0	146042M	52.61	UG/L
18)	o-Dichlorobenzene	35.22	146.0	142336	58.21	UG/L
18)	o-Dichlorobenzene	35.96	146.0	126609M	51.78	UG/L
19)	p-Dichlorobenzene	35.22	146.0	142336	56.91	UG/L
19)	p-Dichlorobenzene	36.62	146.0	147511M	58.98	UG/L

* Compound is ISTD

8428910343

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931126 23:33
Output File: ^B9060::QT Injected at: 931126 22:52
Data File: >B9060::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD020
Misc: VSTD020 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOB::SC
Title: Daily Calibration via Single Point at 50 ug/L Rev. E
Last Calibration: 931124 09:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.60	128.0	39171	50.00	UG/L	97
2)	Chloromethane	2.06	50.0	19589	30.35	UG/L	96
3)	Bromomethane	3.11	94.0	3962M	15.58	UG/L	
4)	Vinyl Chloride	3.58	62.0	4606M	20.10	UG/L	
5)	Chloroethane	4.78	64.0	9205M	20.49	UG/L	98
6)	Methylene Chloride	7.22	84.0	28244	25.87	UG/L	85
7)	Acetone	8.23	43.0	9386	23.67	UG/L	77
8)	Carbon Disulfide	8.81	76.0	55055	20.99	UG/L	100
9)	Trichlorofluoromethane	9.40	101.0	56957	20.52	UG/L	100
10)	1,1-Dichloroethene	10.13	96.0	17965	20.30	UG/L	95
11)	1,1-Dichloroethane	11.45	63.0	41241	19.42	UG/L	93
12)	1,2-Dichloroethene (total)	12.23	96.0	19141	19.20	UG/L	87
13)	Chloroform	12.77	83.0	53537	19.65	UG/L	99
14)	1,2-Dichloroethane-d4	13.43	65.0	103736	43.54	UG/L	79
15)	1,2-Dichloroethane	13.55	62.0	48421	16.22	UG/L	97
16)	2-Butanone	13.51	43.0	11380	22.14	UG/L	98
17)	*1,4-Difluorobenzene	21.04	114.0	160968	50.00	UG/L	90
18)	1,1,1-Trichloroethane	14.83	97.0	45714	18.86	UG/L	79
19)	Carbon Tetrachloride	14.83	117.0	5442	2.48	UG/L	81
19)	Carbon Tetrachloride	15.22	117.0	38643	17.64	UG/L	80
20)	Vinyl Acetate	15.45	43.0	36846	22.61	UG/L	73
21)	Bromodichloromethane	15.72	83.0	48175	20.88	UG/L	98
22)	1,2-Dichloropropane	17.12	63.0	24483	21.32	UG/L	94
23)	cis-1,3-Dichloropropene	17.35	75.0	41276	20.65	UG/L	97
24)	Trichloroethene	17.97	130.0	32040	19.90	UG/L	97
25)	Dibromochloromethane	18.48	129.0	40667	21.34	UG/L	98
26)	1,1,2-Trichloroethane	18.59	97.0	22104	21.68	UG/L	97
27)	Benzene	18.52	78.0	66881	21.66	UG/L	91
28)	trans-1,3-Dichloropropene	18.63	75.0	40973	20.65	UG/L	94
29)	2-Chloroethylvinylether	19.72	63.0	14818	21.06	UG/L	60
30)	Bromoform	21.12	173.0	33822	21.06	UG/L	99
31)	*Chlorobenzene-d5	25.81	117.0	132573	50.00	UG/L	98
32)	4-Methyl-2-Pentanone	21.66	43.0	28190	22.15	UG/L	93
33)	2-Hexanone	23.17	43.0	24408	26.05	UG/L	100
34)	Tetrachloroethene	23.52	164.0	22660	19.73	UG/L	95
35)	1,1,2,2-Tetrachloroethane	23.40	83.0	25719	28.23	UG/L	91
36)	Toluene-d8	24.69	98.0	166319	47.04	UG/L	95
37)	Toluene	24.88	92.0	42421	22.20	UG/L	94
38)	Chlorobenzene	25.93	112.0	52520	20.93	UG/L	93
39)	Ethylbenzene	27.77	106.0	27044	20.62	UG/L	93
40)	Styrene	31.18	104.0	56231	20.90	UG/L	69
41)	Xylene (total)	31.42	106.0	36952^	23.05	UG/L	88
41)	Xylene (total)	32.23	106.0	67263	41.96	UG/L	85

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	Compound	R.T.	Q ion	Area	Conc	Units	q
42)	Bromofluorobenzene	29.90	95.0	102316	45.53	UG/L	97

* Compound is ISTD

QUANT REPORT

Operator ID: KS9934 Quant Rev: 6 Quant Time: 931129 13:31
Output File: SB9060::QT Injected at: 931126 22:52
Data File: >B9060::D2 Dilution Factor: 1.00000
Name: INST 59952, VSTD020
Misc: VSTD020 ,QV2703,0.10,5,6'X2mm 1% SP1000 ON CBPKB

ID File: IDVOBX::SC
Title: SPECIAL VOLATILE IDFILE
Last Calibration: 931124 14:26

	Compound	R.T.	Q ion	Area	Conc	Units
1)	*Bromochloromethane	10.60	128.0	39171	50.00	UG/L
2)	Dichlorodifluoromethane	3.69	85.0	398617M	574.28	UG/L
2)	Dichlorodifluoromethane	3.69	85.0	219603	316.38	UG/L
3)	Acrolein	8.23	56.0	7375M	177.52	UG/L
4)	Acrylonitrile	8.89	53.0	26913	138.23	UG/L
6)	t-Butyl alcohol	12.03	59.0	7546M	76.72	UG/L
9)	t-Butyl methyl ether	14.63	73.0	74253	22.97	UG/L
10)	1,4-Dioxane	19.56	88.0	2222	955.96	UG/L
11)	*1,4-Difluorobenzene	21.04	114.0	160968	50.00	UG/L
12)	Ethylene dibromide	19.49	107.0	78205	63.71	UG/L
13)	Diisopropyl ether	19.56	45.0	210944	62.16	UG/L
15)	*Chlorobenzene-d5	25.81	117.0	132573	50.00	UG/L
17)	m-Dichlorobenzene	35.26	146.0	55965	21.00	UG/L
17)	m-Dichlorobenzene	35.26	146.0	55962M	21.00	UG/L
18)	o-Dichlorobenzene	35.26	146.0	55965	23.84	UG/L
18)	o-Dichlorobenzene	36.12	146.0	49204M	20.96	UG/L
19)	p-Dichlorobenzene	35.26	146.0	55965	23.31	UG/L
19)	p-Dichlorobenzene	36.54	146.0	66874M	27.85	UG/L

* Compound is ISTD

8428910346

QV2718

Blank > B9142
178654 S
178654 SD

Continuing Calibration Check
MSL Compounds

Case No: Calibration Date: 12/02/93

Contractor: ICM Inc. Time: 19:51

Contract No: Laboratory ID: X89141

Instrument ID: 28 Initial Calibration Date: 11/26/93

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

>B9056-19:38
>B9057-20:26
>B9058-21:15
>B9059-22:03
>B9060-22:52

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Chloromethane	1.27775	1.31595	2.99		**	
Bromomethane	.33551	.41903	24.89			
Vinyl Chloride	.35309	.43199	22.35	*		
Chloroethane	.61977	.78298	26.33			
Methylene Chloride	1.49319	1.89664	13.53			
Acetone	.47227	.65411	38.50			
Carbon Disulfide	3.94506	4.11462	7.01			
Trichlorofluoromethane	3.65027	3.93655	7.84			
1,1-Dichloroethene	1.16255	1.21723	4.70	*		
1,1-Dichloroethane	2.53703	2.98954	13.37		**	
1,2-Dichloroethene (total)	1.28074	1.36985	6.96			
Chloroform	3.29716	3.81524	15.71	*		
1,2-Dichloroethane	3.14251	3.59607	14.46			
1,2-Dichloroethane-d4	2.90131	3.29492	13.56			(Conc=50.00)
2-Butanone	.66930	.77420	15.67			
1,1,1-Trichloroethane	.69551	.80106	15.19			
Carbon Tetrachloride	.63100	.69979	10.76			
Vinyl Acetate	.55722	.58662	5.28			
Bromodichloromethane	.73459	.75926	3.36			
1,2-Dichloropropane	.36332	.36245	.24	*		
trans-1,3-Dichloropropene	.68739	.58326	12.49			
Trichloroethene	.45094	.42292	5.67			
Dibromochloromethane	.59702	.61329	2.73			
1,1,2-Trichloroethane	.31889	.32852	3.02			
Benzene	.99614	1.06297	7.79			
cis-1,3-Dichloropropene	.62735	.66953	6.72			
2-Chloroethylvinylether	.21577	.22837	5.84			
Bromoform	.53689	.51512	3.91		**	
4-Methyl-2-Pentanone	.47751	.48491	1.55			
2-Hexanone	.37139	.39226	5.62			
Tetrachloroethene	.41736	.41951	.52			
1,1,2,2-Tetrachloroethane	.46094	.48792	5.83		**	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

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Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 12/02/93

Contractor: ICM Inc. | Time: 19:51

Contract No: | Laboratory ID: 089141

Instrument ID: 20 | Initial Calibration Date: 11/~~29~~ 30/93 11/30/93

Minimum $\overline{RF}$ for SPCC is .30 | Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Toluene-d8	1.25557	1.29472	2.20			(Conc=50.00)
Toluene	.75149	.80676	5.95	*		
Chlorobenzene	.96943	.96007	.05		**	
Ethylbenzene	.48572	.55869	15.02	*		
Styrene	1.03390	1.06399	2.91			
Xylene (total)	.60280	.69522	13.94			(Conc=100.00)
Bromofluorobenzene	.91718	.92254	.66			(Conc=50.00)

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

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