Final Report

Sonoco Products Company

VOLUNTARY REMEDIAL INVESTIGATION REPORT

Greif Bros. Facility
2122 Colvin Boulevard
Town of Tonawanda,
Erie County, New York

New York State Department of Environmental Conservation
Voluntary Cleanup Program Number V00334-9

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ERM Project Number D6714.00

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1.0 INTRODUCTION

This Voluntary Remedial Investigation (VRI) Report has been prepared by Environmental Resources Management (ERM) on behalf of Sonoco Products Company (Sonoco) for the property located at 2122 Colvin Boulevard in the Town of Tonawanda, Erie County, New York (the Site). The Site is currently owned by Greif Bros. Corporation (Greif Bros.) and is an active industrial facility used for the manufacture and processing of fiber drums, equipment maintenance, and administrative activities. Environmental investigation activities are being performed at the Site pursuant to a Voluntary Cleanup Program (VCP) agreement between Sonoco and the New York State Department of Environmental Conservation (NYSDEC). NYSDEC subsequently identified the Site as VCP Number V00334-9. The VRI Report summarizes environmental data and findings of the voluntary environmental investigation conducted at the Site between July 2001 and September 2001. Data and results of previous investigations have also been reviewed to provide a comprehensive summary of environmental investigations performed to date. Information derived from investigation activities will be used primarily for the protection of human health and the environment and to evaluate remedial options at the Site pursuant to the VCP agreement.

This VRI Report is divided into the following sections:

- Section 1 - an introduction containing project objectives and general information regarding the Site, project background, and historical investigation activities;
- Section 2 - investigation of Site soils;
- Section 3 - investigation of Site subsurface utilities;
- Section 4 - investigation of Site ground water;
- Section 5 - results;
- Section 6 - human health exposure assessment;
- Section 7 - proposed data gap investigation;
- Section 8 - potential interim remedial measures; and
- Section 9 - references cited in the VRI report.

Attached to this VRI Report are the following appendices:

- Appendix A - Soil Boring Logs from Previous Investigations;
- Appendix B - Laboratory Data Tables from Previous Investigations;
- Appendix C - Empire Report Dated 14 September 2001;
- Appendix D - Laboratory Analytical Report – Soil Vapor Samples
- Appendix E - Soil Boring Logs;
- Appendix F - Laboratory Analytical Report – Soil Samples;
- Appendix G - Laboratory Analytical Report – Geotechnical Samples;
- Appendix H – Ground Water Sampling Records;
- Appendix I – Laboratory Analytical Report – Water Samples; and

- Appendix J – Monitoring Well Construction Records.

1.1 *SITE DESCRIPTION*

The Site consists of an industrial building located on approximately 25 acres in the Town of Tonawanda, Erie County, New York. The facility is located in a mixed industrial/commercial/residential area approximately one-quarter mile south of Highway I-290 (Figure 1-1). Adjoining properties are as follows:

- North – vacant land (including a former railroad siding and a wooded area) and residential apartments;
- South – local park/ball field (Walter M. Kenney Field);
- East – Colvin Boulevard with single family/duplex homes further east; and
- West – vacant, undeveloped land adjacent to a major railroad line formerly traversed by two railroad spurs into the Site.

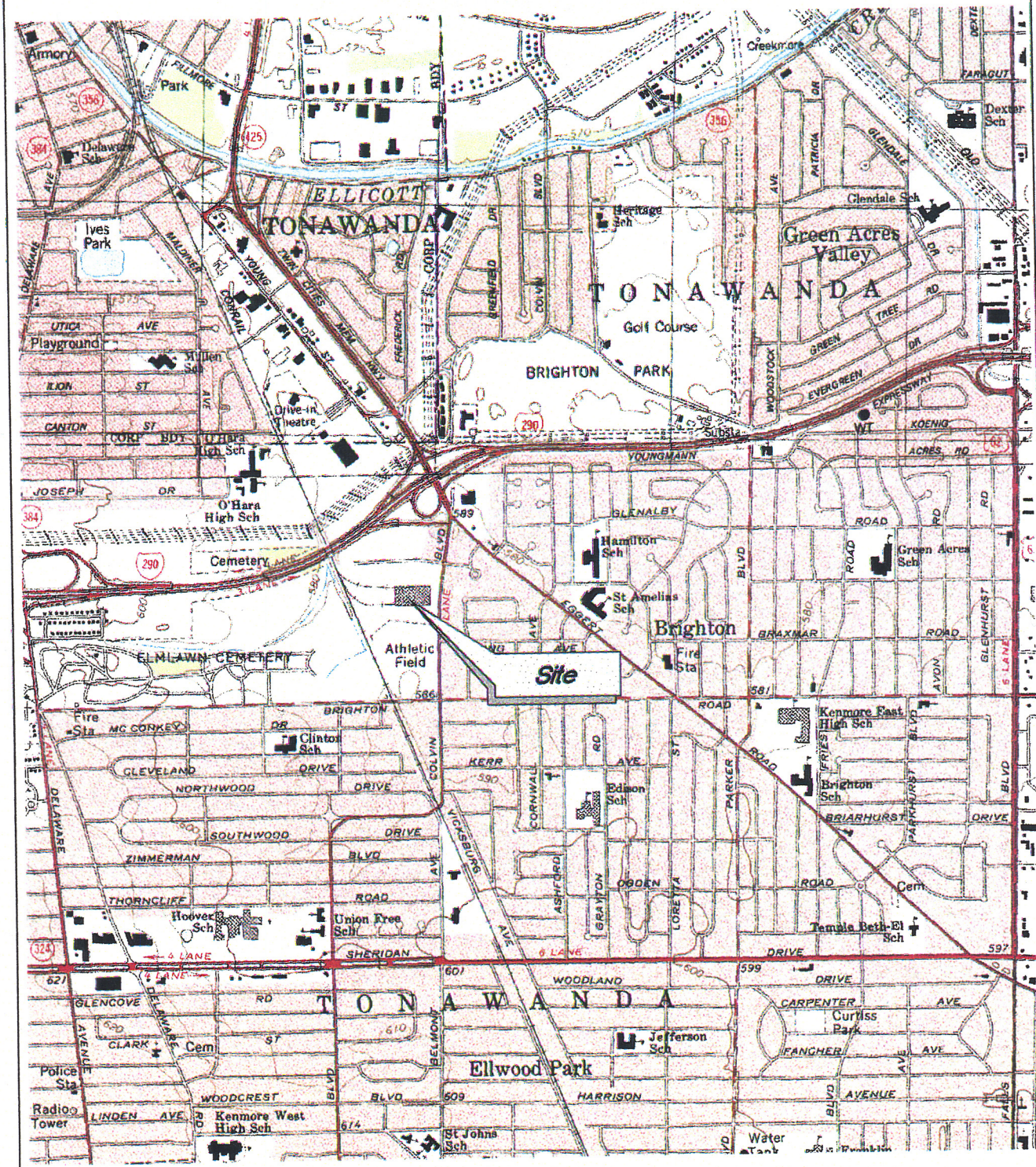
Figure 1-2 presents a map showing general Site layout and the locations of selected Site features. The building is surrounded by paved parking areas, storage areas, and landscaped areas. The facility is currently used for the manufacture of fiber drums, equipment maintenance, and administrative activities. The entire Site is fenced to restrict access. There are two main gates on the east side of the facility where employees and visitors routinely enter and an unused, old gate on the west side of the facility at the location of an old railroad spur into the facility.

Based on information provided by Grief Bros. Corporation and ERM's review of Site plans, the building at the Site was originally constructed in 1948. From 1948 to 1985 the Site was owned and operated by Continental Fiber Drum and Continental Can Corporation. Historical manufacturing operations at this time consisted of the production of fiber drums but also included production of the metal lids and rims used in the fiber drums.

Sonoco Industrial Container Division acquired the facility in 1985. The major existing manufacturing operations reportedly continued generally unchanged until the early 1990s. In 1995, production of the metal lids and rims used in the fiber drums was discontinued. Greif Bros. subsequently acquired the Site in May 1998. The Site continues to be used for the manufacture of fiber drums and associated products. Secondary operations include equipment maintenance and administrative activities.

Surface water bodies are not present at or in the immediate vicinity of the Site. Site topography is relatively flat with an average elevation of approximately 585 feet above mean sea level. The Site is situated approximately 3.5 miles east of the Niagara River and 1.1 miles south of Ellicott Creek in the Erie-Ontario Lowlands physiographic province of

Figure 1-1
Site Location Map
Greif Brothers Facility
Tonawanda, New York



Source: USGS Topographic Quads, Buffalo, NY and Tonnawanna East, NY

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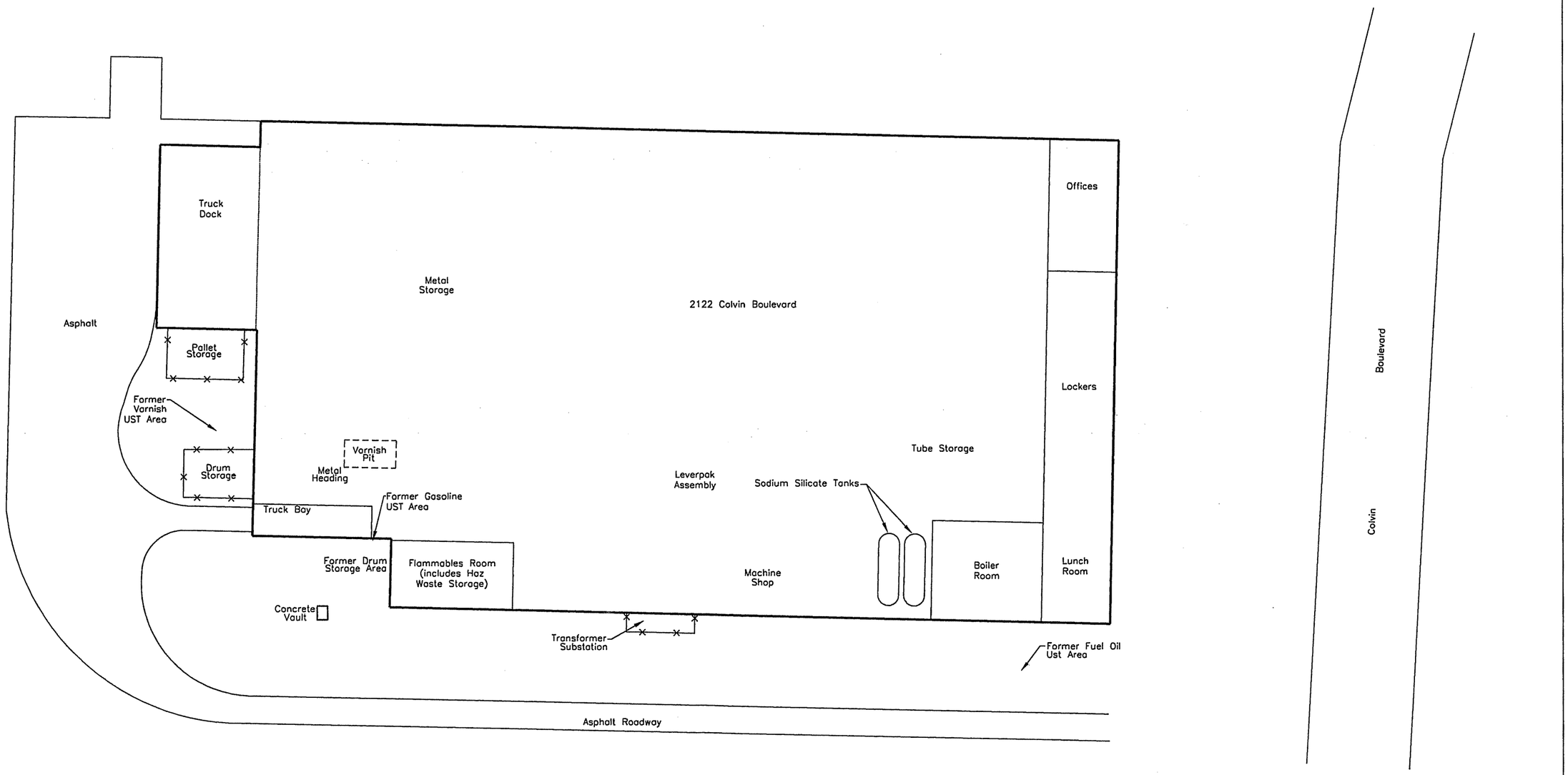
Figure 1-2
Facility Layout Map
Greif Bros. Facility
Tonawanda, New York



western New York State. Topographic relief within one-half mile of the Site is minimal (approximately 15 feet).

Surficial geology in the vicinity of the Site was previously mapped by the New York State Geological Survey (NYSGS) as lacustrine silt and clay (Cadwell et al., 1988). These deposits consist predominantly of laminated, calcareous silt and clay deposited in proglacial lakes with variable thickness up to 100 meters (328 feet). Bedrock in the vicinity of the Site consists predominantly of dolostones, evaporites, and shales of the Upper Silurian Salina Group based on mapping performed by NYSGS (Rickard and Fisher, 1970).

1.2 *PROJECT BACKGROUND*

Sonoco contracted ERM to perform subsurface investigation at the Site with the overall objective to evaluate the nature and extent of soil and/or ground water potentially affected by Site activities. Greif Bros. purchased the Site from Sonoco in the spring of 1998. Environmental investigations initially were performed in connection with the purchase of the Site. The scope of work associated with subsurface investigations generally included installation of soil borings, ground water monitoring wells, and collection of soil and ground water samples for analysis of selected parameters at an approved environmental laboratory. Two phases of subsurface investigation field work were performed in 1998 and are discussed below.

1.3 *HISTORICAL SITE INVESTIGATION*

This section summarizes previous investigation results. Two previous subsurface investigations were conducted at the Site in 1998. Detailed information on the results of these investigations is provided in ERM's report entitled "*Subsurface Investigation, Greif Bros. Corporation Facility, 2122 Colvin Boulevard, Tonawanda, New York*" dated April 1999 (ERM, 1999). This report was previously submitted to NYSDEC on 7 April 1999. For clarity of subsequent discussions, Figure 1-3 presents a map showing all sampling locations at the Site color-coded by investigative phase. Soil boring logs and ground water monitoring well construction records from previous investigation phases are presented in Appendix A. Tables summarizing laboratory analytical data from previous Site investigations are presented in Appendix B.

1.3.1 *Previous Soil Investigation*

The initial subsurface investigation at the Site conducted by ERM in April 1998 was designated the Phase II Investigation and included the following main components:

DEFENDANT'S EXHIBIT
4
Fox
7/12/02
tabbies

Figure 5-1
Cross Section Locations
Greif Bros. Facility
Tonawanda, New York

SV-G6 SV-G5 SV-G4 SV-G3 SV-G2 SV-G1
MW-3 A'
MW-4
HA3 HA3
Truck Dock
Offices
SV-F3 GB-37
SV-F2
2122 Colvin Boulevard
Asphalt
GB-19
Pallet Storage
GB-31
SV-F1
GB-29 GB-28
GB-30
GB-16 GB-18 GB-15
MW-13
Former Varnish UST Area
C'
GB-22
MW-14
GB-27
GB-26
MW-2
B
GB-5 GB-2 GB-1
MW-10
GB-21
Varnish Pit
GB-20
Lockers
GB-14
Drum Storage
MW-12
Sodium Silicate Tanks
Former Gasoline UST Area
Truck Bay
GB-13
MW-11
GB-17
GB-25
GB-24 GB-23
MW-7 MW-9
C
GB-11
GB-3
Former Drum Storage Area
Flammables Room (includes Haz Waste Storage)
Boiler Room
Lunch Room
MW-8
B'
GB-4
MW-1
SV-D4
GB-34
SV-D1 GB-9
GB-35
SV-D3
SV-D2
GB-12
GB-36
SV-C5
SV-C3
SV-C1
SV-C4
SV-C2
Transformer Substation
HA-1 HA-2
SV-E4
SV-E3
SV-E2
GB-6
GB-33
SV-B3
GB-32
SV-B1
GB-7
SV-E1
SV-B4
GB-10
SV-B2
Asphalt Roadway
SV-A1
MW-6
SV-A2
GB-8
MW-5
A

Boulevard
Colvin

Legend
- Monitoring Well Location
- RI Soil Vapor Location
- RI Soil Boring Location
- Phase II Soil Boring Location
- Phase III Soil Boring Location
- Hand Auger Location
- A——A' Location of Cross Section

N

60 30 0 60
Scale in Feet

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- installation of seven soil borings (GB-1 through GB-7) using direct-push technology and collection of representative soil samples;
- installation of three temporary ground water monitoring wells in three of the soil borings (GB-2 through GB-4) and collection of ground water samples from the temporary wells;
- installation of three shallow soil borings using a hand auger (HA-1 through HA-3) and collection of three soil samples; and
- analysis of samples at an approved environmental laboratory for one or more parameters including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), and polychlorinated biphenyls (PCBs).

ERM conducted a follow-up investigation at the Site to further evaluate the nature and extent of affected soil and ground water discovered during the initial investigation phase. This follow-up investigation was designated the Phase III investigation and focused on the areas of affected soil and ground water apparently concentrated near the southwestern portion of the building. The Phase III investigation was conducted during three rounds of fieldwork performed in November and December 1998. The Phase III Investigation included:

- installation of 20 additional soil borings using direct-push and hollow-stem auger drilling technologies and collection of representative soil samples;
- installation of permanent ground water monitoring wells in five soil borings (MW-1 through MW-5) and a temporary monitoring well in one soil boring inside the building (GB-20);
- collection of water level data and ground water samples from the five permanent monitoring wells and a ground water sample from the temporary monitoring inside the building;
- analysis of selected soil samples for selected VOCs and SVOCs at an approved environmental laboratory; and
- analysis of ground water samples for selected VOCs at an approved environmental laboratory.

Based on evaluation of the subsurface soil samples collected during previous investigations, unconsolidated deposits at the Site consist predominantly of silt from ground surface to approximately four to ten feet below ground surface (bgs). Exceptions to this finding include the soils beneath the main building, the former varnish underground storage tank (UST) area, and former drum storage area. In these locations, sand, gravel, and other fill materials are present to a depth ranging from 1 to 10 feet bgs. The silt and fill materials are generally underlain by a soft, silty clay to a depth of approximately 18 to 20 feet bgs. The soft, silty clay also contains what appear to be discontinuous sand and gravel lenses. The clay layer appears to be continuous beneath the facility. Beneath the silty

clay or soft clay layer is a medium-grained sand with some silt. This sand was encountered at depths as shallow as approximately 18 feet bgs at monitoring well MW-5 and as deep as 24 feet bgs at monitoring well MW-3. The sand apparently layer continued to a depth of at least 40 feet bgs beneath the facility.

Several organic compounds were detected in soil samples collected from several soil borings installed at the Site during the Phase II Investigation. VOCs were detected in soil samples analyzed from four of the five soil boring locations evaluated for VOCs. The highest concentration of VOCs was detected in the soil sample collected at 12 to 16 feet bgs from soil boring GB-2. This soil boring was completed at the location of the former varnish UST excavation area.

Relatively low concentrations of several SVOCs were detected in soil samples analyzed from four of the six soil boring locations. The highest detected concentration of total SVOCs was detected in the soil sample collected at 14 to 16 feet bgs from soil boring GB-1. This soil boring was completed at the location where the former varnish UST piping enters the building beneath its western side.

TPHs were detected in soil samples collected from two of the three soil boring locations (soil borings GB-1 and GB-3) that coincided with soil borings with generally elevated VOC results. PCBs were not detected at the electrical substation or former rail spur at the facility.

Laboratory analytical data from the Phase III investigation indicated detected concentrations of VOCs in soil samples from 11 of 18 soil borings evaluated for these compounds. The highest detected concentration of total VOCs was detected in the sample collected at 1 to 2 feet bgs from soil boring GB-10. Soil boring GB-10 is located north of the southern paved access road to the facility's shipping docks. The predominant VOC detected at soil boring GB-10 was trichloroethene at a concentration of 4,000,000 micrograms per kilogram (µg/kg). Concentrations of selected VOCs were also detected in the soils located beneath the west end of the main building. VOCs detected in this area included trichloroethene and 1,1,1-trichloroethane at maximum concentrations of 84,000 and 55,000 µg/kg, respectively.

Relatively low concentrations of several SVOCs were detected in soil samples analyzed at four of the seven soil boring locations evaluated for these compounds. The highest concentration of SVOCs was detected in the sample collected from seven to eight feet bgs at soil boring GB-10. SVOCs were not detected in the soil samples collected from beneath the western end of the main building nor the northern or far-western sides of the main building.

Data generated during the Phase II and Phase III investigations suggested that affected soil was limited to the area beneath the main building in proximity to the varnish pit, the area of the former varnish UST excavation, the former drum storage area, and the area proximal to soil boring GB-10.

1.3.2 *Previous Ground Water Investigation*

Shallow ground water was reportedly not encountered away from the main building. However, shallow ground water was encountered in soil borings GB-20, GB-21, and GB-22 completed inside the building. This shallow overburden ground water appears to be consistent with "perched" water located in the sand and fill material on top of the silty clay unit beneath the building. The depth to the shallow ground water generally ranged from approximately four to six feet bgs. Shallow ground water was also encountered at the former varnish UST area and former drum storage area. This shallow ground water also appeared to be "perched" water in replacement fill located on top of the silty clay underlying these areas. Available data were insufficient to evaluate ground water flow direction in shallow overburden.

During the Phase III investigation, ERM confirmed the presence of an intermediate ground water saturated zone located beneath the upper clay layer at the facility. This intermediate overburden ground water is present in a silty sand unit located beneath the soft, silty clay unit. Preliminary water level data suggested that ground water flow direction in the intermediate overburden zone may be generally towards the southwest.

Elevated concentrations of VOCs were detected in shallow overburden ground water samples collected from two soil borings during the Phase II Investigation. Specific VOCs detected included chlorinated compounds typically associated with solvents as well as non-chlorinated compounds typically associated with petroleum or varnish.

Review of the laboratory analytical results for ground water samples collected during the Phase III Investigation indicates that VOCs were not detected above the method detection limit in water samples collected from the five permanent monitoring wells installed in the intermediate overburden zone. However, generally elevated concentrations of several VOCs were detected in the shallow overburden ground water sample collected from the temporary monitoring well installed in soil boring GB-20. Specific VOCs detected in the ground water sample from soil boring GB-20 included both chlorinated and non-chlorinated compounds.

Ground water data generated during the Phase II and Phase III investigations suggested that affected ground water was limited to the area beneath the main building in proximity to the former varnish pit, the

area of the former varnish UST excavation, and the former drum storage area. These areas are generally coincident with estimated areas of affected soil. This distribution suggests that little or no migration of organic compounds away from source areas is occurring at the Site.

1.3.3 *Ciminelli Development Company, Inc. Investigation*

During performance of the VRI in August 2001, ERM observed evidence indicating that several soil borings and temporary ground water monitoring wells were recently installed at the Site in areas to the west and south of areas being investigated by ERM. Greif Bros. and Sonoco were consulted regarding these activities. However, Greif Bros. and Sonoco personnel advised ERM they were not aware of these activities. Greif Bros. personnel at the facility indicated the activities may be involved with a portion of the property being offered for sale. ERM discussed these activities with NYSDEC personnel in the field during the VRI. However, NYSDEC personnel also initially indicated they were not aware of these activities.

ERM subsequently received correspondence from NYSDEC dated 29 October 2001 indicating that the investigation activities in question were performed by Empire Geoservices, Inc. (Empire) on behalf of Ciminelli Development Company, Inc. (Ciminelli). NYSDEC provided ERM with a copy of the report prepared for Ciminelli and requested that ERM incorporate the report into the VRI. A copy of the report prepared by Empire is presented in Attachment C.

The scope of work performed by Empire at the request of Ciminelli included the following:

- installation of seven test borings (designated B-1 through B-7) for environmental and geotechnical evaluation;
- monitoring of two of the soil borings during drilling by a geologist and field screening for VOCs using a photoionization detector (PID);
- installation of two temporary ground water monitoring wells in soil borings B-1 and B-7;
- collection of two ground water samples from the temporary wells;
- laboratory analysis of ground water samples for VOCs, SVOCs, and selected naturally occurring metallic elements (metals); and
- preparation of a report of findings.

Soil borings were installed by Empire between 6 August and 8 August 2001. The locations of soil borings are presented in a figure entitled "Subsurface Investigation Plan" in the Ciminelli report (Appendix C). Materials interpreted to be fill including silt, sand, silty clay, cinders, and slag-like gravel were reported from ground surface to depths ranging from two to eight feet at all boring locations. Other subsurface geologic units encountered during the Ciminelli investigation appear comparable

to geologic units encountered during other investigations at the Site. These geologic materials are discussed in greater detail in Section 5.1 of this report. Geotechnical data are not presented in the Empire report.

Empire personnel collected two ground water samples on 27 August 2001. VOCs and metals were not detected at concentrations above ambient ground water quality standards or guidance values (NYSDEC, 1998). SVOCs were not detected in either ground water sample with the exception of 11 µg/l of bis-2-ethylhexylphthalate in the ground water sample collected from the temporary well installed in soil boring B-7. This concentration is greater than the NYSDEC ambient ground water quality standard for this SVOC (5 µg/l). However, Empire suggests the possibility that bis-2-ethylhexylphthalate may have been introduced into the sample by their project laboratory (Friend Laboratory, Inc.). Their project laboratory indicated this is a possibility but felt it was more likely that bis-2-ethylhexylphthalate is present in the environment at that location. However, data were not provided to support either opinion. Standard quality assurance/quality control samples (i.e., trip blank, blind duplicate, matrix spike/matrix spike duplicate, etc.) were not submitted with ground water samples collected at the Site by Empire.

2.0 INVESTIGATION OF SITE SOILS

2.1 SCOPE OF FIELD WORK

The investigation of site soil during the VRI was completed in conformance with the NYSDEC-approved Remedial Investigation (RI) Work Plan dated June 2000 (ERM, 2000) with minor modifications that were authorized in the field by NYSDEC representatives and documented by ERM. The soil investigation was completed using a phased approach, the components of which are presented below.

2.1.1 *Soil Vapor Survey*

Dedicated, passive soil vapor sampling modules were obtained under proper chain of custody from W.L. Gore and Associates of Elkton, Maryland (WLG) in order to perform a GORE-SORBER® soil vapor screening survey. ERM mobilized to the Site on 10 July 2001 to initiate installation of soil vapor sampling modules. An approximate 20-foot by 20-foot grid was established over a 60-foot by 80-foot area around soil boring GB-10 using a measuring tape (Figure 1-3). The grid around soil boring GB-10 consists of all soil vapor samples beginning with "SVA-, SV-B, SV-C, or SV-D". Table 2-1 presents a summary of soil vapor samples collected during the VRI. An electric rotary-hammer drill was used to install a one-inch diameter pilot hole for deployment of each soil vapor sampling module to a depth between two to three feet bgs. After the pilot hole was completed, the sampling module was tied to a section of nylon cord and inserted into the completed borehole using a stainless steel insertion rod. The nylon cord was fastened to a cork and the cork was tamped flush with the ground surface. A total of 30 soil vapor sampling modules were installed at the Site, including two blind duplicates. Table 2-2 presents a summary of all samples collected during the VRI for quality assurance/quality control (QA/QC) purposes.

Soil vapor modules were allowed to equilibrate with the environment for a minimum of 14 days. ERM returned to the Site on 25 July 2001 to retrieve the soil vapor modules. The corks and sampling modules were missing at two locations (SV-G4 and SV-G6). Sampling modules were subsequently found in the nearby wooded area west of the building. However, all other sampling modules appeared undisturbed and were retrieved as planned. Retrieved modules were removed from the ground and placed into a pre-chilled, thermally-insulated cooler. The location and elevation of all soil vapor sampling locations were surveyed by William Schutt and Associates, P.C. (WSA). WSA is a licensed land surveyor in the State of New York.

Soil vapor borings were backfilled with clean sand or topsoil purchased from a retail store. Sample modules were transported under proper chain of custody documentation to WLG for analysis. Soil vapor samples were

TABLE 2-1
SUMMARY OF SOIL VAPOR SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION (LAB MODULE NUMBER)	INSTALLATION DATE	RETRIEVAL DATE	SAMPLE OBSERVATIONS	
			ODOR	WATER
SV-A1 (341766)	7/10/01	7/25/01		
SV-A2 (341767)	7/10/01	7/25/01		
SV-B1 (341768)	7/10/01	7/25/01		
SV-B2 (341769)	7/10/01	7/25/01		
SV-B3 (341770)	7/10/01	7/25/01		
SV-B4 (341771)	7/10/01	7/25/01		
SV-C1 (341772)	7/10/01	7/25/01		
SV-C2 (341773)	7/10/01	7/25/01		
SV-C3 (341774)	7/10/01	7/25/01		
SV-C4 (341775)	7/10/01	7/25/01		
SV-C5 (341776)	7/10/01	7/25/01		
SV-D1 (341777)	7/10/01	7/25/01		
SV-D2 (341778)	7/10/01	7/25/01		
SV-D3 (341779)	7/10/01	7/25/01	X	X
SV-D4 (341781)	7/10/01	7/25/01		
SV-E4 (341782)	7/10/01	7/25/01		
SV-E3 (341783)	7/10/01	7/25/01		
SV-E2 (341784)	7/10/01	7/25/01		
SV-DUPE 1 (341785)	7/10/01	7/25/01		
SV-E1 (341789)	7/10/01	7/25/01		
SV-G1 (341790)	7/11/01	7/25/01		
SV-F3 (341791)	7/10/01	7/25/01		
SV-DUPE 2 (341792)	7/11/01	7/25/01		
SV-G2 (341793)	7/11/01	7/25/01		
SV-G3 (341794)	7/11/01	7/25/01		
SV-G4 (341795)	7/11/01	7/25/01		
SV-G5 (341796)	7/11/01	7/25/01		
SV-G6 (341797)	7/11/01	7/25/01		
SV-F2 (341798)	7/11/01	7/25/01		
SV-F1 (341799)	7/11/01	7/25/01		

NOTES:

- Sample modules placed between 2.0-2.5 feet below ground surface at all locations
- All samples analyzed for volatile organic compounds at the project laboratory
- the odor column identifies sample locations were organic-like odors were detected at the surface
- the water column identifies sample locations were the sample module was submerged by water

TABLE 2-2
SUMMARY OF QA/QC SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	SAMPLE MATRIX	SAMPLE TYPE	ANALYSES			
			TCL VOCs	TCL SVOCs	TAL METALS	GEO-TECHNICAL
SV-DUPE 1 (341785)	soil vapor	duplicate	X	X	NA	NA
SV-DUPE 2 (341792)	soil vapor	duplicate	X	X	NA	NA
SV-TB (341800)	soil vapor	trip blank	X	X	NA	NA
SV-TB (341801)	soil vapor	trip blank	X	X	NA	NA
SV-TB (341806)	soil vapor	trip blank	X	X	NA	NA
METHOD BLANK	vapor	method blank	X	X	NA	NA
GB-35 MS/MSD	soil	MS/MSD	X	X	X	
GBRI-DUPE1	ground water	duplicate	X	X	X	NA
GBRI-MW-7 MS/MSD	ground water	MS/MSD	X	X	X	NA
GB-32-R	lab water	rinse blank	X	X	X	NA

NOTES:

- TCL = Target Compound List as defined by the United States Environmental Protection Agency (USEPA)
- VOCs = volatile organic compounds
- SVOCs = semivolatile organic compounds
- TAL = Target Analyte List as defined by USEPA
- Geotechnical parameters include bulk density, percent moisture, saturated hydraulic conductivity, total organic carbon, porosity, and grain size
- NA = not applicable
- MS/MSD = matrix spike/matrix spike duplicate

analyzed for selected VOCs by gas chromatograph/mass spectrometer (GC/MS) methods. The VOC target compound list included chlorinated VOCs and aromatic hydrocarbons and is generally consistent with United States Environmental Protection Agency (USEPA) Method 8260. A copy of the WLG laboratory analytical report is presented in Appendix D.

2.1.2 *Soil Boring Installation and Sampling*

Soil boring installation and sampling activities were initiated on 13 August 2001. The location and designation of soil borings installed during the VRI are presented in Figure 1-3. Sample locations as presented in the VRI Work Plan were measured relative to existing site features using a measuring tape. Soil borings were advanced at pre-determined locations using direct-push technology. Soil samples were obtained utilizing a four-foot macrocore sampler. A new acetate liner was placed within the macrocore prior to each sampling run. The shoe and internal sampling mechanism were cleaned between samples using a Liquinox®/potable water wash followed by rinsing with de-ionized, analyte-free water obtained from the project laboratory. Samples were obtained continuously from ground surface to completion depth. The acetate sample sleeve was cut open and the macrocore was immediately screened in the field with a calibrated photoionization detector (PID). The portion of the sample exhibiting the highest PID reading and/or highest degree of visual staining or odor was placed in a laboratory-supplied jar. An ERM geologist described soil regarding color, textural characteristics (density, consistency, sorting, etc.), odor, moisture content, and other pertinent observations. Drilling details and sample descriptions were recorded on ERM soil boring logs (Appendix E). Soil cuttings were contained and transferred into 55-gallon steel drums for subsequent evaluation.

Nine soil borings were installed inside the building in the vicinity of the varnish pit (soil borings GB-23 through GB-31) and five soil borings were installed in the area between soil boring GB-10 and the former drum storage area (soil borings GB-32 through GB-36). One soil sample per boring was selected for laboratory analysis based on the field screening results and visual and olfactory observations by the ERM geologist. Soil samples were placed into a pre-chilled, thermally-insulated cooler and transported with proper chain of custody documentation to Severn Trent Laboratories, Inc.-Buffalo (STL) in Amherst, New York for analysis. STL is a New York State Department of Health-approved environmental laboratory. Table 2-3 presents a summary of soil samples and lists analytical parameters for all soil samples collected during the VRI. A copy of the STL laboratory analytical report for soil samples collected during the VRI for chemical analysis is presented in Appendix F. A copy of the STL laboratory analytical report for soil samples collected during the VRI for geotechnical analysis is presented in Appendix G.

TABLE 2-3
SUMMARY OF SOIL SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	SAMPLE DEPTH	SAMPLE DATE	ANALYSES			
			TCL VOCs	TCL SVOCs	TAL METALS	GEO-TECHNICAL
GB-23	15	8/23/01	X			
GB-24	16	8/22/01	X			
GB-25	4-7	8/23/01				X
GB-25	9-10	8/23/01	X			
GB-26	2	8/21/01	X		X	
GB-27	0-1	8/17/01	X	X	X	
GB-28	16	8/20/01	X		X	
GB-29	8-9	8/20/01	X		X	
GB-30	8-9	8/21/01	X	X	X	
GB-31	6-7	8/22/01	X			
GB-32	16	8/28/01	X			
GB-33	3	8/15/01	X	X	X	
GB-34	3	8/28/01	X	X		
GB-35	16	8/15/01	X	X	X	
GB-36	5	8/28/01	X			
GB-37	3-4	8/15/01	X	X	X	
MW-6	7	8/28/01	X			
MW-7	22-24	8/22/01				X
MW-7	32-34	8/22/01				X
MW-8	16-18	8/14/01				X

NOTES:

- Sample depths are reported in feet below ground surface
- TCL = Target Compound List as defined by the United States Environmental Protection Agency (USEPA)
- VOCs = volatile organic compounds
- SVOCs = semivolatile organic compounds
- TAL = Target Analyte List as defined by USEPA
- Geotechnical parameters include bulk density, moisture, hydraulic conductivity, total organic carbon, porosity, and texture

3.0 INVESTIGATION OF SUBSURFACE UTILITIES

3.1 SCOPE OF FIELD WORK

The investigation of subsurface utilities during the VRI was completed in conformance with the NYSDEC-approved RI Work Plan dated June 2000 (ERM, 2000) with modifications that were authorized in the field by NYSDEC representatives and documented by ERM. Facility engineering maps were reviewed in the field to identify the location and trend of subsurface utilities in the vicinity of the varnish pit. Subsequent investigation was completed using a phased approach, the components of which are presented below.

3.1.1 *Soil Vapor Survey*

Dedicated, passive soil vapor sampling modules were obtained under proper chain of custody from WLG in order to perform a GORE-SORBER® soil vapor screening survey. ERM mobilized to the site on 10 July 2001 to initiate installation of soil vapor sampling modules. Ten sample locations were selected along the fire protection mains on the north (six sample designations beginning with "SV-G") and south (four sample designations beginning with "SV-E") sides of the building at approximate 100-foot intervals (Figure 1-3). Three soil vapor sampling locations were selected based on the location of a three-inch sanitary line beneath the facility floor leading from the varnish pit to the north, and subsequently to the eastern portion of the facility (sample designations beginning with "SV-F"; see Figure 1-3).

An electric rotary-hammer drill was used to install a one-inch-diameter pilot hole for the deployment of each soil vapor sampling module to a depth between two to three feet bgs. After the pilot hole was completed, the sampling module was tied to a section of nylon cord and inserted into the completed borehole using a stainless steel insertion rod. The nylon cord was fastened to a cork and the cork was tamped flush with the ground surface.

Soil vapor modules were allowed to equilibrate with the environment for a minimum of 14 days. ERM returned to the Site on 25 July 2001 to retrieve the soil vapor modules. Retrieved modules were removed from the ground and placed into a pre-chilled, thermally insulated cooler. Exterior soil vapor borings were backfilled with clean sand or topsoil purchased from a retail store. Interior soil vapor borings were backfilled with clean sand to the elevation of the base of the concrete floor and with cement patch in the remainder of the borehole. Sample modules were transported under proper chain of custody documentation to WLG for analysis. Soil vapor samples were analyzed for selected VOCs by GC/MS methods. The VOC target compound list included chlorinated VOCs and aromatic hydrocarbons and is generally consistent with USEPA Method

8260. A copy of the WLG laboratory analytical report is presented in Appendix D.

3.1.2 *Soil Boring Installation and Sampling*

Several VOCs were detected in soil vapor at the location of SV-F1. Soil boring GB-30 was advanced adjacent to the three-inch sanitary line located near the varnish pit (Figure 1-3). The soil boring was installed using direct-push technology as described above in Section 2.1.2. One representative soil sample was collected for laboratory analysis of VOCs according to procedures outlined in Section 2.1.2.

Although not part of the originally defined scope of work, soil boring GB-37 was advanced as part of the investigation of subsurface utilities at the request of NYSDEC. Soil boring GB-37 was advanced adjacent to the sanitary line running from the facility east towards Colvin Boulevard based on the detection of several VOCs at soil vapor sampling location SV-F3 (see Figure 1-3). This boring was added to evaluate the possibility of off-site migration of compounds along the sanitary line. The soil boring was installed using direct-push technology as described above in Section 2.1.2. One representative soil sample was collected for laboratory analysis of VOCs, SVOCs, and Target Analyte List (TAL) metals according to procedures outlined above in Section 2.1.2.

3.1.3 *Water Sampling – Concrete Vault*

At the request of NYSDEC, ERM collected a water sample from a concrete vault located in the vicinity of monitoring well MW-1 (see Figure 1-3). Depth to water and total depth of the vault were measured using an electronic water level indicator. A water sample designated CV-1 was collected from the concrete vault on 12 September 2001 using a disposable polyethylene bailer. Sampling information and a sample description were recorded on an ERM ground water sampling record (Appendix H). The water sample was transferred from the bailer directly into laboratory-supplied glass vials and jars and placed into a pre-chilled, thermally-insulated cooler. Samples were transported with proper chain of custody documentation to STL for analysis. A copy of the laboratory analytical report for VRI water samples is presented in Appendix I.

4.0 GROUND WATER INVESTIGATION

Ground water investigation during the VRI was completed in conformance with the NYSDEC-approved RI Work Plan dated June 2000 (ERM, 2000) with minor modifications that were authorized in the field by NYSDEC representatives and documented by ERM. The ground water investigation was completed using a phased approach, the components of which are presented below.

4.1 SCOPE OF FIELD WORK

The voluntary ground water investigation included the following major components:

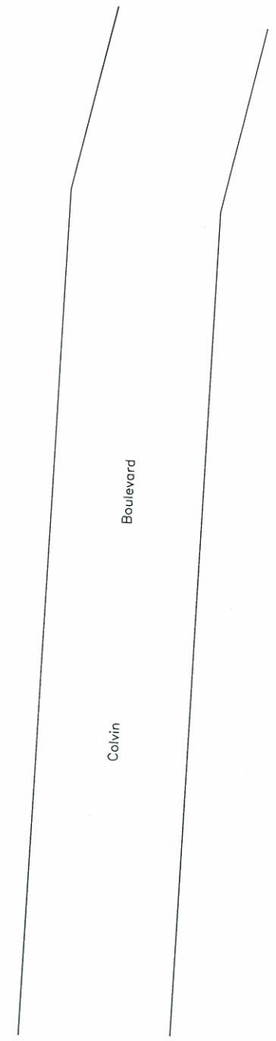
- installation of three monitoring wells (MW-12, MW-13, and MW-14) screened in shallow fill and/or overburden to evaluate ground water perched on top of the silty clay unit in the vicinity of the varnish pit;
- installation of three new monitoring wells (MW-6, MW-7, and MW-8) screened in intermediate overburden between the silty clay unit and bedrock to evaluate ground water quality beneath the silty clay unit;
- installation of three new monitoring wells (MW-9, MW-10, and MW-11) screened in deep overburden on top of bedrock to evaluate ground water quality on top of bedrock; and
- sampling and analysis of ground water from all new monitoring wells and all existing monitoring wells at the Site.

Figure 4-1 presents a map showing the location of existing and new monitoring wells installed at the Site as well as the locations of temporary monitoring wells installed during previous investigations. Table 4-1 presents a summary of ground water samples collected during the VRI including specific analytical parameters for each sample. Details regarding monitoring well installations and ground water sampling for each zone investigated are presented below.

4.1.1 *Shallow Overburden Ground Water*

Shallow overburden ground water monitoring wells MW-12, MW-13, and MW-14 were installed using a combination of hollow-stem auger and direct-push technologies. Soil cores were obtained utilizing a four-foot macrocore sampler as described in the RI Work Plan (ERM, 2000). A new acetate liner was placed within the macrocore prior to each sampling run. The shoe and internal sampling mechanism were cleaned between samples using a Liquinox®/potable water wash followed by rinsing with de-ionized, analyte-free water obtained from the project laboratory. Samples were obtained continuously from ground surface to completion depth. The acetate sample sleeve was cut open and the macrocore was

Figure 4-1
Monitoring Well Location Map
Greif Bros. Facility
Tonawanda, New York



Legend

- Shallow Overburden Monitoring Well Location
- Intermediate Overburden Monitoring Well Location
- Deep Overburden Monitoring Well Location
- Phase II Temporary Monitoring Well Location
- Phase III Temporary Monitoring Well Location

N

60 30 0 60

Scale in Feet

ERM, INC.

D6714.00.01/11.03.01-CMP/11.28.01-CMP/A207 -1A

TABLE 4-1
SUMMARY OF WATER SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	SAMPLE DATE	GROUND WATER ZONE SAMPLED	ANALYSES		
			TCL VOCs	TCL SVOCs	TAL METALS
GBRI-CV-1	9/12/01	NA (concrete vault)	X	X	X
GBRI-MW-1	9/12/01	intermediate	X		
GBRI-MW-2	9/12/01	intermediate	X		
GBRI-MW-3	9/12/01	intermediate	X		X
GBRI-MW-4	9/12/01	intermediate	X		
GBRI-MW-5	9/12/01	intermediate	X		
GBRI-MW-6	9/12/01	intermediate	X	X	
GBRI-MW-7	9/12/01	intermediate	X	X	X
GBRI-MW-8	9/12/01	intermediate	X	X	X
GBRI-MW-9	9/12/01	deep	X	X	
GBRI-MW-10	9/12/01	deep	X	X	
GBRI-MW-11	9/12/01	deep	X	X	
GBRI-MW-12	9/12/01	shallow	X	X	
GBRI-MW-13	9/12/01	shallow	X	X	X
GBRI-MW-14	9/12/01	shallow	X	X	

NOTES:

- TCL = Target Compund List as defined by the United State Environmental Protection Agency (USEPA)
- VOCs = volatile organic compounds
- SVOCs = semivolatile organic compounds
- TAL = Target Analyte List as defined by USEPA

immediately screened in the field using a calibrated PID. An ERM geologist described soil regarding color, textural characteristics (density, consistency, sorting, etc.), odor, moisture content, and other pertinent observations. Drilling details and sample descriptions were recorded on ERM soil boring logs (Appendix E).

Shallow overburden monitoring wells were constructed using two inch-diameter polyvinyl chloride (PVC) well screen and riser. All well screens were constructed using 0.010-inch factory pre-slotted PVC. Sand filter packs were constructed using #0 silica sand to a minimum height of one foot above the top of the well screen. All shallow overburden monitoring wells were constructed with a hydrated bentonite seal above the sand filter pack with a minimum thickness of two feet. All monitoring wells were developed by pumping for a minimum period of one-half hour. Details regarding monitoring well construction were recorded on ERM monitoring well construction logs (Appendix J).

ERM returned to the Site on 12 September 2001 to collect water level data, field parameter data, and ground water samples from all ground water monitoring wells. Field data, sampling equipment, and sample descriptions were recorded on ERM ground water sampling records (Appendix H). Depths to water and total well depths were measured using an electronic water level indicator. These data were used to calculate well volumes for purging. Temperature and dissolved oxygen (DO) were measured in situ using a calibrated YSI Model 55 electronic DO meter. Ground water was purged from each well using a new, disposable polyethylene bailer. Bailers were also used to check each shallow overburden monitoring well for the presence of light non-aqueous phase liquid (LNAPL) and dense, non-aqueous phase liquid (DNAPL). Purge water was contained and transferred to 55-gallon steel drums for subsequent evaluation pending receipt of analytical results.

A minimum of three well volumes was purged from each monitoring well prior to collecting samples with the dedicated polyethylene bailers. Field parameters temperature, conductivity, and pH were measured after each well volume was purged using a calibrated Horiba Model D-24 or D-25 electronic temperature-conductivity-pH meter. Water samples were transferred from bailers directly into laboratory-supplied glass vials and jars and placed into a pre-chilled, thermally-insulated cooler. Samples were transported with proper chain of custody documentation to STL for analysis. A copy of the laboratory analytical report for VRI water samples is presented in Appendix I.

4.1.2 *Intermediate Overburden Ground Water*

Intermediate overburden ground water monitoring wells MW-6, MW-7, and MW-8 were installed using hollow-stem auger drilling techniques. Soil cores were obtained utilizing two inch-diameter carbon steel split

spoons as described in the RI Work Plan (ERM, 2000). Split spoons and internal sampling mechanisms were cleaned between samples using a Liquinox®/potable water wash followed by rinsing with de-ionized, analyte-free water obtained from the project laboratory. Samples were obtained continuously from ground surface to completion depth. The split spoon was opened and the soil core was immediately screened in the field using a calibrated PID. An ERM geologist described soil regarding color, textural characteristics (density, consistency, sorting, etc.), odor, moisture content, and other pertinent observations. Drilling details and sample descriptions were recorded on ERM soil boring logs (Appendix E).

Intermediate overburden monitoring wells were constructed using two inch-diameter PVC well screen and riser. All well screens were constructed using 0.010-inch factory pre-slotted PVC. Sand filter packs were constructed using #0 silica sand to a minimum height of two feet above the top of the well screen. All intermediate overburden monitoring wells were constructed with a hydrated bentonite seal above the sand filter pack with a thickness of two feet. The remaining borehole was sealed to a depth of approximately one foot below ground surface using cement-bentonite grout. Details regarding monitoring well construction were recorded on ERM monitoring well construction logs (Appendix J).

Ground water samples were collected from all intermediate overburden monitoring wells on 12 September 2001 using procedures described above in Section 4.1.1.

4.1.3 *Deep Overburden Ground Water*

Deep overburden ground water monitoring wells MW-9, MW-10, and MW-11 were installed using hollow-stem auger drilling techniques. Soil cores were obtained utilizing two inch-diameter carbon steel split spoons as described in the RI Work Plan (ERM, 2000). Split spoons and internal sampling mechanisms were cleaned between samples using a Liquinox®/potable water wash followed by rinsing with de-ionized, analyte-free water obtained from the project laboratory. Samples were obtained continuously from ground surface to completion depth with the exception of monitoring well MW-11 that was sampled every five feet as authorized in the field by the NYSDEC representative. The reduced sampling frequency was requested due to minimal clearance between the drilling rig mast and the facility ceiling. The split spoon was opened and the soil core was immediately screened in the field using a calibrated PID. An ERM geologist described soil regarding color, textural characteristics (density, consistency, sorting, etc.), odor, moisture content, and other pertinent observations. Drilling details and sample descriptions were recorded on ERM soil boring logs (Appendix E).

Installation of eight inch-diameter steel casing was required at the locations of monitoring wells MW-10 and MW-11 due to the presence of

affected soil in shallow fill materials. The outer steel casing was deemed necessary to minimize the potential for downward migration of VOCs or other contaminants into deeper zones. Boreholes were installed using 10.25-inch inner diameter hollow-stem augers. The eight inch-diameter steel casings were installed to a minimum depth of five feet into the native silty clay unit. The casings were cemented in place using quick-setting cement grout.

After installation of the outer steel casings, soil borings were advanced to the top of competent bedrock using 4.25-inch inner diameter hollow-stem augers. Two-inch diameter rock cores were obtained at borings MW-8, MW-9, and MW-10. Rock core was not obtained at boring MW-11 due to the minimal clearance between the drill rig mast and the facility ceiling. Rock cores were obtained five feet into bedrock to provide confirmation that bedrock was encountered and to provide sufficient core for description of bedrock lithologies and properties.

Deep overburden monitoring wells were constructed using two inch-diameter PVC well screen and riser. All well screens were constructed using 0.010-inch factory pre-slotted PVC. Sand filter packs were constructed using #0 silica sand to a minimum height of two feet above the top of the well screen. All deep overburden monitoring wells were constructed with a hydrated bentonite seal above the sand filter pack with a thickness of two feet. The remaining borehole was sealed to a depth of approximately one foot below ground surface using cement-bentonite grout. Details regarding monitoring well construction were recorded on ERM monitoring well construction logs (Appendix J).

Ground water samples were collected from all deep overburden monitoring wells on 12 September 2001 using procedures described above in Section 4.1.1.

5.0 RESULTS

5.1 SOIL INVESTIGATION RESULTS

5.1.1 Soil Vapor Survey Results

Table 5-1 presents a summary of VOCs detected in soil vapor samples collected at the Site. Soil vapor results are reported as mass. A total of 17 VOCs were detected at some concentration in soil vapor samples collected at the Site. Detected VOCs are generally associated with chlorinated solvents, reductive dechlorination products of chlorinated solvents, petroleum, and/or varnish. Appendix D contains color contour maps generated by WLG showing the relative distribution of total benzene, toluene, ethylbenzene, and xylenes (BTEX), trichloroethene, total 1,2-dichloroethene, and 1,1,1-trichloroethane. These data suggest the presence of a source area in the vicinity of the former drum storage area and provide data for delineation of shallow areas affected by specific VOCs. Comparison of soil vapor data with the results of laboratory analysis of soil samples collected in relatively close proximity to soil vapor points (i.e., SV-B2 and GB-32; SV-C4 and GB-36; SV-F1 and GB-30) suggests the following general interpretation of soil vapor data:

- mass mapped in shades of blues and greens do not coincide with soil samples with detected concentrations in excess of recommended soil cleanup objectives (RSCOs);
- mass mapped in shades of yellows are "borderline"; and
- mass mapped in shades of reds and violets coincide with soil samples with detected concentrations in excess of RSCOs.

An exception to this general interpretation apparently exists for 1,2-dichloroethene; mass mapped in shades of reds also appears to be "borderline" for this compound.

5.1.2 Soil Boring Installation and Sampling Results

Table 5-2 presents a summary of field observations and data from soil boring logs. Review of soil boring logs in Appendix E, soil analytical data in Appendix F, and field data summarized in Table 5-2 reveals several significant observations.

- Maximum or elevated PID readings do not always correlate with areas of significant organic odors and vice versa, suggesting that one or more of the VOCs present in soil at the Site have ionization potentials greater than the ionization potentials of the lamps used in PIDs at the Site. Lamps used in PIDs at the Site typically had ionization potentials of 10.2 to 10.8 electron volts (eV).

TABLE 5-1
SUMMARY OF COMPOUNDS DETECTED IN SOIL VAPOR
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION LAB MODULE NUMBER	SV-A1 341766	SV-A2 341767	SV-B1 341768	SV-B2 341769	SV-B3 341770	SV-B4 341771	SV-C1 341772	SV-C2 341773	SV-C3 341774	SV-C4 341775
VOCs/SVOCs (UG)										
BTEX	0.42	0.71	0.18	0.06	0.07	0.10	----	----	1.78	0.08
Benzene	0.25	0.21	0.09	0.06	0.07	----	----	----	0.31	----
Carbon Tetrachloride	----	----	----	----	----	----	----	----	----	1.57
Chloroform	0.14	0.12	----	----	0.04	0.09	----	----	0.07	0.03
1,1-Dichloroethane	----	----	0.09	0.10	1.16	0.35	----	----	2.57	8.16
1,2-Dichloroethane	----	----	----	----	----	----	----	----	0.09	0.37
1,1-Dichloroethene	----	----	----	----	----	----	----	----	0.11	1.28
cis-1,2-Dichloroethene	----	0.74	----	0.03	36.66	18.69	----	----	50.44	1.83
trans-1,2-Dichloroethene	----	----	----	----	2.87	0.68	----	----	2.90	0.83
Ethylbenzene	----	0.05	----	----	----	----	----	----	0.16	----
1,1,2,2-Tetrachloroethane	----	----	----	----	----	----	----	----	0.05	----
Tetrachloroethene	----	----	----	----	----	----	----	----	0.64	0.04
Toluene	0.14	0.10	0.05	----	----	0.10	----	----	0.57	----
1,1,1-Trichloroethane	----	----	0.10	0.11	----	0.06	----	----	1.30	9.66
1,1,2-Trichloroethane	----	----	----	----	----	----	----	----	----	----
Trichloroethene	----	----	----	----	1.03	2.47	----	----	52.19	5.69
m+p Xylene	0.03	0.23	0.04	----	----	----	----	----	0.47	0.05
o-Xylene	----	0.13	----	----	----	----	----	----	0.27	0.03

NOTES:

- all values are relative mass reported in micrograms
- ---- = analyte was not detected in the sample above the method detection limit

TABLE 5-1 (Continued)
SUMMARY OF COMPOUNDS DETECTED IN SOIL VAPOR
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	SV-C5	SV-D1	SV-D2	SV-D3	SV-D4	SV-E1	SV-E2	SV-E3	SV-E4	SV-F1
LAB MODULE NUMBER	341776	341777	341778	341779	341781	341789	341784	341783	341782	341799
VOCs/SVOCs (UG)										
BTEX	----	----	1189.04	851.22	1.81	----	0.15	1.01	0.35	1.03
Benzene	----	----	0.04	0.13	0.03	----	----	0.20	0.11	0.28
Carbon Tetrachloride	----	----	----	----	----	----	----	----	----	180.25
Chloroform	----	----	----	----	0.06	----	----	----	----	0.65
1,1-Dichloroethane	3.69	----	0.47	177.07	8.61	----	----	----	----	71.25
1,2-Dichloroethane	0.17	----	0.03	26.42	2.47	----	----	----	----	62.92
1,1-Dichloroethene	0.70	----	----	7.65	7.18	----	----	----	----	68.28
cis-1,2-Dichloroethene	0.05	----	7.98	6.84	0.24	----	----	----	----	92.24
trans-1,2-Dichloroethene	0.29	----	1.25	36.45	0.75	----	----	----	----	113.32
Ethylbenzene	----	----	67.32	143.18	0.20	----	----	0.08	----	0.04
1,1,2,2-Tetrachloroethane	----	----	0.07	0.02	----	----	----	----	----	----
Tetrachloroethene	----	----	0.22	1.65	----	0.07	----	----	----	15.95
Toluene	----	----	2.10	11.12	0.14	----	----	0.15	0.08	0.57
1,1,1-Trichloroethane	4.58	0.04	0.22	839.77	75.89	----	0.04	0.22	----	1627.21
1,1,2-Trichloroethane	----	----	0.16	0.12	----	----	----	----	----	0.30
Trichloroethene	0.18	----	0.18	2.04	0.88	----	----	----	----	558.32
m+p Xylene	----	----	713.30	406.01	0.90	----	0.09	0.43	0.13	0.10
o-Xylene	----	----	406.27	290.79	0.54	----	0.06	0.15	0.03	0.04

NOTES:

- all values are relative mass reported in micrograms
- ---- = analyte was not detected in the sample above the method detection limit

TABLE 5-1 (Continued)
SUMMARY OF COMPOUNDS DETECTED IN SOIL VAPOR
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION LAB MODULE NUMBER	SV-F2 341798	SV-F3 341791	SV-G1 341790	SV-G2 341793	SV-G3 341794	SV-G4 341795	SV-G5 341796	SV-G6 341797
VOCs/SVOCs (UG)								
BTEX	0.35	0.02	----	----	----	----	0.31	----
Benzene	0.11	----	----	----	----	----	0.09	----
Carbon Tetrachloride	----	----	----	----	----	----	----	----
Chloroform	0.08	----	----	----	----	----	0.07	----
1,1-Dichloroethane	0.05	----	----	----	----	----	----	----
1,2-Dichloroethane	7.11	----	----	----	----	----	----	----
1,1-Dichloroethene	4.53	----	----	----	----	----	----	----
cis-1,2-Dichloroethene	0.03	----	----	----	----	----	----	----
trans-1,2-Dichloroethene	----	----	----	----	----	----	----	----
Ethylbenzene	----	----	----	----	----	----	----	----
1,1,2,2-Tetrachloroethane	----	----	----	----	----	----	----	----
Tetrachloroethene	----	----	----	----	----	----	----	----
Toluene	0.07	----	----	----	----	----	----	----
1,1,1-Trichloroethane	237.24	0.21	----	----	----	----	----	----
1,1,2-Trichloroethane	----	----	----	----	----	----	----	----
Trichloroethene	24.00	----	----	----	----	----	----	----
m+p Xylene	0.09	0.02	----	----	----	----	0.09	----
o-Xylene	0.07	----	----	----	----	----	0.13	----

NOTES:

- all values are relative mass reported in micrograms
- ---- = analyte was not detected in the sample above the method detection limit

TABLE 5-2
SUMMARY OF FIELD DATA FROM SOIL BORING LOGS
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SOIL BORING DESIGNATION	MAXIMUM PID READING (DEPTH)	ASH OR VITREOUS GRAVEL FILL (DEPTH)	SIGNIFICANT ORGANIC ODOR IN SOIL (DEPTH)	NAPL IN SOIL	SIGNIFICANT SULFUR ODOR	THICK CONCRETE
MW-1	0					
MW-2	0					
MW-3	0					
MW-5	0					
MW-6	18.5 (7-8)					
MW-7	NR					
MW-8	14.5 (10-10.5)					
MW-9	20.3 (50-50.5)					
MW-10	195 (5-5.5)		5-6			
MW-12	6.6 (4-5)					
MW-13	>2000 (2-2.5)	0.5-2	0.5-7			
	>2000 (7-7.5)					
MW-14	393 (9.5-10)		0-3			
GB-1	100 (3-4)		12-20			
	100 (12-16)					
GB-2	120 (12-16)		14-20			
GB-3	20 (8-10)		0-12			
GB-4	60 (0-4)		0-8			
GB-5	1 (4-8)		8-12			
GB-6	0.5 (0-8)					
GB-7	0.5 (12-16)					
	0.5 (20-24)					
GB-8	11.5 (1-2)					
GB-9	1 (4-8)					
GB-10	15 (1-2)		1-2			
	700 (14-15)		14-15			
GB-11	0					
GB-12	0					
GB-13	13.5 (1-2)			X		
GB-14	5.5 (9-10)					
GB-15	450 (4-7)		4-15			
GB-16	0.2 (4-7)					
GB-17	<2000 (3.5-5.5)	0.5-1		X		
GB-18	NR					
GB-19	7 (5-6)					
GB-20	300 (15-16)	0.5-2	9-16			
GB-21	8 (4-5)	0.5-1	4-5			
	13 (8-12)		8-9			

NOTES:

- PID = photoionization detector; values reported in parts per million
- NAPL = non-aqueous phase liquid
- NR = data not recorded at this location
- All depth values are reported in feet below ground surface

TABLE 5-2 (Continued)
SUMMARY OF FIELD DATA FROM SOIL BORING LOGS
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SOIL BORING DESIGNATION	MAXIMUM PID READING (DEPTH)	ASH OR VITREOUS GRAVEL FILL (DEPTH)	SIGNIFICANT ORGANIC ODOR IN SOIL (DEPTH)	NAPL IN SOIL	SIGNIFICANT SULFUR ODOR	THICK CONCRETE
GB-22	110 (1.5-4)	0.5-1.5	1.5-14			
	110 (15-16)					
GB-23	3.8 (8-9)	0.7-5				
GB-24	3.8 (5-6)	0.7-5			X	
GB-25	6.2 (0.7-2)	0.7-7	7-10			
	29.6 (7-8)	7-10				
GB-26	74.5 (1-2)	0.5-2				
GB-27	45.3 (0-1)	0.5-2				
GB-28	12.3 (15-16)	0.5-2				
GB-29	12.7 (8-10)	0.5-1				X
	9.5 (2-2.5)	1.5-2.5				
GB-30	>2000 (9-11)	0.5-3	0.5-10			
	707 (13-14)		13-16			
GB-31	>2000 (6-7)	0-5	5-7		X	
GB-32	8.8 (15-16)					
GB-33	3.9 (3-4)					
GB-34	>2000 (4-4.5)		0-10	X		
GB-35	0					
GB-36	484 (4-5)		4-8			
GB-37	5 (3-4)					

NOTES:

- PID values represent total VOCs in parts per million.
- NAPL (Non Aqueous Phase Liquid)
- NR = Data not recorded at this location.
- Depth values in feet.

- Elevated PID readings were encountered over most or the entire depth interval from ground surface to completion depth in several borings located in the vicinity of the varnish pit. This is apparent north of the varnish pit (see log for soil borings GB-30 and GB-31) and south of the former drum storage area (see log for soil boring GB-34). These data suggest the silty clay or clay unit was not a complete barrier to downward migration of VOCs in all areas of the Site.
- Ash-like and/or vitreous gravelly and sandy material resembling slag-like industrial fill were encountered in soil borings inside the facility but were not encountered in soil boring outside the facility.
- NAPL with strong hydrocarbon-like odors was observed in two soil borings in the truck bay (GB-13 and GB-17) and one soil boring south of the former drum storage area (GB-34).
- Strong sulfur-like odor was detected in two soil borings installed inside the facility, suggesting the presence of chemically-reducing conditions beneath portions of the building.

Site Geology

Figure 5-1 presents a map showing the locations of geologic cross sections constructed to facilitate evaluation of site geology. Three geologic cross sections were constructed. Section A-A′ (Figure 5-2) is a north-south cross section that passes through the varnish pit. Section B-B′ (Figure 5-3) is an east-west cross section that also passes through the varnish pit. Section C-C′ (Figure 5-4) is a short geologic cross section consisting of three deep wells in close proximity in order to show as much deep geologic information as possible on one cross section.

Review of soil boring logs in Appendix E and Figures 5-2 through 5-4 indicates that Site geology can be characterized as consisting of the following stratigraphic units in descending order from ground surface to depth.

- A fill unit consisting predominantly of brown to gray and black sand, vitreous slag-like gravel or limestone-like gravel, and ash-like material with lesser amounts of silt or silty clay (typically 2-12 feet thick);
- An orange-brown to red-brown silty clay/clay unit consisting predominantly of clay and silt, locally mottled gray, with occasional, apparently discontinuous lenses of silt or sand (typically 10-32 feet thick);
- A silty sand unit consisting predominantly of dark reddish-brown silt and sand (typically 6-18 feet thick);
- A lower, dark yellowish-brown silty clay unit with apparently discontinuous lenses of silt or silty sand (typically 18-40 feet thick);

Figure 5-2
Cross Section A-A'
Greif Bros. Facility
Tonawanda, New York

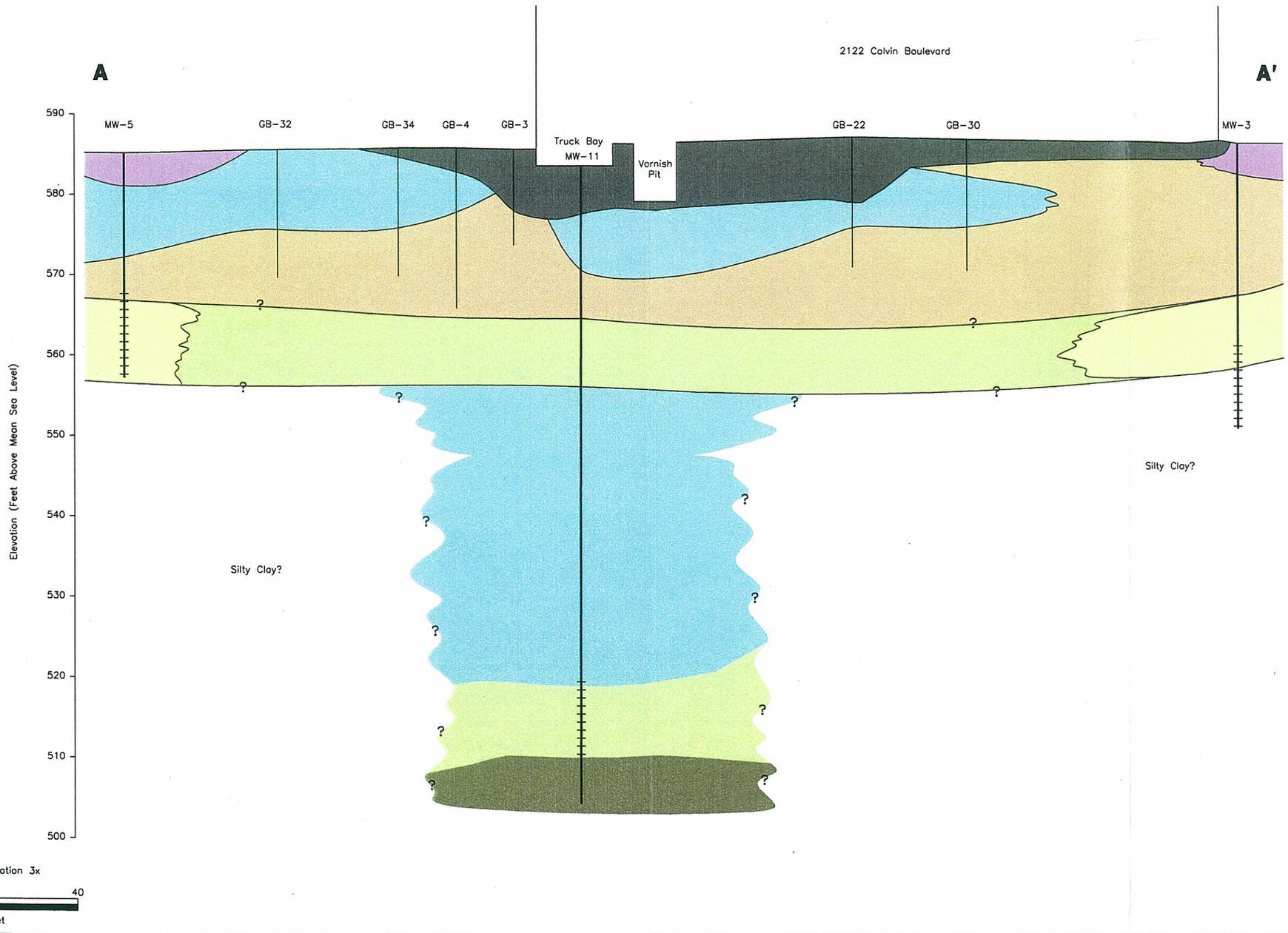


Figure 5-3
Cross Section B-B'
Greif Bros. Facility
Tonawanda, New York

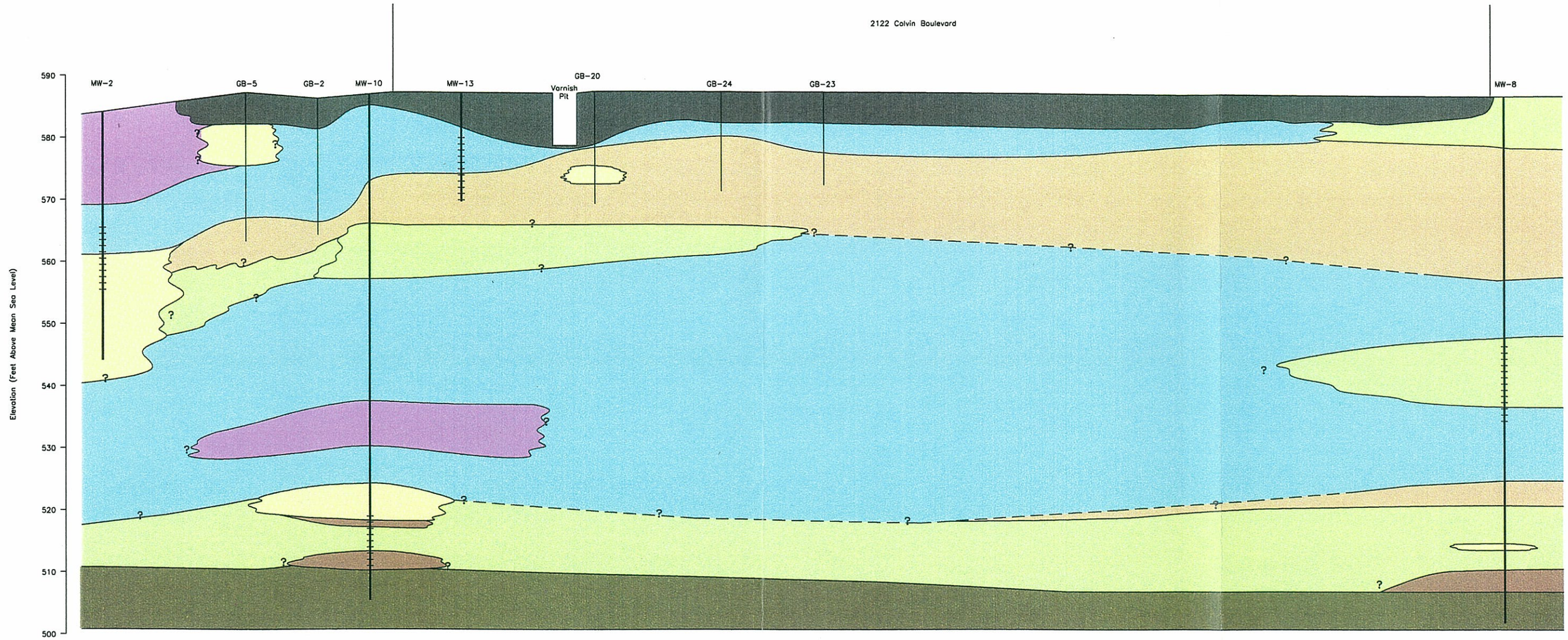


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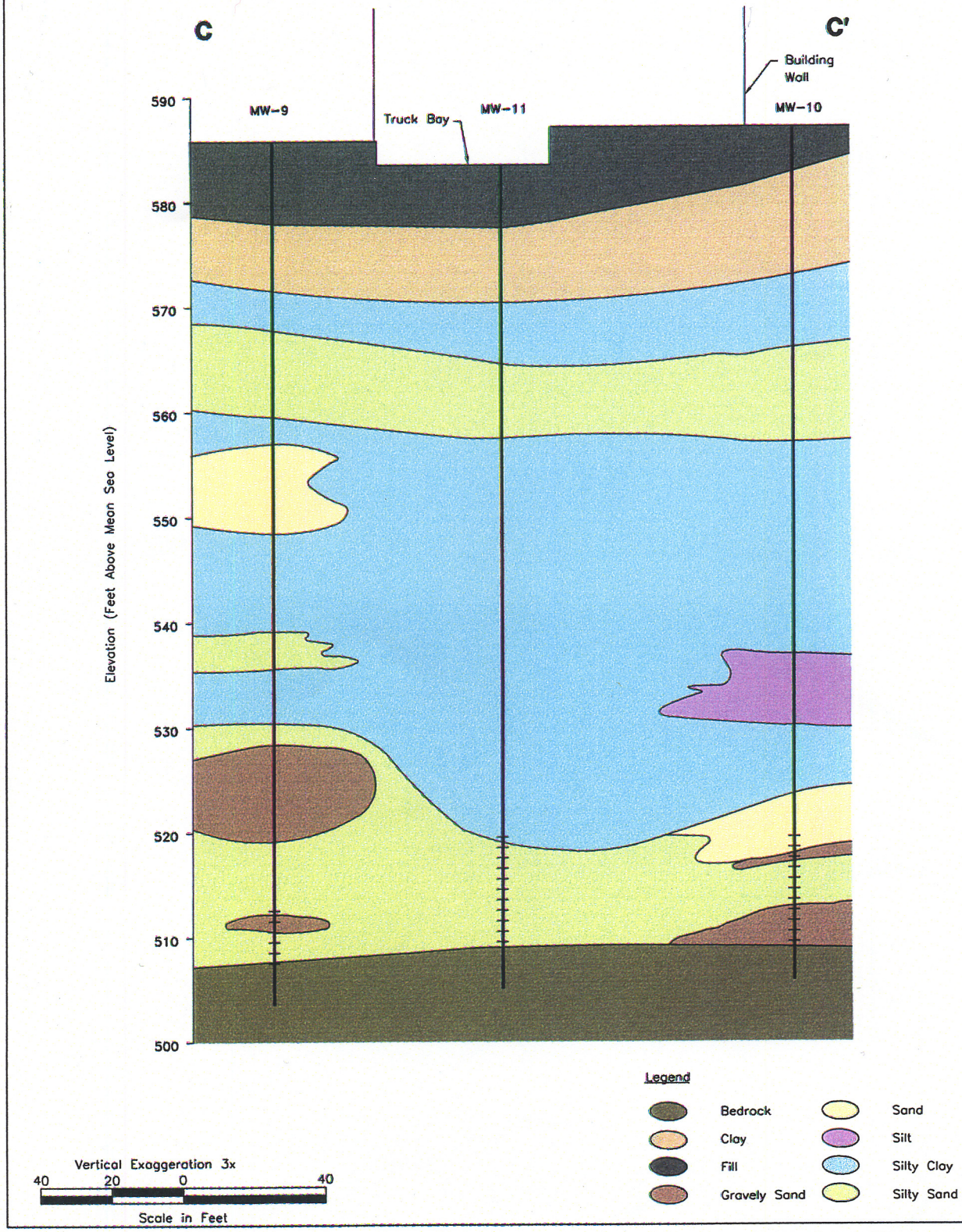
Figure 5-4
Cross Section C-C'
Greif Bros. Facility
Tonawanda, New York



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D6714.00.01/11.18.01-CMP/11.28.01-CMP/E101-1A

- A lower, dark grayish-brown sand unit, typically silty, locally gravelly (typically 12 to 24 feet thick); and
- Bedrock consisting of hard, micritic dolostone (a calcium-magnesium carbonate rock) with lesser amounts of nodular anhydrite (an anhydrous calcium sulfate mineral).

The total thickness of overburden at the Site ranges from 73.5 to 80 feet. VOC- and SVOC-affected soil identified to date occurs in the fill unit or the upper silty clay/clay unit. As expected, the silty clay/clay units are characterized by low apparent permeability relative to the silty sand units.

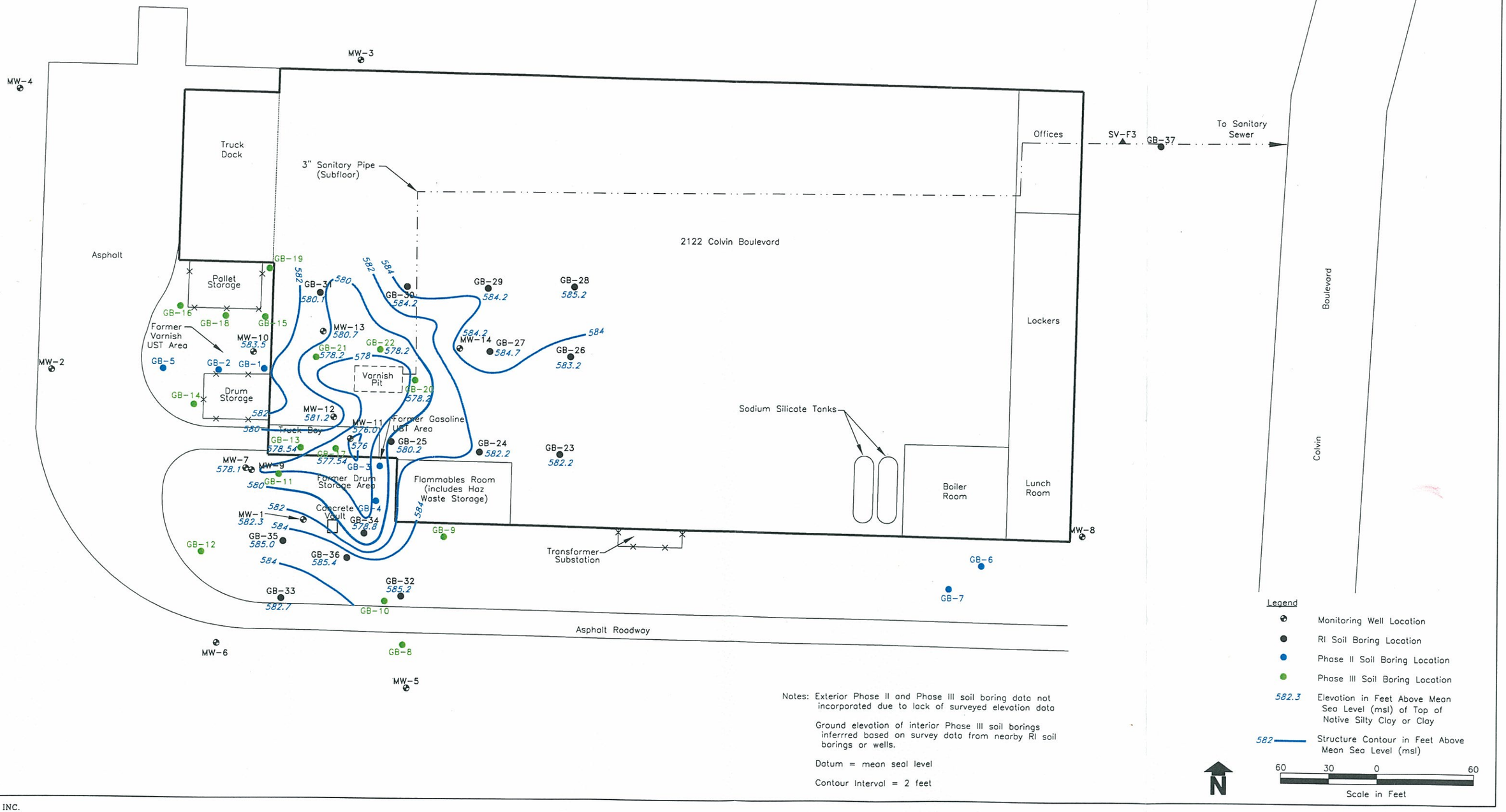
Detailed examination of bedrock cores indicates that bedrock at the Site consists predominantly of dark greenish-gray, dolomitized carbonate mudstone with some fissility, horizontal stylolites, and low apparent matrix porosity and permeability. Nodular, light gray anhydrite comprises approximately five percent of bedrock by volume. Some sub-horizontal fractures with small apertures were present, but most fractures appeared to be filled with anhydrite and calcite. Diagenetic iron oxide was present over an estimated five percent by volume of rock cores. Bedrock encountered at the Site is consistent with published descriptions of the Syracuse Formation of the Upper Silurian Salina Group (Rickard, 1969).

Figure 5-5 presents a structure contour map on the top of the silty clay/clay unit. This figure shows the geometry of the top of the silty clay/clay unit. Review of Figure 5-5 reveals a central low area in the vicinity of the truck bay with adjacent, connected low areas towards the north (varnish pit) and south (former drum storage area). These areas apparently coincide with excavation activities that would have been associated with installation of the varnish pit and the former gasoline UST. A secondary low area appears to extend towards the west along the southern railroad spur that formerly entered the facility at the truck bay and in the vicinity of monitoring wells MW-7 and MW-9. Fluids released in the more permeable fill unit in the southwestern portion of the facility would migrate vertically downward under the influence of gravity to the top of the less permeable silty clay unit. The difference in relative permeability and the observed geometry of the top of the silty clay/clay unit indicates that fluids would then tend to migrate laterally towards the low areas of the truck bay, varnish pit, and former gasoline UST.

VOCs

Table 5-3 presents a summary of VOCs detected in VRI soil samples. Review of Table 5-3 and previous analytical data summarized in Appendix B indicates a total of 29 VOCs were detected in soil samples collected at the Site. Of these 29 VOCs, 15 were detected at concentrations above RSCOs calculated by ERM for the Site based on NYSDEC guidance

Figure 5-5
Structure Contour Map
Top of Native Silty Clay or Clay
Greif Bros. Facility
Tonawanda, New York



Notes: Exterior Phase II and Phase III soil boring data not incorporated due to lack of surveyed elevation data

Ground elevation of interior Phase III soil borings inferrred based on survey data from nearby RI soil borings or wells.

Datum = mean seal level

Contour Interval = 2 feet

Legend

- Monitoring Well Location
- RI Soil Boring Location
- Phase II Soil Boring Location
- Phase III Soil Boring Location
- 582.3 — Elevation in Feet Above Mean Sea Level (msl) of Top of Native Silty Clay or Clay
- 582 — Structure Contour in Feet Above Mean Sea Level (msl)

N

60 30 0 60

Scale in Feet

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D6714.00.01/11.28.01-VKW/A219-1A

TABLE 5-3
SUMMARY OF VOCs DETECTED IN SOIL
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	GB-23	GB-24	GB-24 RI	GB-25	GB-25 DL	GB-26	GB-27	GB-27 DL	GB-28	NYSDEC
SAMPLE DEPTH (feet)	15	16	16	9-10	9-10	2	0-1	0-1	16	RSCO
TCL VOCs (UG/KG)										
Acetone	42 B	67 B	29 BJ	25 BJ	----	26 BJ	----	----	39 B	136 *
Benzene	----	----	----	2 J	----	2 J	----	----	7	103 *
2-Butanone	----	----	----	----	----	----	----	----	9 J	278 *
Carbon Disulfide	----	----	2 J	----	----	----	4 J	----	----	3341 *
Chloroethane	----	----	----	----	----	----	----	----	----	2289 *
Chloroform	----	----	----	----	----	----	2 J	----	----	269 *
1,1-Dichloroethane	----	----	----	95	----	----	160	**310 DJ**	----	186 *
1,2-Dichloroethane	----	----	----	1 J	----	----	----	----	----	87 *
1,1-Dichloroethene	----	----	----	12	----	----	320 E	**820 D**	2 J	402 *
1,2-Dichloroethene (Total)	----	----	----	970 E	260 DJ	----	6 J	----	----	365 *
Ethylbenzene	----	----	----	----	----	2 J	----	----	2 J	6806 *
Methylene Chloride	8 B	13 B	7	14 B	----	9 B	7 B	**170 DJ**	9 B	130 *
4-Methyl-2-pentanone	----	----	----	----	----	----	----	----	----	1176 *
Styrene	----	----	----	----	----	1 J	----	----	----	5643 **
Tetrachloroethene	----	----	----	----	----	----	----	----	----	1714 *
Toluene	----	2 J	----	3 J	----	9	----	----	7	1856 *
1,1,1-Trichloroethane	----	----	----	3 J	----	----	2000 E	**5100 D**	9	941 *
1,1,2-Trichloroethane	----	----	----	----	----	----	----	----	----	69 ***
Trichloroethene	2 J	----	----	1400 E	590 DJ	2 J	5100 E	**19000 D**	8	780 *
Vinyl Chloride	----	----	----	61	----	----	----	----	----	141 *
Xylenes (Total)	----	----	----	----	----	6 J	----	----	6 J	1485 *

NOTES:

- ---- = the compound was not detected at a concentration above the reported method detection limit
- B = the compound was detected in the laboratory method blank
- D = the reported concentration is derived from an analysis at the secondary dilution factor
- E = the compound was detected at a concentration that exceeded the calibration range of the analytical instrument
- J = the reported concentration is estimated (the result is less than the sample quantitation limit but greater than zero)
- NYSDEC RSCO = recommended soil cleanup objectives from NYSDEC TAGM-4046 Appendix A, Table 1; * = value corrected for known organic carbon content (TOC); NA = not applicable
- ** = NYSDEC RSCO not listed in TAGM-4046; calculated using partition coefficient (Koc) of 912 (Meylan et al., 1992) and corrected for known organic carbon content
- *** = NYSDEC RSCO not listed in TAGM-4046; calculated using partition coefficient (Koc) of 56 (Schwille, 1988) and corrected for known organic carbon content
- **Bold type and pattern indicate exceedance of recommended soil cleanup objective from NYSDEC TAGM-4046 for qualified data**

TABLE 5-3 (Continued)
SUMMARY OF VOCs DETECTED IN SOIL
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION DEPTH (Feet)	GB-29 8-9	GB-30 8-9	GB-30 DL 8-9	GB-31 6-7	GB-32 16	GB-33 3	GB-34 3	GB-34 DL 3	NYSDEC RSCO
TCL VOCs (UG/KG)									
Acetone	18 BJ	1900 BE	**4300 D**	----	25 BJ	18 J	160 B	----	136 *
Benzene	2 J	----	----	----	----	2 J	----	----	103 *
2-Butanone	----	2400 E	**1800 DJ**	----	----	----	35	----	278 *
Carbon Disulfide	----	----	----	----	----	----	----	----	3341 *
Chloroethane	----	----	----	----	----	----	78	----	2289 *
Chloroform	----	----	----	----	----	----	----	----	269 *
1,1-Dichloroethane	4 J	590 E	----	----	----	----	2500 E	**400 DJ**	186 *
1,2-Dichloroethane	----	**240**	**180 DJ**	----	----	----	6	----	87 *
1,1-Dichloroethene	6	5800 E	----	----	----	----	250 E	----	402 *
1,2-Dichloroethene (Total)	----	750 E	----	----	----	----	360	----	365 *
Ethylbenzene	----	20	----	200 J	----	1 J	2300 E	5700 D	6806 *
Methylene Chloride	8 B	12 B	----	----	4 J	6 B	5 J	----	130 *
4-Methyl-2-pentanone	----	83	----	----	----	----	----	----	1176 *
Styrene	----	----	----	----	----	----	----	----	5643 **
Tetrachloroethene	----	26	----	----	----	----	14	----	1714 *
Toluene	2 J	25	----	----	----	4 J	54	----	1856 *
1,1,1-Trichloroethane	5 J	6300 E	**1400 D**	**8600**	----	----	6300 E	**2100 D**	941 *
1,1,2-Trichloroethane	----	**74**	----	----	----	----	12	----	69 ***
Trichloroethene	6	7000 E	**6400 D**	**18000**	----	----	61	----	780 *
Vinyl Chloride	----	----	----	----	----	----	14	----	141 *
Xylenes (Total)	1 J	81	160 DJ	790 J	----	2 J	10000 E	**46000 D**	1485 *

NOTES:

- ---- = the compound was not detected at a concentration above the reported method detection limit
- B = the compound was detected in the laboratory method blank
- D = the reported concentration is derived from an analysis at the secondary dilution factor
- E = the compound was detected at a concentration that exceeded the calibration range of the analytical instrument
- J = the reported concentration is estimated (the result is less than the sample quantitation limit but greater than zero)
- NYSDEC RSCO = recommended soil cleanup objectives from NYSDEC TAGM-4046 Appendix A, Table 1; * = value corrected for known organic carbon content (TOC); NA = not applicable
- ** = NYSDEC RSCO not listed in TAGM-4046; calculated using partition coefficient (Koc) of 912 (Meylan et al., 1992) and corrected for known organic carbon content
- *** = NYSDEC RSCO not listed in TAGM-4046; calculated using partition coefficient (Koc) of 56 (Schwille, 1988) and corrected for known organic carbon content
- **Bold type and pattern indicate exceedance of recommended soil cleanup objective from NYSDEC TAGM-4046 for qualified data**

TABLE 5-3 (Continued)
SUMMARY OF VOCs DETECTED IN SOIL
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION DEPTH (Feet)	GB-35 16	GB-36 5	GB-36 DL 5	GB-37 3-4	MW-6 7	NYSDEC RSCO
TCL VOCs (UG/KG)						
Acetone	21 J	72 B	----	----	34 B	136 *
Benzene	----	----	----	6	----	103 *
2-Butanone	----	11 J	----	----	----	278 *
Carbon Disulfide	----	----	----	----	----	3341 *
Chloroethane	----	49	----	----	----	2289 *
Chloroform	----	----	----	----	----	269 *
1,1-Dichloroethane	----	760 E	----	----	----	186 *
1,2-Dichloroethane	----	3 J	----	----	----	87 *
1,1-Dichloroethene	----	260 E	----	----	----	402 *
1,2-Dichloroethene (Total)	----	----	----	----	----	365 *
Ethylbenzene	----	710 E	1200 D	2 J	----	6806 *
Methylene Chloride	5 BJ	6	----	6 B	15	130 *
4-Methyl-2-pentanone	----	----	----	----	----	1176 *
Styrene	----	----	----	----	----	5643 **
Tetrachloroethene	----	3 J	----	----	----	1714 *
Toluene	3 J	7	----	5 J	----	1856 *
1,1,1-Trichloroethane	----	5200 E	300 DJ	----	----	941 *
1,1,2-Trichloroethane	----	6	----	----	----	69 ***
Trichloroethene	----	12	----	----	2 J	780 *
Vinyl Chloride	----	----	----	----	----	141 *
Xylenes (Total)	2 J	9100 E	18000 D	3 J	----	1485 *

NOTES:

- ---- = the compound was not detected at a concentration above the reported method detection limit
- B = the compound was detected in the laboratory method blank
- D = the reported concentration is derived from an analysis at the secondary dilution factor
- E = the compound was detected at a concentration that exceeded the calibration range of the analytical instrument
- J = the reported concentration is estimated (the result is less than the sample quantitation limit but greater than zero)
- NYSDEC RSCO = recommended soil cleanup objectives from NYSDEC TAGM-4046 Appendix A, Table 1; * = value corrected for known organic carbon content (TOC); NA = not applicable
- ** = NYSDEC RSCO not listed in TAGM-4046; calculated using partition coefficient (Koc) of 912 (Meylan et al., 1992) and corrected for known organic carbon content
- *** = NYSDEC RSCO not listed in TAGM-4046; calculated using partition coefficient (Koc) of 56 (Schwille, 1988) and corrected for known organic carbon content
- **Bold type and pattern indicate exceedance of recommended soil cleanup objective from NYSDEC TAGM-4046 for qualified data**

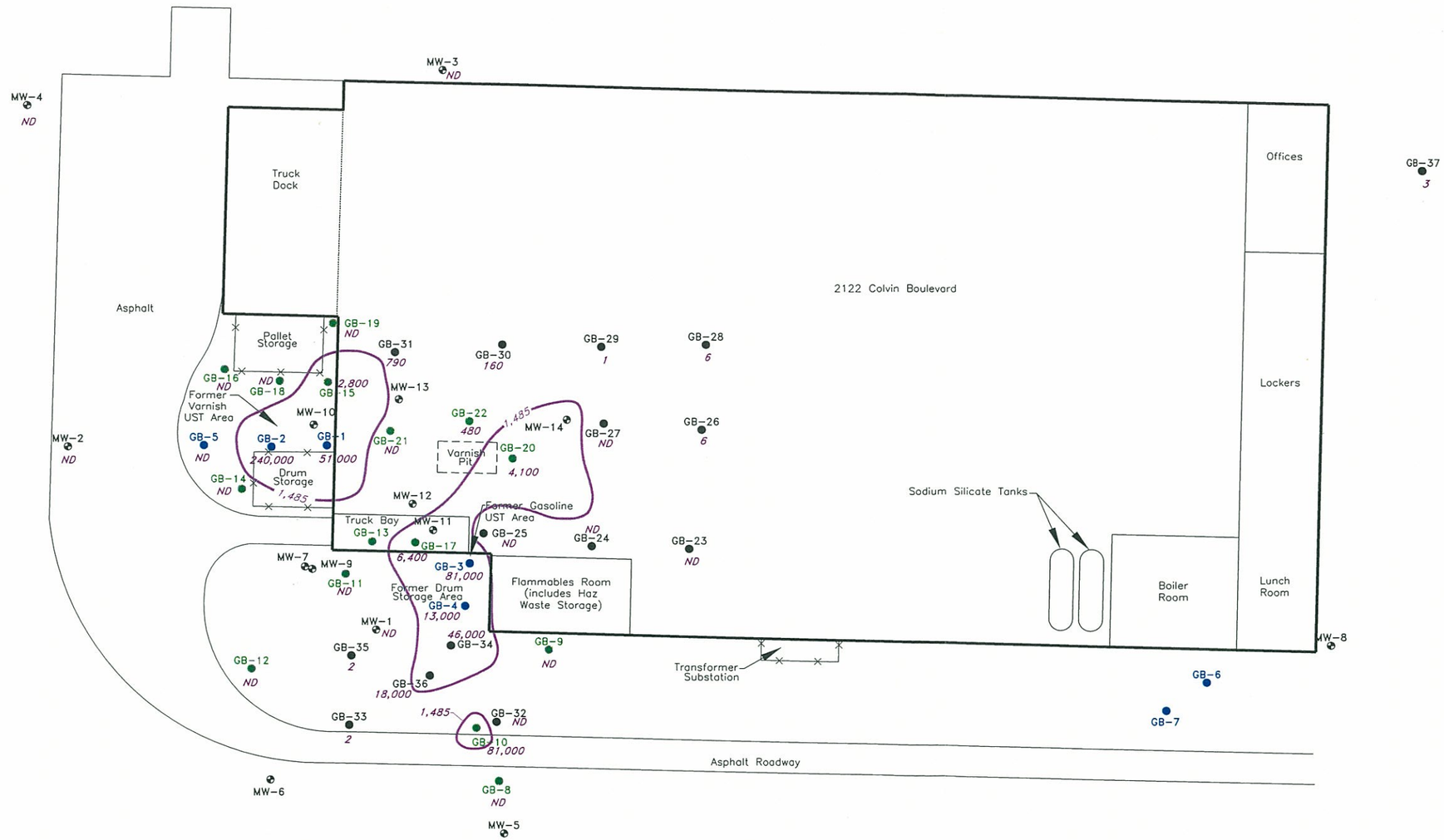
(NYSDEC, 1995). These 15 VOCs include acetone, 2-butanone (methyl ethyl ketone), 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethene, ethylbenzene, methylene chloride, tetrachloroethene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, 1,2,4-trimethylbenzene, and xylenes.

Three VOCs detected in Site soil at more prominent concentrations were selected for isoconcentration mapping to facilitate evaluation of VOC distributions in Site soil. Figure 5-6 presents a map illustrating the distribution of xylenes in soil at the Site. Review of Figure 5-6 reveals two areas where the detected concentration of xylenes exceeds the applicable RSCO: 1) the former varnish UST area; and 2) an elongate area coinciding with the varnish pit, truck bay, and former drum storage area. The observed distributions suggest separate sources consisting of the varnish pit and the former varnish UST, respectively. The existing analytical data distribution suggests that the lateral extent of xylenes-affected soil has been adequately estimated.

Figure 5-7 presents an isoconcentration map illustrating the distribution of trichloroethene in soil at the Site. Review of Figure 5-7 reveals two areas where the detected concentration of trichloroethene exceeds the applicable RSCO: 1) the former varnish UST area; and 2) a small but highly concentrated area in the vicinity of soil boring GB-10. The observed distributions suggest separate sources for each area consisting of the varnish pit and a localized surface spill on the north side of the access road, respectively. The existing analytical data distribution suggests that the lateral extent of TCE-affected soil has been adequately estimated with the exception of north of the varnish pit.

Figure 5-8 presents an isoconcentration map illustrating the distribution of 1,1,1-trichloroethane in soil at the Site. Review of Figure 5-8 reveals a central area where the detected concentration of 1,1,1-trichloroethane exceeds the applicable RSCO. This area is irregular in shape with generally high concentrations occurring adjacent to the varnish pit. This distribution suggests that the varnish pit may be a source for 1,1,1-trichloroethane in Site soil. However, 1,1,1-trichloroethane data are limited west and north of the varnish pit, and the highest detected concentration to date occurred in the soil sample collected from soil boring GB-31. Additionally, 1,1,1-trichloroethane was detected at a significant concentration at soil boring GB-14. These data suggest there are multiple source areas for 1,1,1-trichloroethane in Site soil. The existing analytical data distribution suggests that the lateral extent of these areas has not been adequately estimated. Therefore, definitive identification and characterization of 1,1,1-trichloroethane source areas is not possible with existing data.

Figure 5-6
Xylene Concentration in Soil
Greif Bros. Facility
Tonawanda, New York



Legend

- Monitoring Well Location
- RI Soil Boring Location
- Phase II Soil Boring Location
- Phase III Soil Boring Location
- 1,485 — Xylenes Isoconcentration Contour (≥ 1,485 ug/Kg)
- 2,800 — Total Xylenes Concentration in ug/Kg
- ND — Not Detected

N

60 30 0 60

Scale in Feet

Note: The isoconcentration value of 1,485 ug/Kg is the recommended soil cleanup objective (RSCO) for xylenes calculated for the site; areas within isoconcentration lines exceed the RSCO.

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Figure 5-8
1,1,1-TCA Concentration in Soil
Greif Bros. Facility
Tonawanda, New York

Legend

- Monitoring Well Location
- RI Soil Boring Location
- Phase II Soil Boring Location
- Phase III Soil Boring Location
- 941 — 1,1,1-TCA Isoconcentration Contour (941 ug/Kg)
- 5,100 — 1,1,1-TCA concentration in ug/Kg

Note: The isoconcentration value of 941 ug/Kg is the recommended soil cleanup objective (RSCO) for TCE at the site; areas within isoconcentration lines exceed the RSCO.

N

60 30 0 60

Scale in Feet

ERM, INC.

D6714.00.01/11.18.01-CMP/11.28.01-VKW/A209-1A

In summary, review of all laboratory analytical data available to date indicates detected concentrations in excess of RSCOs for VOCs detected in Site soil are located in the following areas:

- The former varnish UST area;
- the former drum storage area;
- the GB-10 area;
- east of the current drum storage area (GB-14);
- the truck bay area; and
- the varnish pit area, particularly north and east of the varnish pit.

However, the lateral and vertical extent has not been adequately estimated in all directions for some VOCs.

SVOCs

Table 5-4 presents a summary of SVOCs detected in soil samples collected at the site during the VRI. Review of Table 5-4 and previous data summarized in Appendix B indicates a total of 23 SVOCs were detected in soil samples collected at the Site. Of these 23 SVOCs, seven were detected at concentrations above RSCOs calculated for the Site by ERM based on NYSDEC guidance (NYSDEC, 1995). These seven SVOCs include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(ah)anthracene, and naphthalene. Review of all laboratory analytical data available to date indicates detected concentrations in excess of RSCOs for SVOCs detected in Site soil are located in the following areas:

- the former varnish UST area;
- the former drum storage area;
- east of the varnish pit (soil boring GB-27);
- the truck bay area;
- the former northern railroad spur into the facility (soil borings HA-3); and
- along the north side of the access road to the western portion of the facility (soil borings GB-10 and GB-33).

Metals

Table 5-5 presents a summary of metals detected in soil samples collected at the site during the VRI. A total of 18 metals were detected in soil samples collected at the Site during the VRI. All of the 18 metals detected are naturally occurring. Of these 18 metals, eight were detected at concentrations potentially elevated based on comparison with standard RSCOs and/or eastern United States background concentrations as listed in NYSDEC (1995). These metals include arsenic, beryllium, calcium, chromium, iron, magnesium, nickel, and zinc. However,

TABLE 5-4
SUMMARY OF SVOCs DETECTED IN SOIL
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION SAMPLE DEPTH (feet)	GB-27 0-1	GB-30 8-9	GB-33 3	GB-34 3	GB-34 RI 3	GB-35 16	GB-37 3-4	NYSDEC RSCO
TCL SVOCs (UG/KG)								
Anthracene	25 J	----	240 J	----	----	----	----	50000
Benzo(a) anthracene	82 J	----	**1100 J**	21 J	----	----	----	224 or MDL
Benzo(b) fluoranthene	70 J	----	1100 J	57 J	----	----	----	1361 *
Benzo(ghi) prylene	----	----	300 J	----	----	----	----	50000
Benzo(k) fluoranthene	46 J	----	----	----	----	----	----	1361 *
Benzo(a) pyrene	**62 J**	----	**940 J**	----	----	----	----	61 or MDL
Bis(2-ethylhexyl) phthalate	----	50 J	----	90 J	----	----	----	50000
Chrysene	84 J	----	**1200 J**	27 J	----	----	----	495 *
Dibenzo(ah)anthracene	----	----	**86 J**	----	----	----	----	14 or MDL
2,4-Dimethylphenol	----	----	----	62 J	----	----	----	NA
Di-n-butyl phthalate	130 BJ	----	----	----	----	----	----	10024 *
Di-n-octyl phthalate	----	44 J	----	----	----	----	----	50000
Fluoranthene	150 J	----	2000	----	----	----	----	50000
Indeno(1,2,3-cd)pyrene	----	----	280 J	----	----	----	----	3960 *
2-Methylnaphthalene	47 J	----	----	----	----	----	----	44983 *
Naphthalene	18 J	----	----	75 J	----	----	----	16088 *
Phenanthrene	180 J	----	870 J	96 J	----	----	----	50000
Pyrene	120 J	----	2500	54 J	----	----	----	50000

NOTES:

- ---- = the compound was not detected at a concentration above the reported method detection limit
- B = the compound was detected in the laboratory method blank
- J = the reported concentration is estimated (the result is less than the sample quantitation limit but greater than zero)
- NYSDEC RSCO = recommended soil cleanup objectives from NYSDEC TAGM-4046 Appendix A Table 2
- * = NYSDEC RSCO from NYSDEC TAGM-4046 Appendix A Table 2 corrected for known total organic carbon content
- **Bold type and pattern indicate exceedance of NYSDEC recommended soil cleanup objective**
- MDL = method detection limit
- NA = not applicable

TABLE 5-5
SUMMARY OF METALS DETECTED IN SOIL
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION SAMPLE DEPTH (feet)	GB-27 0-1	GB-33 3	GB-35 16	GB-37 3-4	NYSDEC RSCO	EASTERN U.S. BACKGROUND
TAL METALS (MG/KG)						
Aluminum	17700	17700	20400	20000	SB	33,000
Arsenic	**10.2**	5.9	2.1	5.3	7.5 or SB	3-12
Barium	155	125	145	133	300 or SB	15-600
Beryllium	**3.9**	**0.86**	**0.98**	**0.93**	0.16 or SB	0-1.75
Cadmium	----	----	----	0.6	1 or SB	0.1-1
Calcium	**128000**	7260	**46300**	**37400**	SB	130-35000
Chromium	5.8	**23.5**	**28**	**25**	10 or SB	1.5-40
Cobalt	13.4	13.9	13.9	11.9	30 or SB	2.5-60
Copper	8.3	22.2	20.6	20.3	25 or SB	1-50
Iron	**10100**	**28100**	**30400**	**28000**	2000 or SB	2000-50000
Lead	----	13	10.9	9.3	SB	4-500
Magnesium	4500	**8820**	**16000**	**12800**	SB	100-5000
Manganese	1170	746	553	594	SB	50-5000
Nickel	9.2	**31.6**	**31.8**	**29.3**	13 or SB	0.5-25
Potassium	1770	2180	4660	2890	SB	8500-43000
Sodium	512	136	254	128	SB	6000-8000
Vanadium	7.7	32.7	35.8	32.9	150 or SB	1-300
Zinc	10.5	**68.5**	**65.8**	**61.1**	20 or SB	9-50

NOTES:

- ---- = the analyte was not detected at a concentration above the reported method detection limit
- NYSDEC RSCO are recommended soil cleanup objectives or eastern U.S. background from NYSDEC TAGM-4046 Appendix A, Table 4
- **Bold type and pattern indicate possible exceedance of recommended soil cleanup objective or eastern U.S. background**
- SB = site background

background concentrations of metals can vary widely over short geographic distances. Additionally, detected concentrations of arsenic, beryllium, calcium, chromium, iron, magnesium, nickel, and zinc in Site soil are well within the observed range for these elements detected in a landmark background study published by the United States Geological Survey (USGS) in 1984 (USGS, 1984). The detected concentrations of arsenic, calcium, chromium, iron, magnesium, nickel, and zinc are also within the typically-encountered concentration range on either side of the reported geometric means as defined using calculations based on the reported geometric deviations. These data suggest that the detected concentrations of metals in Site soil can be considered part of the USGS background soil data set for the eastern United States.

Geotechnical Parameters

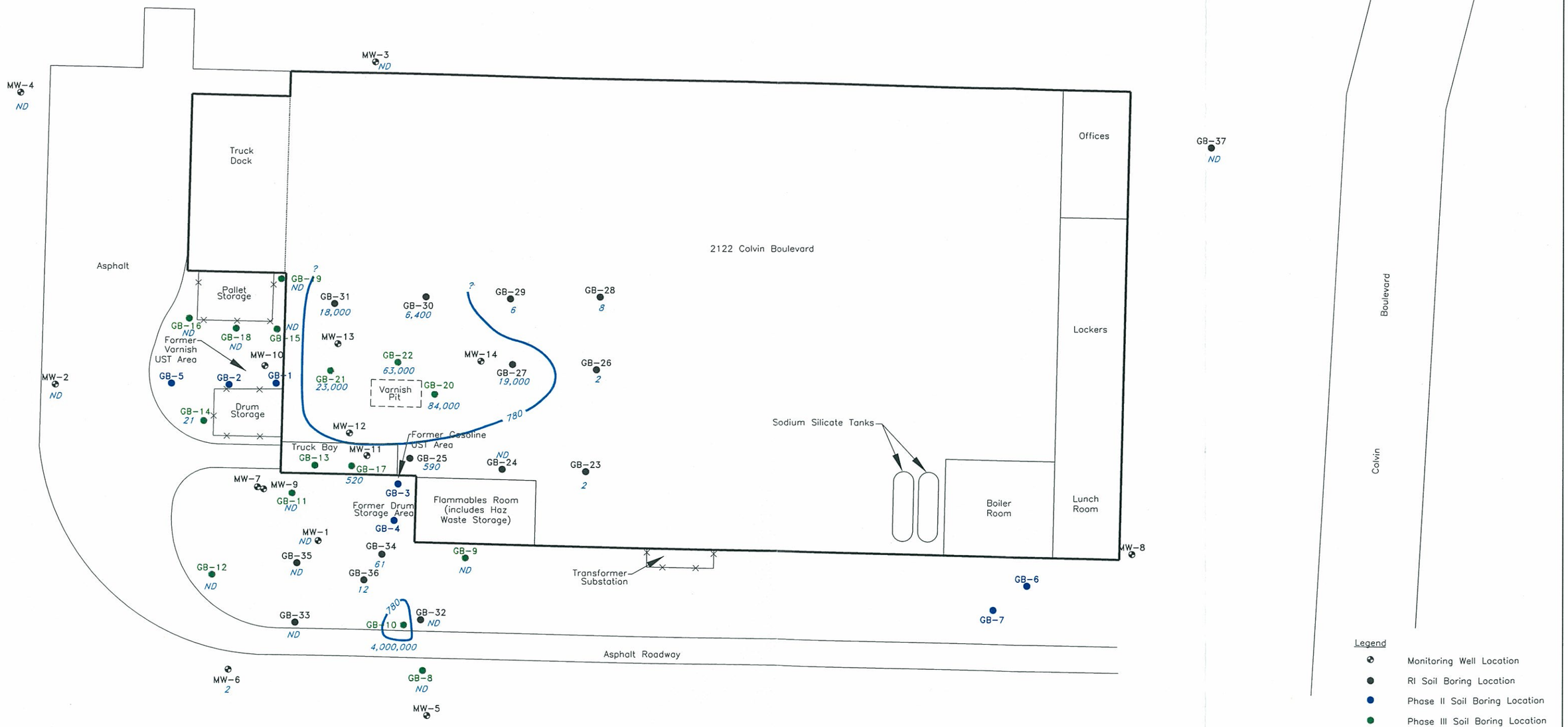
Table 5-6 presents a summary of geotechnical data for soil samples collected during the VRI. Review of Table 5-6 indicates fill materials represented by the sample collected from soil boring GB-25 consist predominantly of gravel and sand with a porosity of 40 percent. Insufficient sample was collected due to the coarse nature of the fill material at this location. However, visual examination of the sample suggest permeability is relatively high. The sample collected from soil boring MW-8 appeared representative of the silty clay unit and consists predominantly of silt and clay with a porosity of 31 percent. The saturated hydraulic conductivity (a measure of permeability) is relatively low (1.7E-07 cm/s). The samples collected from soil boring MW-7 are representative of the silty sand unit and consist predominantly of silt and sand with an average porosity of 34 percent. Saturated hydraulic conductivity is high (1.0 to 1.6E-04 cm/s) relative to the silty clay unit but is estimated to be low relative to the fill unit.

NYSDEC RSCOs are based on an assumed total organic carbon content of 1.0 percent (NYSDEC, 1995). NYSDEC (1995) indicates RSCOs for VOCs and SVOCs should be corrected for soil organic carbon content when it is known. VOC- and SVOC-affected soil at the Site reside in the fill and/or silty clay units. Therefore, the average of the measured total organic carbon contents for these units (1.2375 percent) was used where appropriate to estimate soil organic carbon content for the purpose of calculation of RSCOs for the Site (see Tables 5-3 and 5-4).

5.1.3 *Remedial Assessment of Soil Investigation Results*

Remediation of soil in selected portions of the Site appears warranted based on detected concentrations of VOCs that exceed Site-specific RSCOs calculated based on NYSDEC guidance. Available data suggests remediation of soil is appropriate in the following portions of the Site;

Figure 5-7
TCE Concentrations in Soil
Greif Bros. Facility
Tonawanda, New York



Note: The isoconcentration value of 780 ug/Kg is the recommended soil cleanup objective (RSCO) for TCE at the site; areas within isoconcentration lines exceed the RSCO.

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D6714.00.01/11.19.01-CMP/11.28.01-VKW/A208 -1A

TABLE 5-6
SUMMARY OF SOIL GEOTECHNICAL PARAMETERS
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	GB-25	MW-7	MW-7	MW-8
SAMPLE DEPTH (feet)	4-7	22-24	32-34	16-18
GEOLOGIC UNIT	Fill	Silt	Sand	Silty Clay
GEOTECHNICAL PARAMETERS				
In-place Density (g/cm^3)	1.66	1.73	1.80	1.85
Maximum Particle Size	Coarse Gravel	Medium Sand	Fine Gravel	Coarse Sand
Moisture (percent)	6.99	19.59	14.05	12.53
Porosity (percent)	40	35	33	31
Saturated Hydraulic Conductivity (cm/s)	IS	1.0E-04	1.6E-04	1.7E-07
Silt and Clay (percent < #200 sieve)	4.0	87.4	26.9	95.4
Solids (percent)	93.3	84.8	85.4	80.7
Specific Gravity	2.75	2.67	2.66	2.70
Total Organic Carbon (mg/kg)	18700	6520	7680	6050
Water Content (from K test, percent)	IS	17.8	15.6	15.7

NOTES:

- g/cm^3 = grams per cubic centimeter
- cm/s = centimeters per second
- IS = insufficient sample to conduct this analysis
- mg/kg = milligrams per kilogram
- values for water content from saturated hydraulic conductivity test data reported by the laboratory

- the former varnish UST area;
- the former drum storage area;
- the soil boring GB-10 area;
- east of the current drum storage area (GB-14);
- the truck bay area; and
- the varnish pit area, particularly north and east of the varnish pit.

Remediation of soil in selected portions of the Site appears warranted based on detected concentrations of SVOCs that exceed Site-specific RSCOs calculated based on NYSDEC guidance. Available data suggest remediation of SVOCs in Site soil appears warranted in the following portions of the Site;

- the former varnish UST area;
- east of the varnish pit (soil boring GB-27); and
- along the north side of the access road to the western portion of the facility (soil borings GB-10 and GB-33).

Review of available data and published scientific literature (USGS, 1984) suggests remediation of metals in Site soil is not warranted.

5.2 *SUBSURFACE UTILITIES INVESTIGATION RESULTS*

5.2.1 *Soil Vapor Survey Results*

Table 2-4 presents a summary of VOCs detected in soil vapor samples collected at the Site. Soil vapor results are reported as relative mass and therefore are not standard concentrations. A total of 17 VOCs were detected at some concentration in soil vapor samples collected at the Site. Detected VOCs are generally associated with chlorinated solvents, reductive degradation products of chlorinated solvents, petroleum, and/or varnish. Appendix D contains color contour maps generated by WLG showing the relative distribution of total benzene, toluene, ethylbenzene, and xylenes (BTEX), trichloroethene, total 1,2-dichloroethene, and 1,1,1-trichloroethane. These data suggest the presence of a source area in the vicinity of the varnish pit. Based on the general interpretation of soil vapor data discussed in Section 2.2.1, it appears that some VOC migration has occurred along the three inch-diameter sanitary line running from the varnish pit north and subsequently east. However, the low masses detected at location SV-F3 suggests significant concentrations of VOCs have not migrated to this point. Significant migration of VOCs does not appear to have occurred along the fire protection mains north and south of the building.

5.2.2 *Soil Boring Installation and Sampling Results*

Examination of the soil boring log for GB-30 indicates that VOC-affected fill and soil were encountered in all materials encountered from beneath

the concrete floor to the completion depth of 16 feet bgs. Six VOCs (acetone, 2-butanone, 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane, and trichloroethene) were detected at concentrations greater than their respective RSCOs. Available data are insufficient to evaluate whether or not releases occurred from or migrated along the sanitary line or whether observed VOC distribution in soil along the sanitary line is part of the larger area affected by releases from the varnish pit.

Review of laboratory analytical data for the soil sample collected from soil boring GB-37 indicates that VOCs were not detected at concentrations above RSCOs. These data support and confirm the results and interpretation of soil vapor data and suggest that significant concentrations of VOCs have not migrated to this point. Therefore, off-site migration of VOCs appears unlikely or insignificant along investigated subsurface utilities at the Site.

SVOCs were not detected in the soil sample from GB-37. The metals beryllium, calcium, chromium, iron, magnesium, nickel, and zinc were detected at concentrations potentially greater than NYSDEC RSCOs and/or eastern U.S. background concentrations listed in TAGM-4046 (NYSDEC, 1995). However, Site background has not been established. Therefore, additional investigation is recommended to evaluate whether remediation of metals in soil is appropriate at the Site.

5.2.3 *Water Sampling – Concrete Vault*

The concrete vault is approximately six feet by eight feet laterally and has a total depth of approximately six feet bgs. Mr. Patrick Wolfe of Greif Bros. advised ERM that an employee who has worked at the plant since approximately 1959 advised him that the vault was not in use when he started working at the plant. Definitive information on the former use of the vault was not present on facility engineering plans. A Greif Bros. employee reportedly speculated that the vault may have been used as a fire protection pumping station in the early days of the facility. Measurement indicated that 1.6 feet of water was present in the bottom of the vault on 12 September 2001. These dimensions suggest approximately 575 gallons of water were present in the concrete vault on 12 September 2001.

Separate-phase product or sheen were not detected in the water sample collected from the concrete vault. However, unusual sulfur-like and organic-like odors were detected along with a yellow discoloration in the water. Several VOCs including chloroethane, 1,2-dichloroethane, ethylbenzene, toluene, vinyl chloride, and xylenes were detected in the water sample collected from the concrete vault at concentrations in excess of ambient ground water quality standards. Three other VOCs (1,1–dichloroethene, 1,2-dichloroethene, and styrene) were detected in the

sample but not at concentrations in excess of applicable water quality standards. Four SVOCs were detected in the sample, but none were detected at concentrations above applicable standards. The metals iron and manganese were detected at concentrations above ambient water quality standards or guidance values. Several other metals were detected although at acceptable levels.

5.2.4 *Remedial Assessment of Subsurface Utilities Investigation Results*

Remediation of VOCs in soil along the three inch-diameter sanitary line appears appropriate based on soil analytical data. However, this line is located within a larger area of VOC-affected soil associated with the varnish pit. Remediation of soil along the fire protection mains appears unwarranted.

Detected concentrations of metals in soil boring GB-37 are within normal variation of eastern United States background soil concentrations as published by USGS (1984. Therefore, remediation of metals in soil appears unwarranted.

The detection of several VOCs and two metals at concentrations above applicable standards indicates that remediation of water in the bottom of the concrete vault is appropriate. ERM recommends removal of fluids from the vault followed by thorough cleaning.

5.3 *GROUND WATER INVESTIGATION RESULTS*

A significant amount of new data and information relevant to characterization of Site ground water was derived from the VRI effort. Table 5-7 presents a summary of well screen data and ground water elevation data for the Site. Table 5-8 presents a summary of field parameter data collected prior to and during purging of ground water monitoring wells on 12 September 2001 including the field parameters DO, temperature, pH, and conductivity. Table 5-9 presents a summary of VOCs detected in ground water samples collected during the VRI. Table 5-10 summarizes selected physical properties of VOCs detected in ground water during the VRI that may be useful in evaluating the subsurface fate of VOCs released to the environment. Tables 5-11 and 5-12 present summaries of SVOCs and metal, respectively, detected in ground water samples collected during the VRI.

A summary of Site hydrogeology is presented in Section 5.3.1 based on interpretation of all available data collected to date. Water level measurements, estimates of ground water flow direction, field data, and laboratory analytical data for ground water samples collected at the Site during the VRI are subsequently discussed below by ground water zone.

TABLE 5-7
SUMMARY OF GROUND WATER ELEVATION DATA
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

	DATE	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
ELEVATION DATA								
GROUND		NM	NM	NM	NM	NM	584.70	585.52
TOP OF CASING		585.96	583.85	586.41	583.50	585.19	584.42	585.40
TOP OF SCREEN		567.13	565.26	562.08	565.19	567.83	565.89	560.03
BOTTOM OF WELL		557.13	555.26	552.08	555.19	557.83	555.39	549.53
WATER LEVEL DATA								
	12/04/98	570.88	563.00	569.17	568.52	569.87	NI	NI
	12/09/98	569.67	569.93	569.14	568.48	571.78	NI	NI
	09/20/99	571.34	569.50	569.17	568.37	571.47	NI	NI
	9/12/01	572.91	572.72	570.22	570.12	574.69	570.00	571.29

	DATE	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14
ELEVATION DATA								
GROUND		586.32	585.57	587.02	583.54	587.19	587.15	587.22
TOP OF CASING		585.71	585.20	586.74	583.24	586.84	586.84	586.84
TOP OF SCREEN		546.43	512.53	519.50	519.45	580.88	580.46	580.21
BOTTOM OF WELL		533.93	507.53	509.00	508.95	570.88	570.46	570.21
WATER LEVEL DATA								
	12/04/98	NI	NI	NI	NI	NI	NI	NI
	12/09/98	NI	NI	NI	NI	NI	NI	NI
	09/20/99	NI	NI	NI	NI	NI	NI	NI
	9/12/01	565.27	567.12	567.19	567.14	578.60	579.21	573.50

NOTES:

- NM = not measured
- All ground water elevations are reported in feet above mean sea level based on survey data
- NI = monitoring well not installed as of this date

TABLE 5-8
SUMMARY OF GROUND WATER FIELD PARAMETER DATA
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

WELL DESIGNATION	DATE	WELL VOLUMES	TEMPERATURE (degrees C)	pH (std. units)	CONDUCTIVITY (us/cm)	DISSOLVED OXYGEN (mg/l)
MW-1	9/12/01	Initial	13.4	----	----	0.55
		1	13.8	7.58	1.534	NM
		2	13.8	7.49	1.651	NM
		3	13.9	7.58	1.659	NM
MW-2	9/12/01	Initial	12.2	----	----	0.29
		1	12.8	7.92	1.187	NM
		2	12.5	7.92	1.206	NM
		3	12.4	7.9	1.215	NM
MW-3	9/12/01	Initial	13.2	----	----	0.37
		1	14.1	7.91	0.994	NM
		2	15.2	7.84	0.98	NM
		3	17.9	8.07	1.287	NM
		4	14.6	7.85	1.301	NM
		5	13.8	7.88	1.275	NM
MW-4	9/12/01	Initial	11.5	----	----	0.32
		1	14.4	7.82	1.183	NM
		2	11.9	7.94	1.163	NM
		3	14.1	7.83	1.201	NM
MW-5	9/12/01	Initial	12.1	----	----	0.31
		1	15.2	8.22	1.171	NM
		2	20.4	7.74	1.152	NM
		3	20.4	7.97	1.102	NM
MW-6	9/12/01	Initial	11.3	----	----	1.16
		1	13.6	7.88	1.282	NM
		2	15.8	7.82	1.272	NM
		3	14.6	7.93	1.266	NM
MW-7	9/12/01	Initial	12.7	----	----	0.25
		1	13.2	8.3	1.339	NM
		2	13.9	7.99	1.325	NM
		3	13.9	8.01	1.324	NM

NOTES:

- us/cm = microsiemens per centimeter
- mg/l = milligrams per liter
- ---- = initial readings were taken in situ (inside the well) with a meter for temperature and dissolved oxygen
- readings after purging of well volumes were measured out of the well at ground suface (ex situ)
- NM = not measured out of the well (ex situ) because such data would be meaningless
- ** = value is reported in millisiemens per meter

TABLE 5-8 (Continued)
SUMMARY OF GROUND WATER FIELD PARAMETER DATA
2001 REMEDIAL INVESTIGATION
GRIEF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

WELL DESIGNATION	DATE	WELL VOLUMES	TEMPERATURE (degrees C)	pH (std. units)	CONDUCTIVITY (us/cm)	DISSOLVED OXYGEN (mg/l)
MW-8	9/12/01	Initial	13.5	----	----	0.26
		1	22.8	8.03	3.11	NM
		2	22.6	8.15	3.74	NM
MW-9	9/12/01	Initial	13	----	----	0.32
		1	15.3	8.88	3.08	NM
		2	13.4	8.36	3.21	NM
		3	13.2	8.32	3.26	NM
MW-10	9/12/01	Initial	14.2	----	----	3.31
		1	15.8	12.25	432 **	NM
		2	15.4	9.4	318 **	NM
		3	15.3	8.84	322 **	NM
MW-11	9/12/01	Initial	15.9	----	----	1.28
		1	15.3	12.12	NM	NM
		2	14.8	10.2	327 **	NM
		3	14.7	9.48	322 **	NM
MW-12	9/12/01	Initial	18.2	----	----	1.1
		1	20.3	6.97	1.547	NM
		2	19.5	7.04	1.567	NM
		3	19.3	7.08	1.578	NM
MW-13	9/12/01	Initial	18.9	----	----	2.94
		1	19.5	6.81	2.37	NM
		2	18.3	7.06	2.3	NM
		3	18.4	7.09	2.29	NM
MW-14	9/12/01	Initial	20.6	----	----	3.86
		1	19.5	7.76	1.12	NM
		2	19.3	7.35	1.082	NM
		3	19.2	7.38	1.077	NM

NOTES:

- us/cm = microsiemens per centimeter
- mg/l = milligrams per liter
- ---- = initial readings were taken in situ (inside the well) with a meter for temperature and dissolved oxygen
- readings after purging of well volumes were measured out of the well at ground suface (ex situ)
- NM = not measured out of the well (ex situ) because such data would be meaningless
- ** = value is reported in millisiemens per meter

TABLE 5-9
SUMMARY OF VOCs DETECTED IN WATER SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	GBRI-MW-1	GBRI-MW-2	GBRI-MW-3	GBRI-MW-4	GBRI-MW-5	GBRI-MW-6	GBRI-MW-7	GBRI-MW-8	NYSDEC STANDARDS
TCL VOCs (ug/l)									
Acetone	----	----	----	----	----	----	----	14 J	50
Benzene	----	----	----	----	----	----	----	----	1
Carbon Disulfide	----	----	----	----	----	----	----	----	50
Chloroethane	----	----	----	----	----	----	----	----	5
Chloroform	----	----	----	----	----	----	----	----	7
1,1-Dichloroethane	----	----	----	----	----	----	----	----	5
1,2-Dichloroethane	----	----	----	----	----	----	----	----	0.6
1,1-Dichloroethene	----	----	----	----	----	----	----	----	5
1,2-Dichloroethene (Total)	----	----	----	----	----	----	----	----	5
Ethylbenzene	----	----	----	----	----	----	----	----	5
Methylene Chloride	----	----	----	----	----	----	----	----	5
4-Methyl-2-pentanone	----	----	----	----	----	----	----	----	NA
Styrene	----	----	----	----	----	----	----	----	5
Tetrachloroethene	----	----	----	----	----	----	----	----	5
Toluene	----	----	----	----	----	----	----	----	5
1,1,1-Trichloroethane	----	----	----	----	----	----	----	----	5
1,1,2-Trichloroethane	----	----	----	----	----	----	----	----	1
Trichloroethene	----	----	----	----	----	----	----	----	5
Vinyl Chloride	----	----	----	----	----	----	----	----	2
Xylenes (total)	----	----	----	----	----	----	----	----	5

NOTES:

- ---- = the compound was not detected at a concentration above the reported method detection limit
- B = the compound was detected in the laboratory method blank
- D = the reported concentration is derived from an analysis at the secondary dilution factor
- E = the compound was detected at a concentration that exceeded the calibration range of the analytical instrument
- J = the reported concentration is estimated (the result is less than the sample quantitation limit but greater than zero)
- NYSDEC Standards = ambient water quality standards or guidance values from NYSDEC TOGS Memorandum 1.1.1; NA = not applicable
- **Bold type and pattern indicate exceedance of ambient water quality standard or guidance value**

TABLE 5-9 (Continued)
SUMMARY OF VOCs DETECTED IN WATER SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	GBRI-MW-9	GBRI-MW-10	GBRI-MW-11	GBRI-MW-12	GBRI-MW-12DL	GBRI-MW-13	GBRI-MW-13DL	NYSDEC STANDARDS
TCL VOCs (ug/l)								
Acetone	----	----	----	----	----	19 J	----	50
Benzene	----	----	----	----	----	**1.2 J**	----	1
Carbon Disulfide	----	----	----	----	----	3.9 J	----	50
Chloroethane	----	----	----	4.2 J	----	----	----	5
Chloroform	----	----	----	----	----	**36**	----	7
1,1-Dichloroethane	2.1 J	----	----	710 E	**580 D**	2300 E	**4300 D**	5
1,2-Dichloroethane	----	----	----	**2.6 J**	----	**110**	----	0.6
1,1-Dichloroethene	----	----	----	**70**	**51 D**	3400 E	**4900 D**	5
1,2-Dichloroethene (Total)	----	----	----	670 E	**540 D**	2400 E	**3000 D**	5
Ethylbenzene	----	----	----	----	----	2.2 J	----	5
Methylene Chloride	----	----	----	----	----	**19**	----	5
4-Methyl-2-pentanone	----	----	----	----	----	7.1 J	----	NA
Styrene	----	----	----	----	----	----	----	5
Tetrachloroethene	----	----	----	----	----	1.1 J	----	5
Toluene	----	----	----	----	----	3.8 J	----	5
1,1,1-Trichloroethane	----	----	----	**78**	**57 D**	4600 E	**19000 D**	5
1,1,2-Trichloroethane	----	----	----	----	----	4.2 J	----	1
Trichloroethene	----	----	----	**52**	**28 D**	4300 E	**21000 D**	5
Vinyl Chloride	----	----	----	**55**	**42 D**	**17**	----	2
Xylenes (total)	----	----	----	2.2 J	----	2.3 J	----	5

NOTES:

- ---- = the compound was not detected at a concentration above the reported method detection limit
- B = the compound was detected in the laboratory method blank
- D = the reported concentration is derived from an analysis at the secondary dilution factor
- E = the compound was detected at a concentration that exceeded the calibration range of the analytical instrument
- J = the reported concentration is estimated (the result is less than the sample quantitation limit but greater than zero)
- NYSDEC Standards = ambient water quality standards or guidance values from NYSDEC TOGS Memorandum 1.1.1; NA = not applicable
- **Bold type and pattern indicate exceedance of ambient water quality standard or guidance value**

TABLE 5-9 (Continued)
SUMMARY OF VOCs DETECTED IN WATER SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	GBRI-MW-14	GBRI-MW-14DL	GBRI-CV-1	GBRI-CV-1 DL	NYSDEC STANDARDS
TCL VOCs (ug/l)					
Acetone	----	----	----	----	50
Benzene	----	----	----	----	1
Carbon Disulfide	10	----	----	----	50
Chloroethane	1.4 J	----	1300 E	**1200 D**	5
Chloroform	----	----	----	----	7
1,1-Dichloroethane	1400 E	**1500 D**	----	----	5
1,2-Dichloroethane	----	----	**4.0 J**	----	0.6
1,1-Dichloroethene	460 E	**410 DJ**	1.1 J	----	5
1,2-Dichloroethene (Total)	**40**	----	1.0 J	----	5
Ethylbenzene	1.9 J	----	420 E	**310 D**	5
Methylene Chloride	----	----	----	----	5
4-Methyl-2-pentanone	----	----	----	----	NA
Styrene	----	----	40	54 DJ	5
Tetrachloroethene	----	----	----	----	5
Toluene	3.9 J	----	**28**	----	5
1,1,1-Trichloroethane	**150**	**130 DJ**	----	----	5
1,1,2-Trichloroethane	----	----	----	----	1
Trichloroethene	3900 E	**14000 D**	----	----	5
Vinyl Chloride	**2.8 J**	----	**12**	----	2
Xylenes (total)	**16**	----	3200 E	**5300 D**	5

NOTES:

- ---- = the compound was not detected at a concentration above the reported method detection limit
- B = the compound was detected in the laboratory method blank
- D = the reported concentration is derived from an analysis at the secondary dilution factor
- E = the compound was detected at a concentration that exceeded the calibration range of the analytical instrument
- J = the reported concentration is estimated (the result is less than the sample quantitation limit but greater than zero)
- NYSDEC Standards = ambient water quality standards or guidance values from NYSDEC TOGS Memorandum 1.1.1; NA = not applicable
- **Bold type and pattern indicate exceedance of ambient water quality standard or guidance value**

TABLE 5-10
SELECTED PHYSICAL PROPERTIES OF VOCs DETECTED IN GROUND WATER
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

DETECTED VOLATILE ORGANIC COMPOUND	IONIZATION POTENTIAL (eV)	DENSITY (g/cm^3)	SOLUBILITY IN WATER (ug/l)	HENRY'S LAW C (10^3 atm·m^3/mol)	PARTITION COEFFICIENT (K_{OC})	VAPOR PRESSURE (mmHg)
Acetone	9.68	0.790	miscible	3.30-3.97 *	2.2	235
Benzene	9.25-9.56	0.874-0.878	1,790,000	3.75-3.88	83	60
2-Butanone	9.53-9.54	0.805	256,000,000	28 *	4.5	90.6
Chloroethane	10.97-11.01	0.871-0.897	5,700,000	9.58	37	766
Chloroform	11.42-11.50	1.481-1.489	8,520,000	2.33	31	150.5-160
1,1-Dichloroethane	11.06	1.183	5,500,000	4.54	30	227-234
1,2-Dichloroethane	11.05-11.12	1.260	8,720,000	13.0	14	78.7
1,1-Dichloroethene	9.46-10.00	1.213-1.218	2,400,000	2.03 **	65	495
1,2-Dichloroethene (Total)	9.64-9.95	1.263	6,260,000	70.5 ***	59	185
Ethylbenzene	8.76-9.12	0.867	160,000	4.44-4.51	1100	7.08
Methylene Chloride	11.33-11.35	1.327-1.336	18,000,000	1.69	21	362.4
Tetrachloroethene	9.32-9.71	1.631	2,200,000	11.1	277	14
Toluene	8.82	0.867	623,000	3.85-4.92	300	22
1,1,1-Trichloroethane	10.82-11.00	1.346	480,000-1,360,000	1.15 **	152	62
1,1,2-Trichloroethane	11.00	1.434-1.441	4,500,000	6.3 ***	56 ****	19
Trichloroethene	9.45-9.94	1.476	1,100,000	6.67	126	53.5-56.8
1,2,4-Trimethylbenzene	8.27	0.876	57,000	5.7	2590	2.03
Vinyl Chloride	9.99	0.940	60,000	1.68 **	57	2320-2531
Xylenes (Total)	8.44-9.05	0.861-0.881	152,000-195,000	4.83	240	6.6-8.8

NOTES:

- Reported values are from Montgomery (1996) except partition coefficients from NYSDEC (1994)
- Values are reported at 10 to 15 degrees Celcius when possible based on measured ambient ground water temperature at the site
- Ionization potential is reported in electron volts (eV)
- Density is reported in g/cm^3 = grams per cubic centimeter
- Solubility in water reported in micrograms per liter (ug/l)
- Henry's law constants are reported in units of 10^3 atm·m^3/mol (atmosphere-cubic meters per mole) unless otherwise noted
- * = Henry's law constant reported in units of 10^5 atm·m^3/mol
- ** = Henry's law constant reported in units of 10^2 atm·m^3/mol
- *** = Henry's law constant reported in units of 10^4 atm·m^3/mol
- Koc = partition coefficient
- Vapor pressure is reported in units of mmHg = millimeters of mercury
- **** = not reported in NYSDEC (1994); value shown is from Schwille (1988)

TABLE 5-11
SUMMARY OF SVOCs DETECTED IN WATER SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	GBRI-MW-6	GBRI-MW-7	GBRI-MW-8	GBRI-MW-9	GBRI-MW-10	NYSDEC STANDARD
TCL SVOCs (mg/l)						
Benzyl alcohol	----	----	0.3 J	----	----	NA
Bis(2-ethylhexyl) pthalate	4 J	----	4 J	----	----	5
2,4-Dimethylphenol	----	----	----	----	----	50
2-Methylphenol	----	----	----	----	----	NA
Napthalene	----	----	----	----	----	10

SAMPLE DESIGNATION	GBRI-MW-11	GBRI-MW-12	GBRI-MW-13	GBRI-MW-14	GBRI-CV-1	NYSDEC STANDARD
TCL SVOCs (mg/l)						
Benzyl alcohol	----	----	----	----	----	NA
Bis(2-ethylhexyl) pthalate	2 J	2 J	----	----	4 J	5
2,4-Dimethylphenol	----	----	----	----	45	50
2-Methylphenol	----	----	----	----	2 J	NA
Napthalene	----	----	----	----	3 J	10

NOTES:

- ---- = analyte was not detected in the sample above detection limit
- J = the reported concentration is estimated (the result is less than the sample quantitation limit but greater than zero)
- NYSDEC Standards = ambient ground water quality standards and/or guidance value from NYSDEC TOGS 1.1.1
- NA = not applicable

TABLE 5-12
SUMMARY OF METALS DETECTED IN WATER SAMPLES
2001 REMEDIAL INVESTIGATION
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	GBRI-MW-3	GBRI-MW-7	GBRI-MW-8	GBRI-MW-13	GBRI-CV-1	NYSDEC STANDARDS
TOTAL METALS (ug/l)						
Aluminum	3800	1200	1100	370	----	NA
Arsenic	20	14	----	----	----	25
Barium	44	27	23	89	180	1000
Calcium	52900	78100	400000	148000	88900	NA
Chromium	4.6	----	----	----	2	50
Iron	**4500**	**1500**	**1100**	**350**	**14800**	300
Magnesium	**136000**	**91900**	**147000**	**228000**	33200	35000
Manganese	160	53	180	**500**	**590**	300
Potassium	4600	3700	18800	4800	4600	NA
Sodium	**93400**	**140000**	**370000**	**58000**	10100	20000
Vanadium	6.3	----	----	----	----	NA
Zinc	22	----	----	----	50	2000

NOTES:

- NYSDEC standards are ambient ground water quality standards or guidance values from NYSDEC TOGS Memo 1.1.1
- ---- = analyte was not detected in the sample above detection limit
- NA = not applicable
- **Bold type and pattern indicates exceedance of NYSDEC standard or guidance value**

5.3.1 *Site Hydrogeology*

Based on regional topography and the distribution of major surface water features, regional ground water flow direction beneath the Site is expected to be towards the north-northwest. Significant variation in moisture content and permeability was observed in the overburden units at the Site. This suggests ground water will tend to flow towards and into the more permeable units (fill and coarser overburden units). However, the low permeability character of the silty clay/clay units encountered at the Site would tend to impede ground water flow between more permeable (coarser) overburden units unless the silty clay/clay units are significantly fractured. These observations as well as the apparent discontinuous geometry of some sand units encountered in the overburden units suggests ground water flow direction at the Site may be quite variable both laterally and vertically.

Three distinct saturated zones have been identified at the Site that appear to be transmissive relative to the underlying clay and/or bedrock units.

- shallow overburden (water locally perched in fill and/or native silty sand);
- intermediate overburden (silty sand beneath the uppermost silty clay unit); and
- deep overburden (lowermost silty sand unit on top of bedrock).

The silty clay/clay units are generally wet at depth. However, very wet or wet intervals in the silty clay/clay units are occasionally recorded on soil boring logs that are bounded either above or below (or both) by zones of lower moisture content. This observation may indicate the presence of fracture zones in the silty clay/clay units acting as preferential conduits for ground water transport between the more transmissive fill and silty sand units. This suggests the silty clay/clay units are leaky aquitards.

Shallow overburden monitoring wells MW-12, MW-13, and MW-14 are all screened across the contact between the fill unit and the underlying silty clay/clay unit. Ground water is initially encountered in fill materials and shallow overburden beneath (temporary monitoring well GB-20 and monitoring wells MW-12, MW-13, and MW-14) and proximal to (temporary monitoring wells GB-2, GB-3, and GB-4) the building. Shallow overburden ground water appears to be consistent with water that is accumulating in the relatively permeable fill on top of the less permeable silty clay/clay unit. Shallow ground water obvious to field geologists was not reported during installation of soil borings outside the area immediately surrounding the main building. However, the less permeable character of the silty clay/clay unit suggests some time may be required for obvious water to accumulate in the borehole.

Intermediate overburden monitoring wells MW-1 through MW-7 are all screened in the uppermost silty sand unit. Monitoring well MW-8 was also screened in the uppermost (first) silty sand unit encountered during drilling. However, review of elevation and soil boring data in geologic cross section B-B' (Figure 5-3) suggests the silty sand unit encountered in boring MW-8 is not continuous with or hydraulically connected to the uppermost silty sand unit screened in monitoring wells MW-1 through MW-7. These data suggest the intermediate overburden zone is heterogeneous on the scale of a site and actually consists of several discrete hydrogeologic units.

Deep overburden monitoring wells MW-9, MW-10, and MW-11 are all screened in the lowermost silty sand unit. The occurrence of significant gravelly sand and gravel in some borings (i.e., MW-9) suggests the deep overburden unit may be locally capable of significant water production. However, the immediate proximity to dolostone/evaporite bedrock suggests produced water quality may not be aesthetically acceptable.

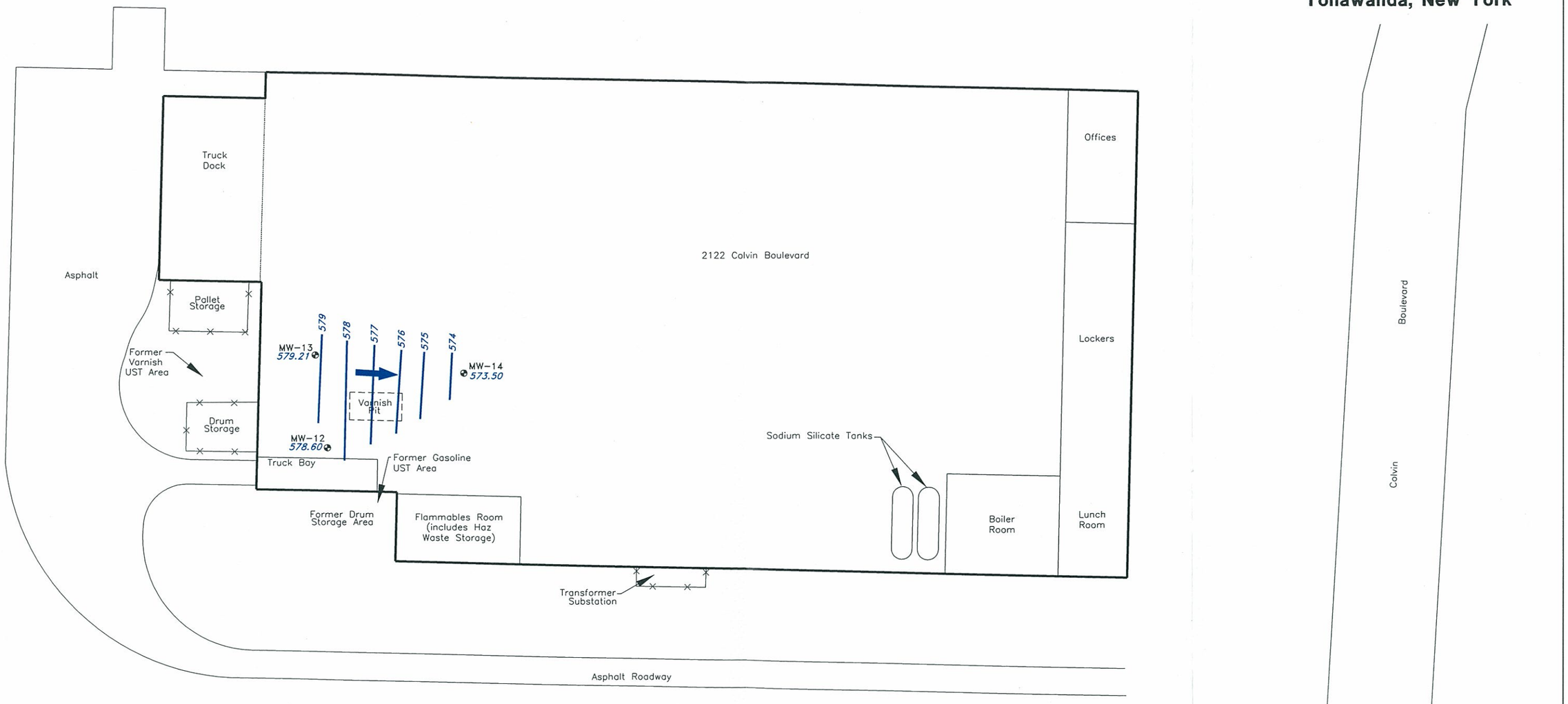
Intermediate overburden monitoring well MW-7 and deep overburden monitoring well MW-9 were installed adjacent to one another to provide data useful for evaluation of vertical hydraulic gradient at the Site. Comparison of water levels from these two wells indicates there is a downward hydraulic gradient between the intermediate and deep overburden zones near the southwestern portion of the facility. A monitoring well couplet was not proposed nor installed between the shallow and intermediate overburden zones. However, comparison of water level elevations between shallow and intermediate overburden monitoring wells suggests there is a downward hydraulic gradient from the shallow to intermediate overburden zones.

5.3.2 *Shallow Overburden Ground Water*

Review of DO concentrations in Table 5-8 reveals that shallow overburden ground water can be characterized as low oxygen (DO concentrations ranging from 1.10 to 3.86 mg/l). The presence of oxygenated conditions compared to anoxic concentrations (less than 1.0 mg/l) may hinder reductive dechlorination of some chlorinated compounds and their break-down products (Montgomery, 1996). Observed concentrations of DO may also be generally restrictive to aerobic degradation of petroleum and varnish residuals. Aerobic degradation of non-chlorinated petroleum and varnish residuals is kinetically more feasible at higher DO concentrations.

Figure 5-9 presents a ground water contour map for shallow overburden ground water at the Site. Review of Figure 5-9 indicates that the estimated direction of ground water flow in shallow overburden at the Site is towards the east. The observed shallow ground water flow direction may

Figure 5-9
Ground Water Contour Map
Shallow Overburden Unit
12 September 2001
Greif Bros. Facility
Tonawanda, New York



Legend

- Shallow Monitoring Well Location
- 575 — Ground Water Elevation Contour (feet above mean sea level (msl))
- 573.50 — Ground Water Elevation (feet above msl)
- Estimated Ground Water Flow Direction

N

60 30 0 60

Scale in Feet

partially explain the observed distribution of VOCs in saturated soil east of the varnish pit.

VOCs

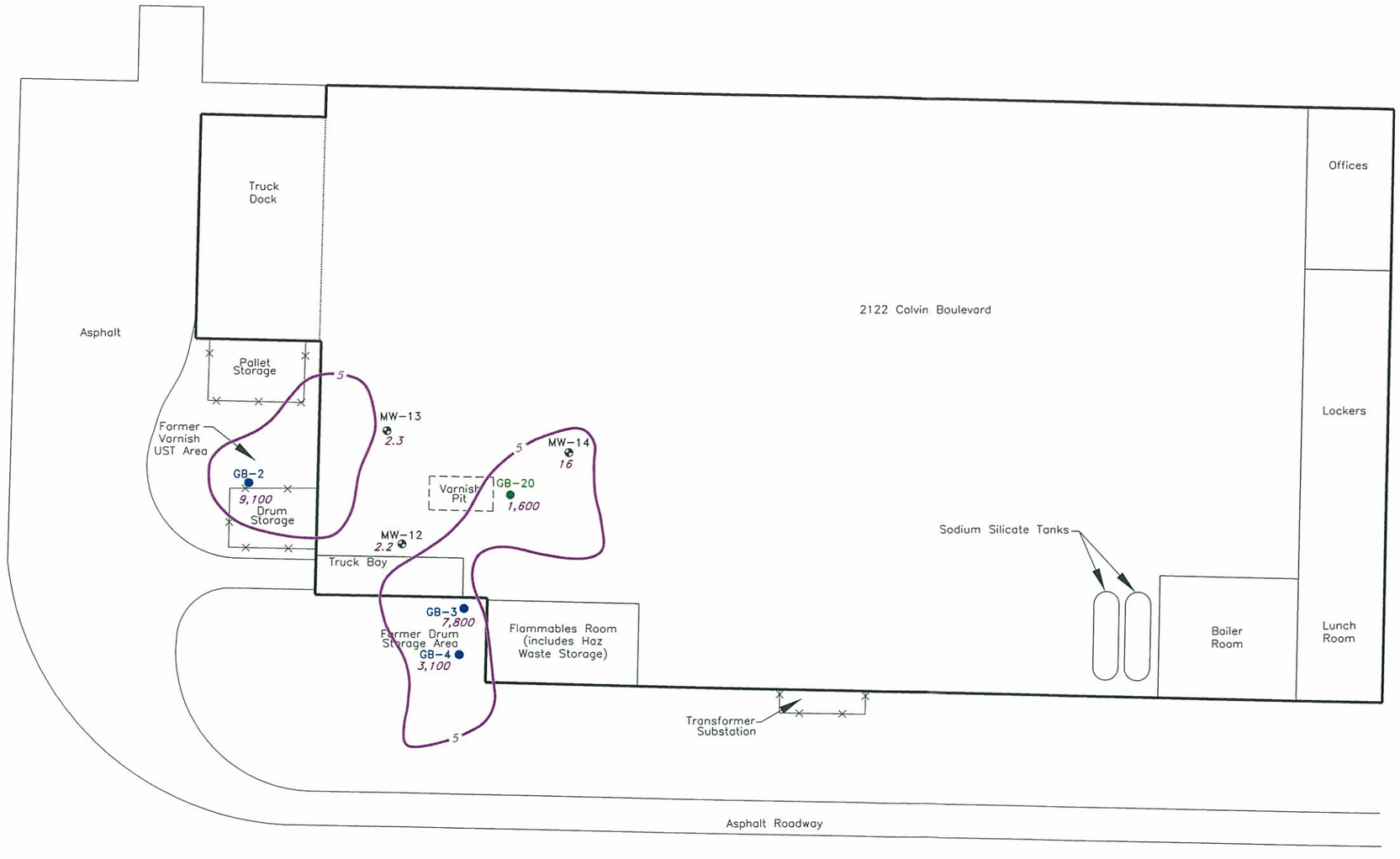
Table 5-9 presents a summary of VOCs detected in VRI water samples. Review of Table 5-9 and previous analytical data summarized in Appendix B indicates a total of 21 VOCs were detected in shallow overburden ground water samples collected at the Site. Of these 21 VOCs, 19 were detected at concentrations above ambient ground water quality standards or guidance values established by NYSDEC (NYSDEC, 1998). These 19 VOCs include acetone, benzene, 2-butanone, chloroethane, chloroform, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethene, ethylbenzene, methylene chloride, tetrachloroethene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, 1,2,4-trimethylbenzene, vinyl chloride, and xylenes.

Seven VOCs detected in shallow ground water at more prominent concentrations were selected for isoconcentration mapping to facilitate evaluation of VOC distributions in shallow overburden ground water at the Site. Figure 5-10 presents a map illustrating the distribution of xylenes in shallow ground water at the Site. Review of Figure 5-10 reveals two areas where the detected concentration of xylenes exceeds the applicable standard: 1) the former varnish UST area; and 2) an elongate area coinciding with the varnish pit, truck bay, and former drum storage area. The observed distributions suggest separate sources for each area consisting of the varnish pit/former drum storage area and the former varnish UST, respectively. This distribution is generally coincident with the observed distribution of xylenes in soil (Figure 5-6). The existing analytical data distribution suggests that the lateral extent of xylenes-affected ground water at the Site has been adequately estimated.

Figure 5-11 presents an isoconcentration map illustrating the distribution of trichloroethene in shallow ground water at the Site. Review of Figure 5-11 reveals that detected concentrations of trichloroethene exceed the applicable standard in the vicinity of the varnish pit. The observed distributions and location of the maximum detected concentration at GB-20 suggests the main source for trichloroethene in shallow ground water at the Site is the varnish pit. This distribution is generally coincident with the distribution of trichloroethene-affected soil at the Site (Figure 5-7) with the exception of the soil boring GB-10 area (shallow overburden ground water was not identified at GB-10). The existing analytical data distribution indicates the lateral extent of trichloroethene-affected shallow ground water has not been adequately estimated to the north of the varnish pit.

Figure 5-12 presents an isoconcentration map illustrating the distribution of 1,1,1-trichloroethane in shallow overburden ground water at the Site.

Figure 5-10
Shallow Overburden Ground Water Isoconcentration Map
Xylenes ≥ 5 ug/L
Greif Bros. Facility
Tonawanda, New York



Legend

- Monitoring Well Location
- Phase II Ground Water Sample Location
- Phase III Ground Water Sample Location
- 5 — Line of Equal Concentration in ug/L
- 16 — Xylenes Concentration in ug/L

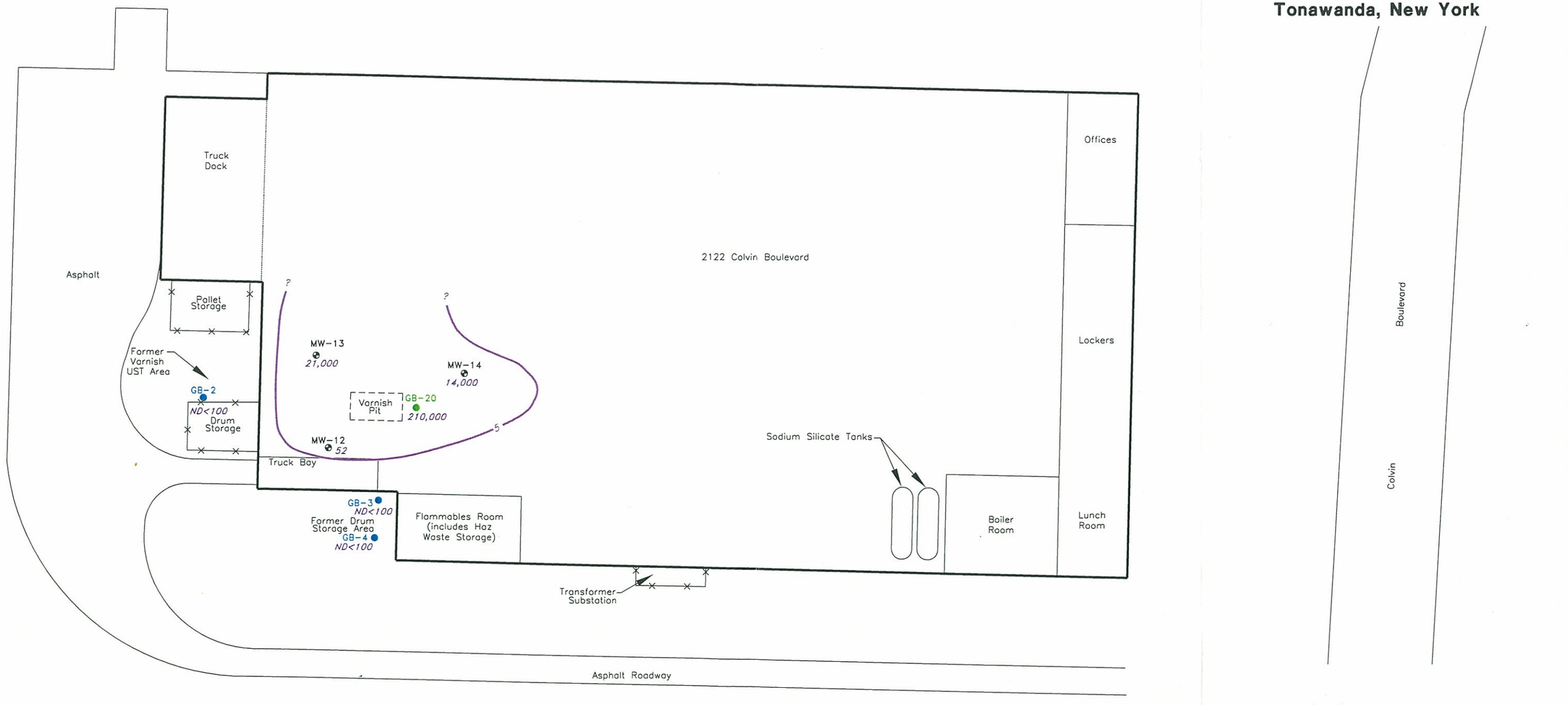
Notes:
- Most recent data shown for all sampling locations.
- All concentrations reported in micrograms per liter (ug/L).
- Selected isoconcentration value is the current NYSDEC ambient ground water quality standard or guidance value.
- Isoconcentrations also interpreted using soil and soil vapor analytical data.

N

60 30 0 60

Scale in Feet

Figure 5-11
Shallow Overburden Ground Water Isoconcentration Map
TCE ≥ 5 ug/L
Greif Bros. Facility
Tonawanda, New York



Notes:
- Most recent data shown for all sampling locations.
- ND<100 = Not detected at a concentration above the indicated method detection limit.
- All concentrations reported in micrograms per liter (ug/L).
- Isoconcentrations east of Varnish Pit and south of Former Drum Storage Area also interpreted using soil and soil vapor analytical data.
- Selected isoconcentration value is the current NYSDEC ambient ground water quality standard or guidance value.

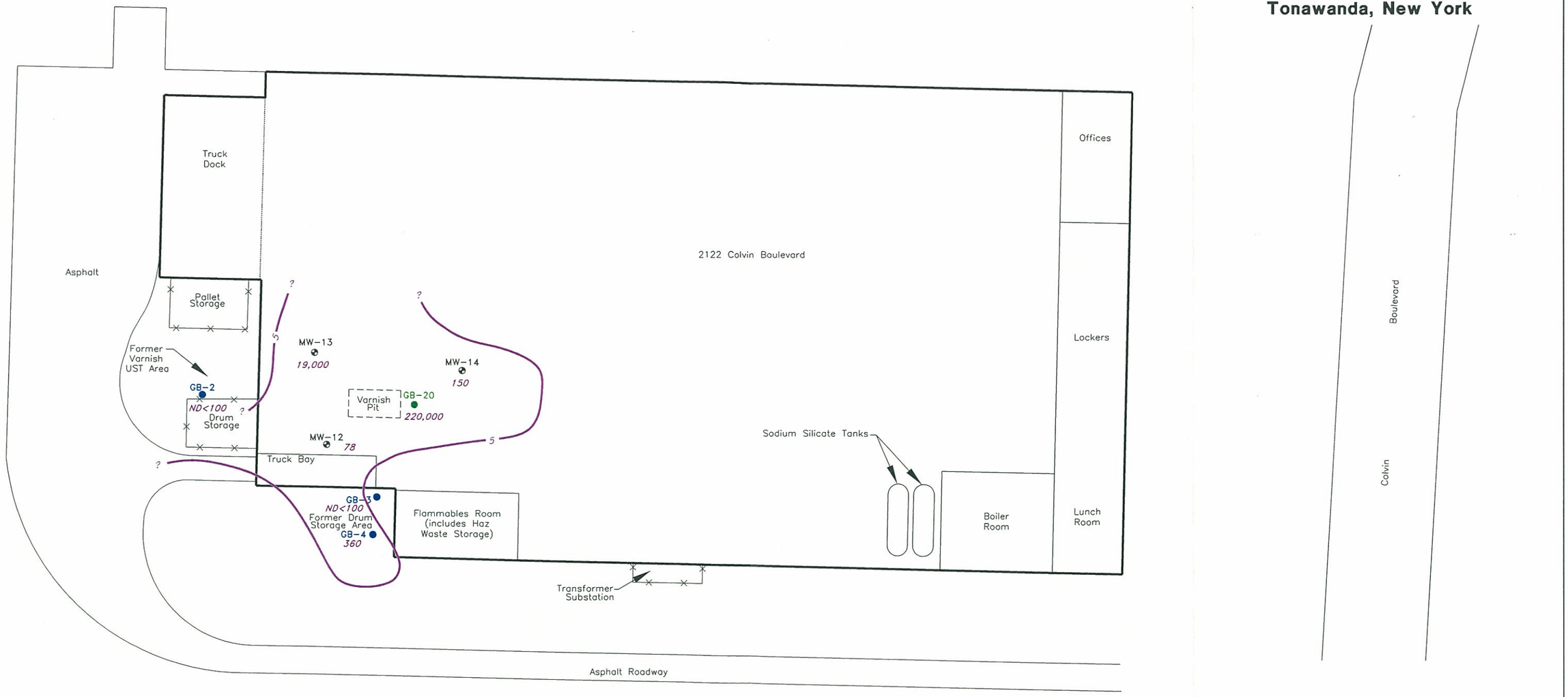
Legend
- Monitoring Well Location
- Phase II Ground Water Sample Location
- Phase III Ground Water Sample Location
- 5 — Line of Equal Concentration in ug/L
- 52 — TCE Concentration in ug/L

N

60 30 0 60

Scale in Feet

Figure 5-12
Shallow Overburden Ground Water Isoconcentration Map
1,1,1-TCA ≥ 5 ug/L
Greif Bros. Facility
Tonawanda, New York



Legend

- Monitoring Well Location
- Phase II Ground Water Sample Location
- Phase III Ground Water Sample Location
- 5 — Line of Equal Concentration in ug/L
- 150 — 1,1,1-TCA Concentration in ug/L

N

60 30 0 60

Scale in Feet

Notes:

Most recent data shown for all sampling locations.

ND<100 = Not detected at a concentration above the indicated method detection limit.

All concentrations reported in micrograms per liter (ug/L).

Isoconcentrations East of Varnish Pit and South of Former Drum Storage Area also interpreted using soil and soil vapor analytical data

Selected isoconcentration value is the current NYSDEC ambient ground water quality standard or guidance value.

Review of Figure 5-12 reveals an irregularly-shaped area centered on the varnish pit where detected concentrations of 1,1,1-trichloroethane exceed the ambient ground water quality standard. The highest detected concentration occurs adjacent to the varnish pit (GB-20). This distribution suggests that the varnish pit may be a main source for 1,1,1-trichloroethane in Site soil. However, 1,1,1-trichloroethane data are limited west and north of the varnish pit. Additionally, 1,1,1-trichloroethane was detected at a significant concentration at soil boring GB-14 and review of the soil boring log for GB-14 indicates moist, tight soils were encountered at this location. These data indicates that the lateral extent of 1,1,1-trichloroethane-affected shallow ground water has not been adequately estimated.

Similar distribution trends were observed for several other VOCs typically associated with reductive dechlorination of trichloroethene and 1,1,1-trichloroethane. Figures 5-13, 5-14, and 5-15 present isoconcentration maps illustrating the distributions of 1,2-dichloroethene (total), 1,2-dichloroethane, and vinyl chloride, respectively, in shallow overburden ground water at the Site. Similar to trichloroethene and 1,1,1-trichloroethane, the lateral extent of affected shallow ground water for these compounds has been adequately estimated with the exception of the area north of the varnish pit.

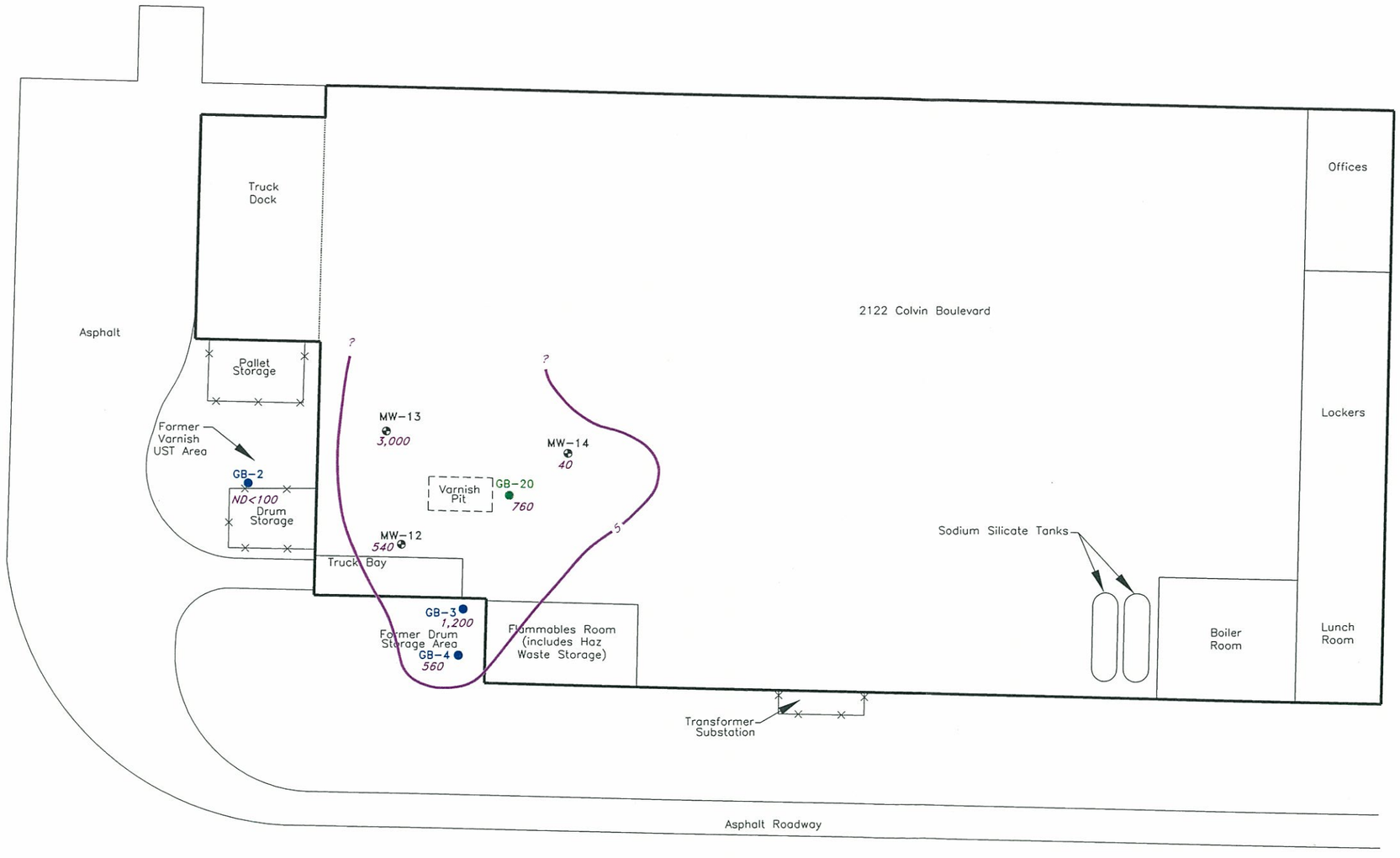
Figure 5-16 presents an isoconcentration map illustrating the distribution of acetone in shallow overburden ground water at the Site. Review of Figure 5-16 reveals an irregularly shaped area centered on the varnish pit where detected concentrations of acetone exceed the ambient ground water quality standard. As with many other VOCs, the highest detected concentration in shallow ground water occurs adjacent to the varnish pit (temporary well GB-20). This distribution suggests the varnish pit may have been a source for acetone in shallow Site ground water. A secondary high area is also located in the vicinity of the former gasoline UST. Acetone ground water data are limited north of the varnish pit and east and west of temporary monitoring well GB-3. These data suggest that the lateral extent of ~~1,1,1-trichloroethane~~ acetone-affected shallow ground water has not been adequately estimated.

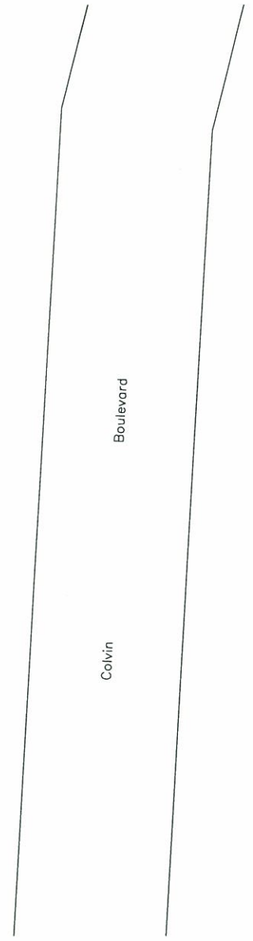
In summary, review of all shallow ground water laboratory analytical data available to date indicates the following areas contain some VOCs at concentrations above applicable ground water standards:

- The former varnish UST area;
- the former drum storage area;
- the truck bay area; and
- the varnish pit area, particularly north of the varnish pit.

The lateral and vertical extent of VOC-affected shallow overburden ground water has not been fully estimated in some areas.

Figure 5-13
Shallow Overburden Ground Water Isoconcentration Map
1,2-DCE (Total) ≥ 5 ug/L
Greif Bros. Facility
Tonawanda, New York





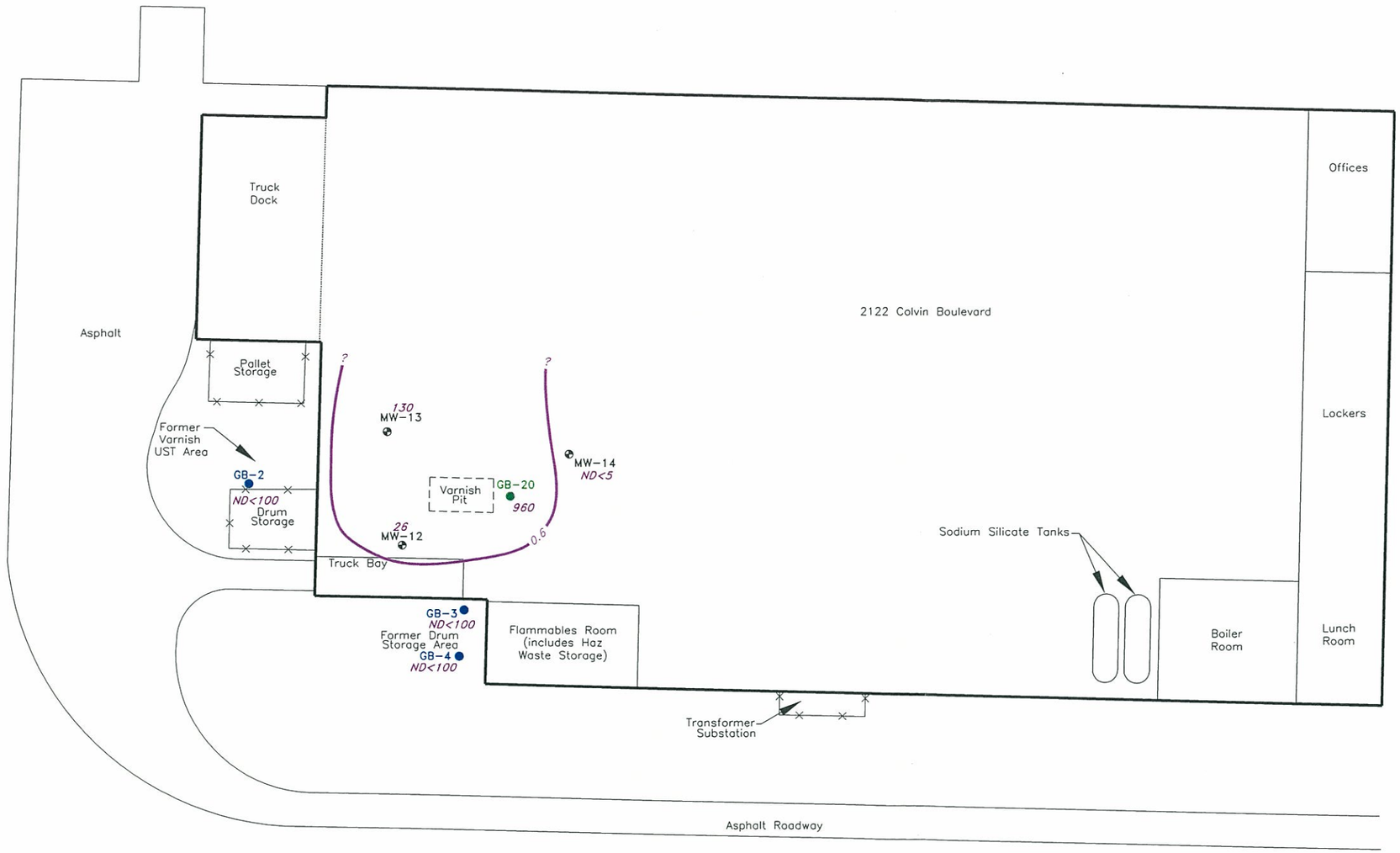
Notes:
- Most recent data shown for all sampling locations.
- ND<100 = Not detected at a concentration above the indicated method detection limit.
- All concentrations reported in micrograms per liter (ug/L).
- Isoconcentrations east of Varnish Pit and south of Former Drum Storage Area also interpreted using soil and soil vapor analytical data.
- Selected isoconcentration value is the current NYSDEC ambient ground water quality standard or guidance value.

Legend
- Monitoring Well Location
- Phase II Ground Water Sample Location
- Phase III Ground Water Sample Location
- 5 — Line of Equal Concentration in ug/L
- 40 — 1,2-DCE (Total) Concentration in ug/L

N

60 30 0 60
Scale in Feet

Figure 5-14
Shallow Overburden Ground Water Isoconcentration Map
1,2-DCA ≥ 0.6 ug/L
Greif Bros. Facility
Tonawanda, New York



Notes:
- Most recent data shown for all sampling locations.
- ND<100 = Not detected at a concentration above the indicated method detection limit.
- All concentrations reported in micrograms per liter (ug/L).
- Isoconcentrations east of Varnish Pit and south of Former Drum Storage Area also interpreted using soil and soil vapor analytical data.
- Selected isoconcentration value is the current NYSDEC ambient ground water quality standard or guidance value.

Legend
- Monitoring Well Location
- Phase II Ground Water Sample Location
- Phase III Ground Water Sample Location
- 0.6 — Line of Equal Concentration in ug/L
- 52 — 1,2-DCA Concentration in ug/L

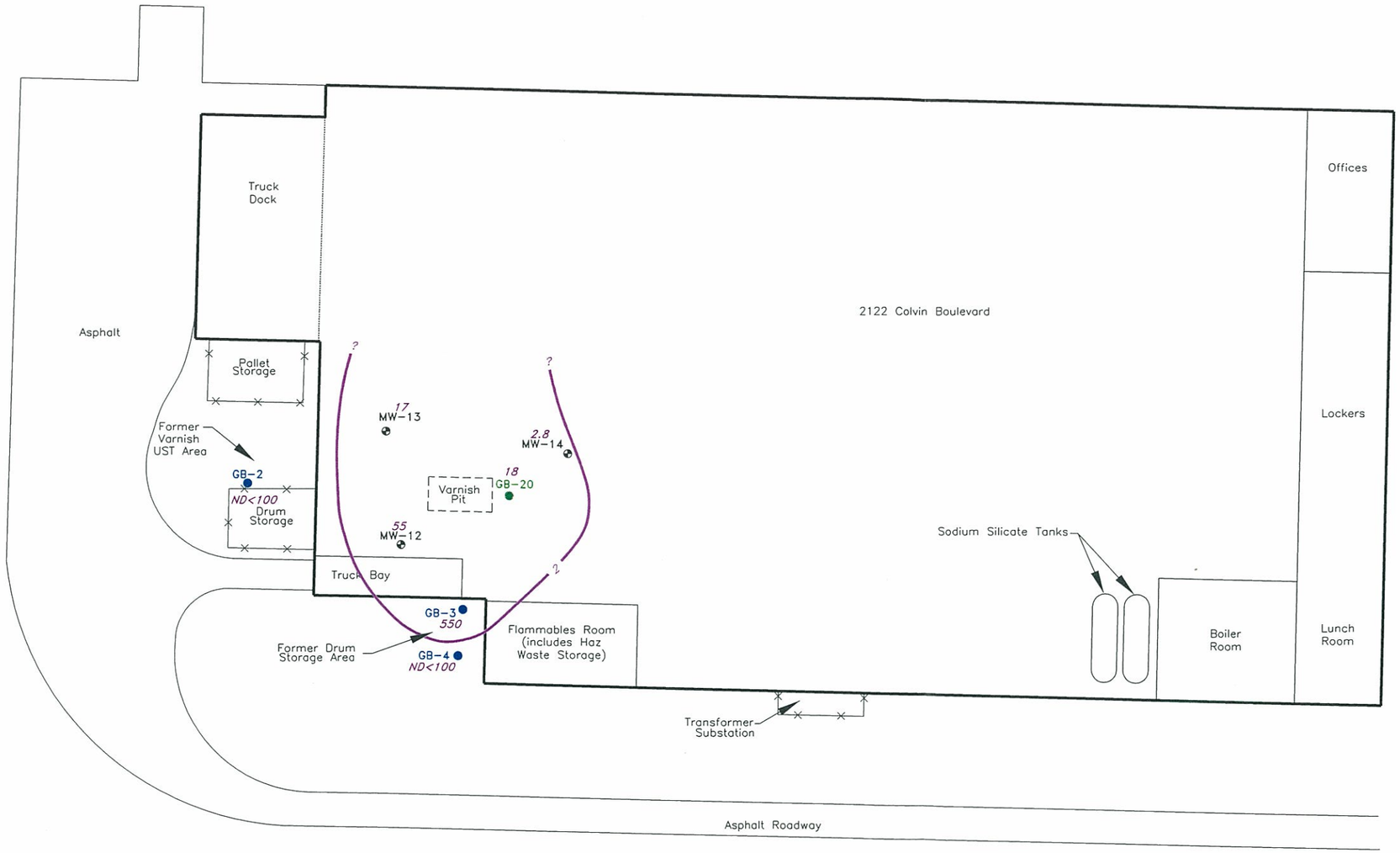
N

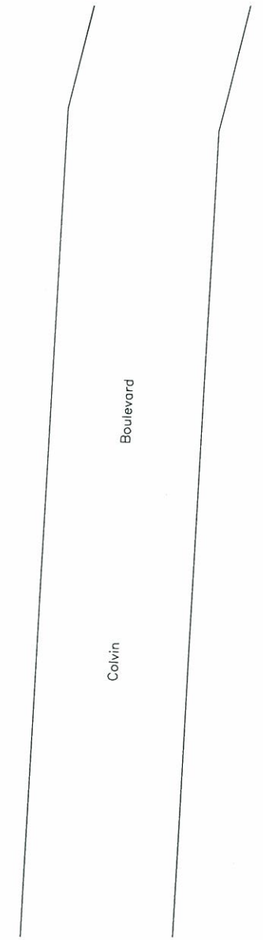
60 30 0 60
Scale in Feet

ERM, INC.

D6714.00.01/11.19.01-CMP/11.28.01-VKW/A215-1A

Figure 5-15
Shallow Overburden Ground Water Isoconcentration Map
Vinyl Chloride ≥ 2 ug/L
Greif Bros. Facility
Tonawanda, New York





Legend

- Monitoring Well Location
- Phase II Ground Water Sample Location
- Phase III Ground Water Sample Location
- 2 — Line of Equal Concentration in ug/L
- 17 — Vinyl Chloride Concentration in ug/L

N

60 30 0 60

Scale in Feet

Notes:

Most recent data shown for all sampling locations.

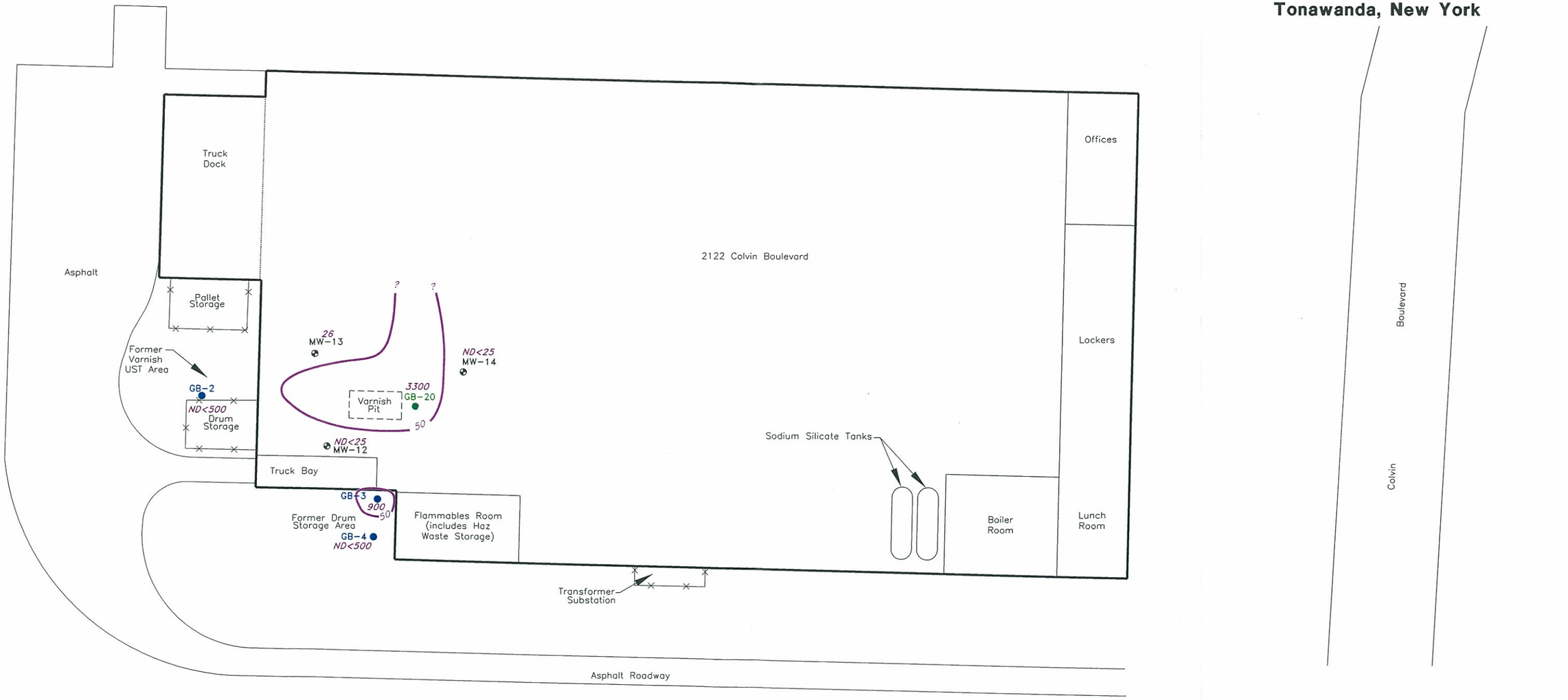
ND<100 = Not detected at a concentration above the indicated method detection limit.

All concentrations reported in micrograms per liter (ug/L).

Isoconcentrations east of Varnish Pit and south of Former Drum Storage Area also interpreted using soil and soil vapor analytical data.

Selected isoconcentration value is the current NYSDEC ambient ground water quality standard or guidance value.

Figure 5-16
Shallow Overburden Ground Water Isoconcentration Map
Acetone ≥ 50 ug/L
Grief Bros. Facility
Tonawanda, New York



Legend

- Monitoring Well Location
- Phase II Ground Water Sample Location
- Phase III Ground Water Sample Location
- 50 — Line of Equal Concentration in ug/L
- 26 — Acetone Concentration in ug/L

N

60 30 0 60

Scale in Feet

Notes:

Most recent data shown for all sampling locations.

ND<100 = Not detected at a concentration above the indicated method detection limit.

All concentrations reported in micrograms per liter (ug/L).

Selected isoconcentration value is the current NYSDEC ambient ground water quality standard or guidance value.

Isoconcentrations of also interpreted based on soil analytical data.

SVOCs

Table 5-11 presents a summary of SVOCs detected in water samples collected at the Site during the VRI. Review of Table 5-11 and previous data summarized in Appendix B indicates one SVOC (bis-2-ethylhexylphthalate) was detected in one shallow ground water sample collected at the Site (well MW-12). This compound was not detected at a concentration above its ambient ground water quality standard.

Metals

Table 5-12 presents a summary of metals detected in ground water samples collected during the VRI. The metals iron, magnesium, manganese, and sodium were detected in shallow overburden ground water in the sample collected from well MW-13 at concentrations above ambient ground water quality standards established by NYSDEC. However, these data are similar to data for intermediate overburden ground water samples. This suggests that the detected concentrations of metals in shallow overburden ground water samples collected during the VRI are naturally occurring or are pre-existing in ground water in the area and are migrating onto the Site from the west.

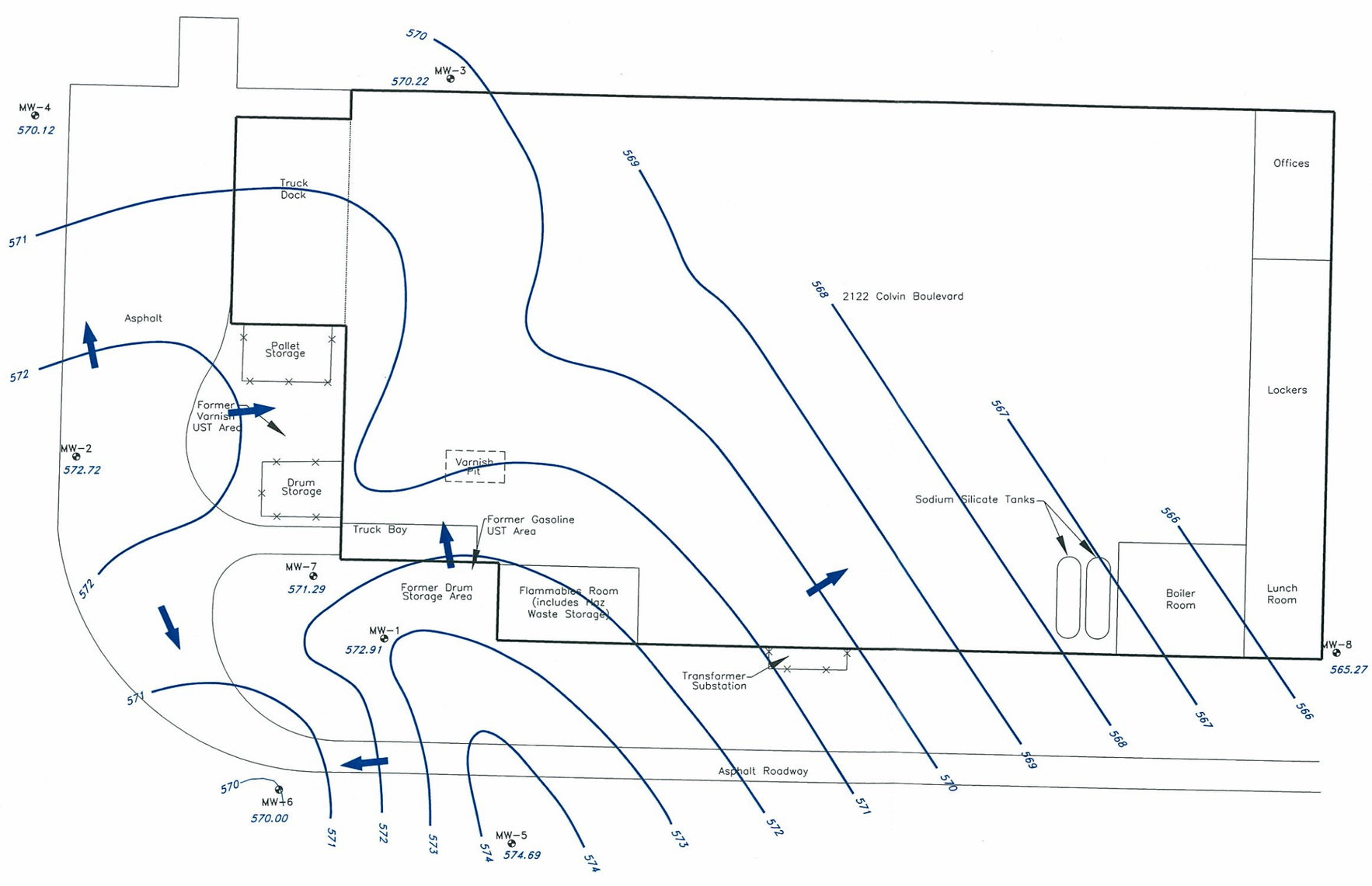
5.3.3 *Intermediate Overburden Ground Water*

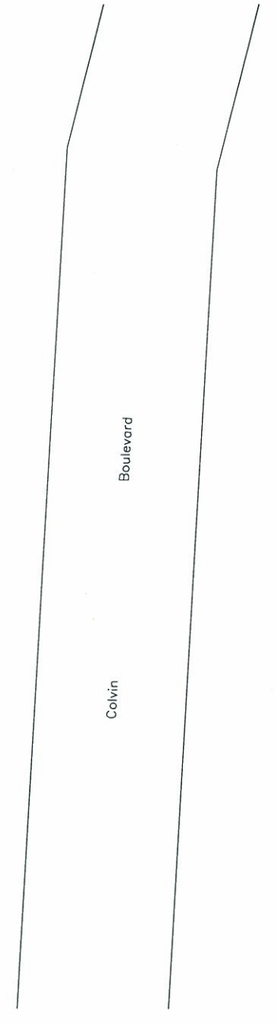
Review of DO concentrations in Table 5-8 reveals that intermediate overburden ground water can be characterized as generally anoxic (DO concentrations ranging from 0.29 to 1.16 mg/l). Observed concentrations of DO are generally favorable to reductive dechlorination of chlorinated compounds and their breakdown products and unfavorable to aerobic degradation of VOCs associated with petroleum and varnish products.

Figure 5-17 presents a ground water contour map for intermediate overburden ground water at the Site. Review of Figure 5-17 indicates that the estimated direction of ground water flow in intermediate overburden at the Site is highly variable in the southwestern portion of the facility. The potentiometric surface appears hummocky with several alternating high and low areas, resulting in variable ground water flow direction. A ground water flow direction towards the northeast is apparent for the portion of the Site between wells MW-3, MW-5, and MW-8. However, available data suggests that well MW-8 may be screened in a different hydrogeologic unit (different silty sand unit) relative to the other intermediate monitoring wells. Therefore, the apparent northeast ground water flow direction in this portion of the Site should be regarded with caution.

VOCs and SVOCs were not detected in intermediate overburden ground water samples at concentrations in excess of ambient ground water quality standards or guidance values established by NYSDEC. The VOC

Figure 5-17
Ground Water Contour Map
Intermediate Overburden Unit
12 September 2001
Greif Bros. Facility
Tonawanda, New York





Legend

- Shallow Monitoring Well Location
- 573 — Ground Water Elevation Contour (feet above mean sea level (msl))
- 572.91 — Ground Water Elevation (feet above msl)
- Estimated Ground Water Flow Direction

N

60 30 0 60

Scale in Feet

acetone was detected in one intermediate overburden ground water sample (MW-8). VOCs were not detected in any other intermediate overburden ground water samples. The SVOCs benzyl alcohol and bis-2-ethylhexylphthalate were detected in the ground water samples from wells MW-6 and MW-8. However, the detected concentrations were below applicable water quality standards or guidance values. The metals iron, manganese, and sodium were detected in intermediate overburden ground water samples from wells MW-3, MW-7, and MW-8 at concentrations above ambient ground water quality standards and/or guidance values established by NYSDEC. However, well MW-3 is located hydraulically up-gradient of the facility based on ground water level measurements collected on 12 September 2001. These data suggest the detected concentrations of metals in intermediate ground water samples collected during the VRI are naturally occurring or are pre-existing in ground water in the area and are migrating onto the Site from the north.

5.3.4 *Deep Overburden Ground Water*

Review of DO concentrations in Table 5-8 reveals that deep overburden ground water can be characterized as anoxic to low oxygen (DO concentrations ranging from 0.32 to 3.31 mg/l).

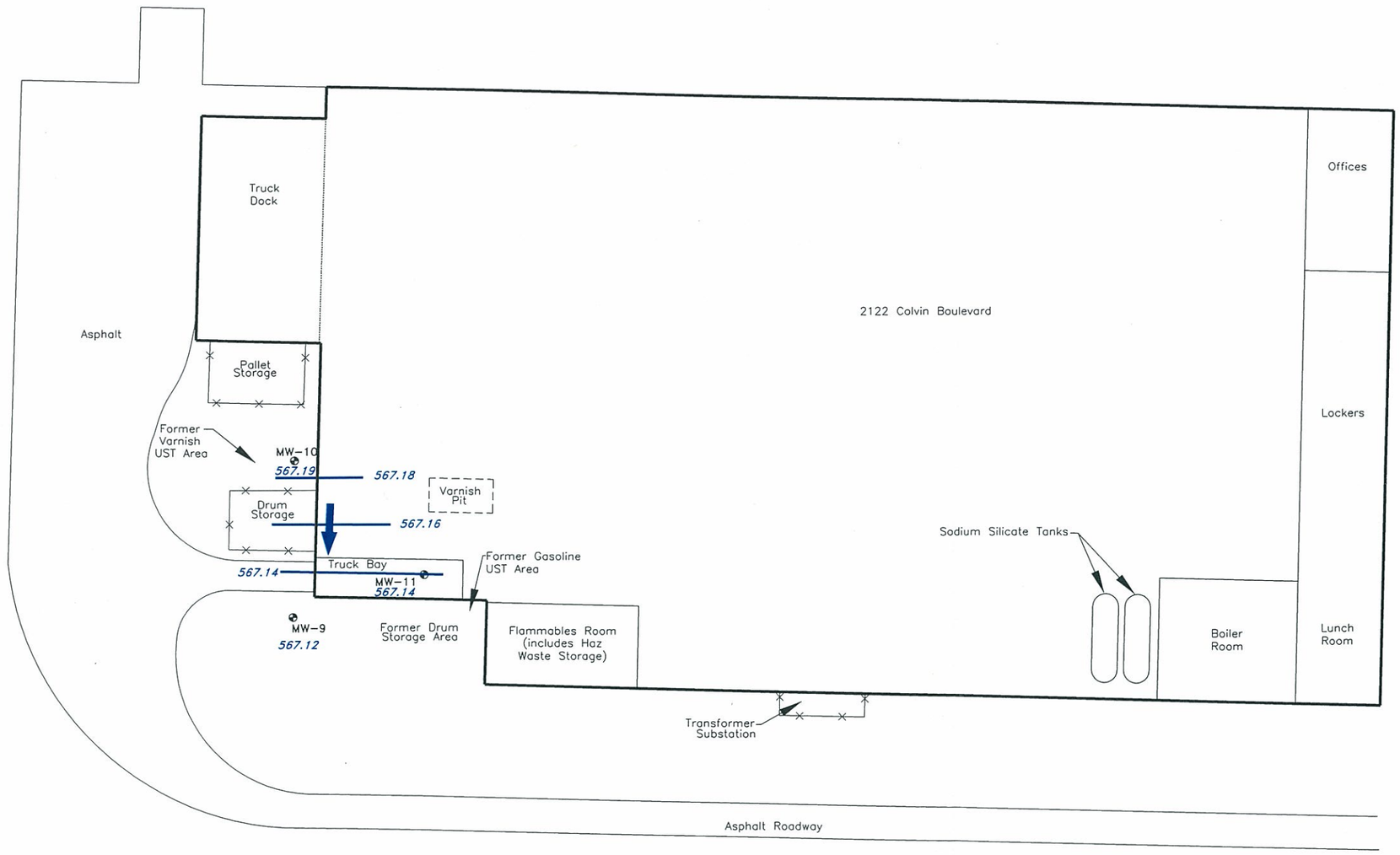
Figure 5-18 presents a ground water contour map for deep overburden ground water at the Site. Review of Figure 5-18 indicates that the estimated direction of ground water flow in deep overburden at the Site is generally towards the south. However, the observed gradient is quite low, suggesting very slow ground water flow velocity.

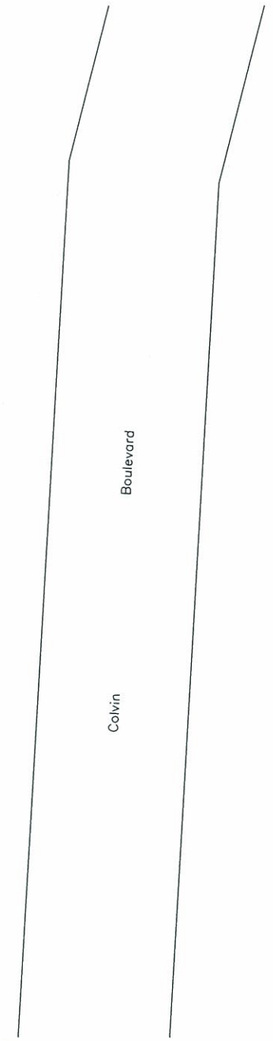
The VOC 1,2-dichloroethane was detected in one deep ground water sample (monitoring well MW-9). Other VOCs were not detected in any of the deep overburden ground water samples. The SVOC bis-2-ethylhexylphthalate was detected in the ground water sample collected from monitoring well MW-11. Other SVOCs were not detected in any of the deep ground water samples. However, VOCs and SVOCs were not detected in deep overburden ground water at concentrations above ambient ground water quality standards or guidance values established by NYSDEC. Deep overburden ground water samples were not analyzed for metals.

5.3.5 *Remedial Assessment of Ground Water Investigation Results*

Available data indicate that remediation of VOCs in shallow overburden ground water is appropriate at the Site based on the detected concentrations of VOCs and comparison with ambient ground water quality standards and guidance values established by NYSDEC. SVOCs were not detected in Site ground water from any zone at concentrations requiring remediation. Detected concentrations of metals in ground water that exceed applicable water quality standards appear to be naturally

Figure 5-18
Ground Water Contour Map
Deep Overburden Unit
12 September 2001
Greif Bros. Facility
Tonawanda, New York





Legend

- Shallow Monitoring Well Location
- 567.14 — Ground Water Elevation Contour (feet above mean sea level (msl))
- 567.14 — Ground Water Elevation (feet above msl)
- Estimated Ground Water Flow Direction

N

60 30 0 60

Scale in Feet

occurring based on the type of bedrock present beneath the site and are similar in all portions of the Site tested. These data and observations suggest additional investigation of metals in ground water appears unwarranted.

VOCs and SVOCs were not detected in intermediate or deep overburden ground water at concentrations above ambient water quality standards and guidance values. Therefore, remediation of intermediate and/or deep overburden ground water appears unwarranted based on existing data. However, additional investigation of intermediate overburden ground water is recommended in the vicinity of the varnish pit and the truck bay to evaluate whether or not VOCs have migrated vertically downward into the underlying silty sand unit.

6.0 HUMAN HEALTH EXPOSURE ASSESSMENT

On the basis of the information presented in the preceding sections, a Human Health Exposure Assessment for the facility was completed as directed by NYSDEC. The purpose of the Exposure Assessment is to identify chemicals of potential concern, identify potential exposure pathways, and evaluate exposures for the chemicals of potential concern via each potential exposure pathway. The Exposure Assessment is conducted in accordance with the NYSDEC-approved Exposure Assessment Work Plan (ERM, 2001).

The Exposure Assessment is divided into four sections presented below. In the first section, chemicals of potential concern for each environmental medium evaluated at the Site (i.e., soil and ground water) are selected. In the second section, potential exposure pathways for chemicals of potential concern are identified. In the third section, a qualitative evaluation of potential human health exposures for each exposure pathway is conducted based on the identified chemicals of potential concern. The final section presents a scientific interpretation of the Exposure Assessment based on all available data.

6.1 IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN

Two environmental media were evaluated at the Site: soil and ground water. In this section, chemicals of potential concern for soil and ground water are identified based on detected concentrations in excess of applicable NYSDEC Standards, Criteria, and Guidance (SCGs).

6.1.1 *Soil*

As described above in Section 1.3, soil analytical data have been collected in three phases at the site: Phase II, Phase III, and the current VRI. The Phase II and Phase III investigations were presented in an earlier report (ERM, 1999) and are summarized above in Section 1.3.1. The current VRI was designed to supplement the findings of previous investigations. Therefore, soil data from all three phases are included in this Exposure Assessment.

A total of 53 soil samples have been collected at the Site, including surface and subsurface samples. These samples were analyzed for one or more of the TCL/TAL groups of compounds (VOCs, SVOCs, PCBs, and inorganics). A summary of soil sampling conducted at the site in each phase is provided in Table 6-1. Additional information on the collection of these samples, sampling locations, and full sampling results are provided in Section 2.0. The SCGs for soil at the Site are the NYSDEC RSCOs from NYSDEC Technical and Administrative Guidance Memorandum Number 4046 (TAGM-4046; NYSDEC, 1995) corrected for soil organic carbon content where appropriate. In the following section,

TABLE 6-1
SUMMARY OF SOIL SAMPLES FOR CHEMICAL ANALYSES
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	SAMPLE DEPTH	ANALYSES			
		TCL VOCs	TCL SVOCs	PCBs	TAL METALS
PHASE II (11 Samples)					
GB-1	14-16	1	1		
GB-1	20-24	1			
GB-2	12-16	1	1		
GB-3	8-9	1			
GB-4	10-12	1	1		
GB-5	16-20	1			
GB-6	6-8		1		
GB-7	18-20		1		
HA-1	0-0.5			1	
HA-2	0-0.5			1	
HA-3	0-0.5		1	1	
Subtotal Phase II Samples		6	6	3	0
PHASE III (26 Samples)					
GB-8	1-2	1			
GB-9	4-5	1			
GB-10	1-2	1			
GB-10	7-8		1		
GB-10	14-15	1			
GB-11	13-15	1			
GB-12	15-16	1			
GB-14	13-14	1			
GB-15	3-4	1			
GB-15	6-7	1	1		
GB-15	14-15	1	1		
GB-16	6-7	1			
GB-17	1-2	1	1		
GB-17	4-5	1			
GB-18	11-12	1			
GB-19	14-15	1			
GB-20	11-12	1	1		
GB-20	15-16	1			
GB-21	8-9	1			
GB-21	15-16		1		
GB-22	10-11	1			
GB-22	15-16	1			
MW-1	9-11	1			
MW-2	12-14	1	1		
MW-3	10-12	1			
MW-4	12-14	1			
Subtotal Phase III Samples		24	7	0	0

TABLE 6-1 (Continued)
SUMMARY OF SOIL SAMPLES FOR CHEMICAL ANALYSES
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

SAMPLE DESIGNATION	SAMPLE DEPTH	ANALYSES			
		TCL VOCs	TCL SVOCs	PCBs	TAL METALS
REMEDIAL INVESTIGAITON (16 Samples)					
GB-23	15	1			
GB-24	16	1			
GB-25	9-10	1			
GB-26	2	1			
GB-27	0-1	1	1		1
GB-28	16	1			
GB-29	8-9	1			
GB-30	8-9	1	1		
GB-31	6-7	1			
GB-32	16	1			
GB-33	3	1	1		1
GB-34	3	1	1		
GB-35	16	1	1		1
GB-36	5	1			
GB-37	3-4	1	1		1
MW-6	7	1			
Subtotal RI Samples		16	6	0	4
TOTAL - ALL Phases		**46**	**19**	**3**	**4**

NOTES:

- Sample depths are reported in feet below ground surface
- TCL = Target Compound List as defined by the United States Environmental Protection Agency (USEPA)
- VOCs = volatile organic compounds
- SVOCs = semivolatile organic compounds
- PCBs = polychlorinated biphenyls
- TAL = Target Analyte List as defined by USEPA

soil sampling results are compared to applicable RSCOs to identify chemicals of potential concern in Site soil.

Volatile Organic Compounds

A total of 46 soil samples have been analyzed for VOCs. Table 6-2 compares the maximum detected concentrations of VOCs in Site soil to the applicable RSCOs from TAGM-4046. As shown in Table 6-2, 12 chemicals were detected at concentrations in excess of the RSCO. These VOCs include acetone, 2-butanone, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, and xylenes. These chemicals are identified as chemicals of potential concern in soil and are further evaluated in Section 6.3.

Semi-Volatile Organic Compounds

A total of 19 soil samples were analyzed for SVOCs. Table 6-3 compares the maximum detected concentration of SVOCs in Site soil to the relevant RSCOs from TAGM-4046. As shown in Table 6-3, seven SVOCs were detected at concentrations in excess of the relevant RSCOs. These SVOCs include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and naphthalene. These SVOCs are identified as chemicals of potential concern and are further evaluated in Section 6.3.

Polychlorinated Biphenyls

Three soil samples were analyzed for PCBs. PCBs were not detected in any of these samples. Therefore, PCBs are not identified as a chemical of potential concern and are not evaluated further.

Inorganics

Four soil samples were analyzed for TAL metals. Table 6-4 compares the maximum detected concentration of inorganic elements in Site soil to the relevant RSCOs from TAGM-4046. A number of the RSCOs for inorganic elements are based on site background (naturally-occurring) concentrations in soil. An inorganic soil background study was not proposed as part of the VRI. Therefore, for those inorganic elements where the RSCO is listed only as site background, the background concentrations for Eastern U.S. soils as listed in TAGM-4046 Appendix A-Table 4 (NYSDEC, 1995) were used to identify chemicals of potential concern. For those chemicals for which the RSCO is listed as a specific value or site background, the specific value is used to preliminarily screen inorganic elements. As shown in Table 6-4, eight inorganic elements were detected in concentrations in excess of the relevant RSCOs. These inorganic elements include arsenic, beryllium, calcium, chromium, iron,

TABLE 6-2
VOCs DETECTED IN SOIL SAMPLES
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Chemical	RSCO	Maximum Detected Concentration
Units	(ug/kg)	(ug/kg)
Acetone	136	**7300**
Benzene	103	7
2-Butanone	278	**2400**
Carbon disulfide	3341	4
Chloroethane	2289	78
Chloroform	269	2
1,1-Dichloroethane	186	**2900**
1,2-Dichloroethane	87	**240**
1,1-Dichloroethene	402	**5800**
1,2-Dichloroethene (Total)	365	**48000**
Ethylbenzene	6806	**12000**
4-Methyl-2-pentanone	130	83
Styrene	5643	1
Tetrachloroethene	1714	**19000**
Toluene	1856	**140000**
1,1,1-Trichloroethane	941	**55000**
1,1,2-Trichloroethane	69	**74**
Trichloroethene	780	**4000000**
1,2,4-Trimethylbenzene	16026	**1100000**
Vinyl chloride	141	61
Xylenes (total)	1485	**2900000**

NOTES:

- RSCO = recommended soil cleanup objective for the site based on NYSDEC TAGM-4046
- ug/kg = micrograms per kilogram
- **Bold type and pattern indicate concentration in excess of RSCO**

TABLE 6-3
SEMIVOLATILE ORGANIC COMPOUNDS DETECTED IN SOIL
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Chemical	RSCO	Maximum Detected Concentration
Units	(ug/kg)	(ug/kg)
Acenaphthene	50000	840
Acenaphthylene	41000	810
Anthracene	50000	1800
Benzo(a)anthracene	224 or MDL	**2900**
Benzo(a)pyrene	61 or MDL	**2900**
Benzo(b)fluoranthene	1361	**3500**
Benzo(g,h,i)perylene	50000	1800
Benzo(k)fluoranthene	1361	**1900**
Bis(2-Ethylhexyl) phthalate	50000	110
Carbazole	NA	2100
Chrysene	495	**3000**
Dibenz(a,h)anthracene	14 or MDL	**330**
Dibenzofuran	6200	510
2,4-Dimethylphenol	NA	62
Di-n-butylphthalate	10024	130
Di-n-octylphthalate	50000	44
Fluoranthene	50000	8000
Fluorene	50000	970
Indeno(1,2,3-cd)pyrene	3960	1800
2-Methylnaphthalene	44983	460
Naphthalene	16088	**19000**
Phenanthrene	50000	5400
Pyrene	50000	8900

NOTES:

- RSCO = recommended soil cleanup objective for the site based on NYSDEC TAGM-4046
- ug/kg = micrograms per kilogram
- NA = not applicable
- **Bold type and pattern indicate concentration in excess of RSCO**

TABLE 6-4
INORGANICS DETECTED IN SOIL
GRIEF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Chemical	RSCO	Eastern U.S. Background	Maximum Detected Concentration
Units	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	SB	33,000	20,400
Arsenic	7.5 or SB	3-12	**10.2**
Barium	300 or SB	15-600	155
Beryllium	0.16 or SB	0-1.75	**3.9**
Cadmium	1 or SB	0.1-1	0.6
Calcium	SB	130-35000	**128,000**
Chromium	10 or SB	1.5-40	**28**
Cobalt	30 or SB	2.5-60	13.9
Copper	25 or SB	1-50	22.2
Iron	2000 or SB	2000-50000	**30,400**
Lead	SB	4-500	13
Magnesium	SB	100-5000	**16,000**
Manganese	SB	50-5000	1,170
Nickel	13 or SB	0.5-25	**31.8**
Potassium	SB	8500-43000	4,660
Sodium	SB	6000-8000	512
Vanadium	150 or SB	1-300	35.8
Zinc	20 or SB	9-50	**68.5**

NOTES:

- RSCO = recommended soil cleanup objective for the site based on NYSDEC TAGM-4046
- mg/kg = milligrams per kilogram
- SB = site background (not established at this site)
- SB = Eastern U.S. background values from TAGM-4046 listed for reference purposes only
- **Bold type and pattern indicate possible exceedance of RSCO or eastern U.S. background**

magnesium, nickel, and zinc. These elements are identified as chemicals of potential concern and are further evaluated in Section 5.3.

6.1.2 *Ground Water*

Ground water samples have been collected in three phases at the site: Phase II, Phase III, and the VRI. The Phase II and Phase III investigations were presented in an earlier report (ERM, 1999) and are summarized above in Section 1.3.2. The current VRI was designed to supplement the findings of the previous investigations. Therefore, ground water data from all three phases are included in this Exposure Assessment.

A total of 24 ground water samples have been collected at the Site. These samples were analyzed for one or more of the following TCL/TAL groups of compounds: VOCs, SVOCs, and inorganic elements. A summary of ground water sampling conducted at the Site in each investigative phase is presented in Table 6-5. Additional information on the collection of these samples, sampling locations, and full sampling results are provided in Section 4.1. The SCGs for ground water are the NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA waters as listed in NYSDEC Technical Operations and Guidance Series Memorandum Number 1.1.1 dated June 1998 including the April 2000 addendum (TOGS-1.1.1; NYSDEC, 1998). In the following section, ground water sampling results are compared to ambient water quality standards and guidance values from TOGS-1.1.1 to identify chemicals of potential concern in Site ground water.

Volatile Organic Compounds

A total of 24 ground water samples have been analyzed for VOCs. Table 6-6 compares the maximum detected concentration of all VOCs in Site ground water to TOGS-1.1.1. As shown in Table 6-6, a total of 19 VOCs were detected in concentrations in excess of the applicable standard or guidance value. These VOCs include acetone, benzene, 2-butanone, chloroethane, chloroform, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, ethylbenzene, methylene chloride, tetrachloroethene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, 1,2,4-trimethylbenzene, vinyl chloride, and xylenes. These VOCs are identified as chemicals of potential concern in ground water and are further evaluated in Section 6.3.

Semi-Volatile Organic Compounds

A total of 10 ground water samples were analyzed for SVOCs. Table 6-7 compares the maximum detected concentration of SVOCs in Site ground water to the applicable standard or guidance value. As shown in that table, no SVOCs were detected at concentrations in excess of NYSDEC

TABLE 6-5
SUMMARY OF GROUND WATER SAMPLING
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Sample Designation	Ground Water Zone	TCL VOCs	TCL SVOCs	TAL Metals
Phase II (3 Samples)				
GB-2	Shallow	1		
GB-3	Shallow	1		
GB-4	Shallow	1		
Subtotal Phase II Samples		3	0	0
Phase III (6 Samples)				
GB-20	Shallow	1		
MW-1	Intermediate	1		
MW-2	Intermediate	1		
MW-3	Intermediate	1		
MW-4	Intermediate	1		
MW-5	Intermediate	1		
Subtotal Phase III Samples		6	0	0
Remedial Investigation (14 Samples)				
MW-1	Intermediate	1		
MW-2	Intermediate	1		
MW-3	Intermediate	1		1
MW-4	Intermediate	1		
MW-5	Intermediate	1		
MW-6	Deep	1	1	
MW-7	Deep	1	1	1
MW-8	Deep	1	1	1
MW-9	Deep	1	1	
MW-10	Deep	1	1	
MW-11	Deep	1	1	
MW-12	Shallow	1	1	
MW-13	Shallow	1	1	1
MW-14	Shallow	1	1	
Subtotal RI Samples		14	9	4
TOTAL - ALL Phases		23	9	4

NOTES:

- TCL = Target Compound List as defined by the United States Environmental Protection Agency (USEPA)
- VOCs = volatile organic compounds
- SVOCs = semivolatile organic compounds
- TAL = Target Analyte List as defined by USEPA

TABLE 6-6
VOCs DETECTED IN GROUND WATER
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Chemical	Class GA Standard	Class GA Guidance Value	Maximum Detected Concentration
Units	(ug/l)	(ug/l)	(ug/l)
Acetone		50	**3,300**
Benzene	1		**620**
2-Butanone		50	**1,700**
Carbon disulfide		60	10
Chloroethane	5		**530**
Chloroform	7		**190**
1,1-Dichloroethane	5		**8,300**
1,2-Dichloroethane	0.6		**960**
1,1-Dichloroethene	5		**25,000**
1,2-Dichloroethene (Total)	5		**3,000**
Ethylbenzene	5		**2,100**
Methylene chloride	5		**19**
4-Methyl-2-pentanone		50	**130**
Tetrachloroethene	5		**71**
Toluene	5		**8,200**
1,1,1-Trichloroethane	5		**220,000**
1,1,2-Trichloroethane	1		**150**
Trichloroethene	5		**210,000**
1,2,4-Trimethylbenzene	5		**1,200**
Vinyl chloride	2		**550**
Xylenes (total)	5		**9,100**

NOTES:

- ug/l = micrograms per liter
- NYSDEC Standards = ambient water quality standards or guidance values from NYSDEC TOGS Memorandum 1.1.1; NA = not applicable
- NA = not applicable
- **Bold type and pattern indicate exceedance of ambient water quality standard or guidance value**

TABLE 6-7
SVOCs DETECTED IN GROUND WATER
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Chemical	Class GA Standard	Class GA Guidance Value	Maximum Detected Concentration
Units	(ug/l)	(ug/l)	(ug/l)
Benzyl alcohol	NA	NA	0.3
bis(2-Ethylhexyl) phthalate	5	NA	4

NOTES:

- ug/l = micrograms per liter
- NYSDEC Standards = ambient water quality standards or guidance values from NYSDEC TOGS Memorandum 1.1.1
- NA = not applicable

Class GA standards and guidance values. Therefore, no SVOCs are included as chemicals of potential concern in Site ground water.

Inorganics

A total of five ground water samples were analyzed for total TAL metals. Table 6-8 compares the maximum detected concentration of inorganic elements in Site ground water to the relevant standard or guidance value. As shown in Table 6-8, four inorganic elements were detected at concentrations in excess of the applicable standard or guidance value. These inorganic elements include iron, magnesium, manganese, and sodium. These chemicals are identified as chemicals of potential concern and are further evaluated in Section 6.3.

6.1.3 *Summary*

Table 6-9 summarizes the chemicals of potential concern at the Site. Potential exposure pathways for these chemicals are identified and discussed in Section 6.2.

6.2 *IDENTIFICATION OF POTENTIAL EXPOSURE PATHWAYS*

The Site consists of an industrial building located on approximately 25 acres in the Town of Tonawanda, Erie County, New York. The facility is located in a mixed industrial/commercial and residential area approximately one-quarter mile south of Highway I-290 (Figure 1-1). Adjoining properties are as follows:

- North – vacant land (including a former railroad siding and a wooded area) and residential apartments;
- South – local playground (ball field) and single family residential;
- East – Colvin Boulevard with single family/duplex homes further east; and
- West – vacant, undeveloped land adjacent to a major railroad line formerly traversed by two railroad spurs into the Site building.

The building is surrounded by paved parking areas, storage areas, and landscaped areas. The facility is currently used for the manufacture of fiber drums, equipment maintenance, and administrative activities. The entire Site is fenced to restrict access. There are two main gates on the east side of the facility where employees and contractors enter and an unused rear gate in the vicinity of an old railroad line. Surface water bodies at or in the immediate vicinity of the Site were not observed. Therefore, there are no surface water bodies to which Site ground water is expected to discharge. Potential exposure pathways for the two environmental media of concern (soil and ground water) are described below.

TABLE 6-8
INORGANICS DETECTED IN GROUND WATER
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Chemical	Class GA Standard	Class GA Guidance Value	Maximum Detected Concentration
Units	(ug/l)	(ug/l)	(ug/l)
Aluminum	NA		3,800
Arsenic	25		20
Barium	1000		90
Calcium	NA		400,000
Chromium	50		4.6
Iron	300		**4,500**
Magnesium	NA	35000	**240,000**
Manganese	300		**500**
Potassium	NA		18,800
Sodium	20000		**370,000**
Vanadium	NA		6.3
Zinc	2000		22

NOTES:

- ug/l = micrograms per liter
- NYSDEC Standards = ambient water quality standards or guidance values from NYSDEC TOGS Memorandum 1.1.1
- NA = not applicable
- **Bold type and pattern indicate exceedance of ambient water quality standard or guidance value**

TABLE 6-9
CHEMICALS OF POTENTIAL CONCERN
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

	Soil	Ground Water
Volatiles	Acetone	Acetone
	2-Butanone	Benzene
	1,1-Dichloroethane	2-Butanone
	1,1-Dichloroethene	Chloroethane
	1,2-Dichloroethane	Chloroform
	1,2-Dichloroethene (Total)	1,1-Dichloroethane
	Ethylbenzene	1,1-Dichloroethene
	Tetrachloroethylene	1,2-Dichloroethane
	Toluene	1,2-Dichloroethene (Total)
	1,1,1-Trichloroethane	Ethylbenzene
	Trichloroethene	Methylene Chloride
	Xylenes (Total)	Tetrachloroethylene
		Toluene
		1,1,1-Trichloroethane
		1,1,2-Trichloroethane
		Trichloroethene
		1,2,4-Trimethylbenzene
		Vinyl Chloride
		Xylenes (Total)
Semivolatiles	Benzo(a)anthracene	None
	Benzo(a)pyrene	
	Benzo(b)fluoranthene	
	Benzo(k)fluoranthene	
	Chrysene	
	Dibenzo(a,h)anthracene	
	Naphthalene	
Inorganics	Arsenic	Iron
	Beryllium	Magnesium
	Calcium	Manganese
	Chromium	Sodium
	Iron	
	Magnesium	
	Nickel	
	Zinc	

6.2.1 *Soil*

Exposure to chemicals in soil can occur through direct contact (incidental ingestion and dermal absorption) and by inhalation of chemicals volatilized from soil. Because the Site is currently used for manufacturing, potential receptors for these pathways include Site workers and visitors. Because the Site is fenced, direct contact with Site soil and inhalation of volatilized chemicals from soil by potential trespassers from nearby residential areas (off-site receptors) are not anticipated to be significant exposure pathways.

Chemicals in facility soil could also act as a source of chemicals to ground water. Potential ground water exposure pathways are discussed below.

6.2.2 *Ground Water*

As described in Sections 4.1.1 and 4.3.1, shallow ground water is found perched on silty clay overburden under the main building as well as at the former varnish UST area and the former drum storage area. The depth to the shallow ground water generally ranges from 4 to 14 feet. This shallow ground water is apparently not found in areas of the Site away from the building and is therefore believed to be due former excavation and replacement fill associated with historical construction and/or modification of the main building. Shallow overburden ground water flow direction is towards the east.

An intermediate ground water zone is located in overburden deposits between the silty clay unit and bedrock at depths generally ranging from of 20 to 80 ft below ground surface. Overburden between the silty clay unit and bedrock consists of several distinct textural units with significant differences in permeability and other hydrogeological characteristics and is therefore heterogeneous. Ground water flow direction at intermediate depths in the overburden is highly variable across the southwestern portion of the Site. Ground water flow direction in deep overburden on top of bedrock is generally towards the south.

There are currently no ground water uses at the Site (e.g., domestic or industrial wells). A water well search was conducted to identify any wells in the vicinity of the Site. Agencies contacted included NYSDEC, the Town of Tonawanda, Erie County Health Department, and USGS. NYSDEC has no record of any wells within one mile of the site (NYSDEC, 2001). All municipal water in the Town of Tonawanda comes from the Niagara River (Town of Tonawanda, 2001). The Erie County Health Department reported that there are no drinking water wells (public or private) within the city of Tonawanda (ECHD, 2001). The USGS identified five wells within a one-mile radius of the Site. However, all five wells were identified as test holes used for hydrogeologic observation. This

information suggests there are no drinking water wells that could be impacted by chemicals derived from the Site even if off-site migration were to occur. However, perimeter monitoring wells at the Site have no significant detections of organic chemicals and there is no evidence that chemicals have migrated from the Site. Furthermore, there is no record of any other wells within a one-mile radius of the site from which exposure to ground water might occur (e.g., industrial cooling water wells). Therefore, all available information indicates chemicals in ground water at the facility are not migrating off-site.

All available information indicates there are currently no complete exposure pathways for ingestion of ground water or direct contact with ground water. The only potentially complete exposure pathway for ground water is volatilization of chemicals in ground water to overlying soil vapor and subsequent migration upward to ambient air. As noted above, because VOC-affected ground water is not migrating off-site, potential receptors for this pathway include Site workers and visitors.

6.3 *QUALITATIVE EXPOSURE ASSESSMENT*

A qualitative assessment of potential human exposures for each of the pathways discussed above is provided based on the identified chemicals of potential concern.

6.3.1 *Soil*

Chemicals of potential concern in soil based on detected concentrations in excess of SCGs include 12 VOCs (acetone, 2-butanone, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, and xylene), seven SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and naphthalene), and eight inorganics (arsenic, beryllium, calcium, chromium, iron, magnesium, nickel, and zinc). Results for organic compounds and inorganic elements are addressed separately below.

6.3.1.1 *Organic Compounds*

NYSDEC TAGM-4046 presents acceptable soil levels for organic compounds for both direct contact with soil and for protection of ground water. The lower of these two values is generally the RSCO, which was used in Section 6.2.1 to screen the chemicals. The acceptable level for direct contact exposure is based on a residential exposure scenario, with children ages one to six ingesting soil. The acceptable level for protection of ground water is based on leaching of chemicals in soil to ground water where ground water concentrations must meet promulgated or proposed New York State ground water/drinking water quality standards. To

further evaluate which chemicals potentially pose a human health exposure via each of the above pathways at the Site, the maximum detected concentration of each of the chemicals of concern is compared to these two levels (Table 6-10).

Direct Contact with Soil

The NYSDEC direct contact screening criteria for tetrachloroethene, trichloroethene, benzo(a)anthracene, benzo(a)pyrene, and dibenz(a,h)anthracene were each exceeded in at least one soil sample (Table 6-10). As noted above, the NYSDEC direct contact criteria are based on incidental ingestion of soil by children in a residential setting. The site is currently an active industrial facility that is fully fenced to restrict access to trespassers. Therefore, in order to evaluate potential risks to Site workers and visitors (the potential receptors of concern), the maximum detected concentrations of the chemicals of concern in Site soil are also compared to criteria appropriate for commercial/industrial exposures. Region III of the United States Environmental Protection Agency (USEPA) has established acceptable levels of chemicals in soil based on direct contact with soil by commercial/industrial workers in occupational settings (risk-based concentrations or RBCs; USEPA, 2001). These values are presented in Table 6-10 for the chemicals that exceed NYSDEC's direct contact residential criteria. There are no established criteria available to evaluate exposures to Site visitors. However, since the RBCs assume exposure occurs 250 days/year over a 25-year period, exposures to Site visitors will be significantly less. These results are discussed for each chemical below.

Tetrachloroethene was detected at a concentration greater than the NYSDEC residential direct contact level of 14,000 µg/kg in only one sample, GB-10, at a depth of one to two feet below ground surface (1-2'). Tetrachloroethene was not detected in any samples in excess of the USEPA RBC for industrial exposures. Therefore, the presence of tetrachloroethene in soil does not represent a significant exposure pathway for Site workers or visitors.

Trichloroethene was detected at a concentration greater than the NYSDEC residential direct contact level of 64,000 µg/kg in soil samples GB-10 (1-2'), GB-10 (14-15'), and GB-20 (11-12'). Trichloroethene was detected in excess of the USEPA RBC for industrial workers in one sample (GB-10, 1-2'). Therefore, direct contact with soil in the vicinity of GB-10 may represent a significant human exposure pathway for Site workers due to the detected concentration of trichloroethene.

Benzo(a)anthracene was detected at a concentration greater than the NYSDEC residential direct contact level of 224 µg/kg in soil samples GB-1 (14-16'), GB-4 (10-12'), HA-3 (0-0.5'), GB-17 (1-2'), and GB-33 (3').

TABLE 6-10
COMPARISON OF MAXIMUM DETECTED CONCENTRATIONS TO VARIOUS SOIL CLEANUP CRITERIA FOR VOCs AND SVOCs
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

VOLATILE ORGANICS	Concentration (ug/kg)	GW Protection Criteria (ug/kg)	Contact Criteria (ug/kg)	Direct Contact Criteria [1] (ug/kg)
Acetone	7300	**136**	8000000	-
2-Butanone	2400	**278**	4000000	-
1,1-Dichloroethane	2900	**186**	NA	-
1,2-Dichloroethane	240	**87**	7700	-
1,1-Dichloroethene	5800	**402**	12000	-
1,2-Dichloroethene (Total)	48000	**365**	2000000	-
Ethylbenzene	12000	**6806**	8000000	-
Tetrachloroethene	19000	**1714**	**14000**	110000
Toluene	140000	**1856**	20000000	-
1,1,1-Trichloroethane	55000	**941**	7000000	-
1,1,2-Trichloroethane	74	**69**	NA	-
Trichloroethene	4000000	**780**	**64000**	**520000**
Xylenes (total)	2900000	**1485**	200000000	-
SEMI-VOLATILE ORGANICS				
Benzo(a)anthracene	2900	3000	**224**	7800
Benzo(a)pyrene	2900	11000	**61**	**780**
Benzo(b)fluoranthene	3500	**1361**	NA	-
Benzo(k)fluoranthene	1900	**1361**	NA	-
Chrysene	3000	**495**	NA	-
Dibenz(a,h)anthracene	330	165000000	**14**	780
Naphthalene	19000	**16088**	300000	-

NOTES:

- ug/kg = micrograms per kilogram
- NA = None available
- **bold type and pattern indicates the maximum detected concentration exceeds the criterion**
- [1] Source: USEPA Region III RBCs (USEPA, 2001)

Benzo(a)anthracene was not detected in any samples in excess of the USEPA RBC for industrial exposures. Therefore, the presence of benzo(a)anthracene in soil does not represent a significant exposure pathway for Site workers or visitors.

Benzo(a)pyrene was detected at a concentration greater than the NYSDEC residential direct contact level of 60.9 µg/kg in soil samples GB-1 (14-16'), GB-2 (12-16'), GB-4 (10-12'), HA-3 (0-0.5'), GB-10 (7-8'), GB-27 (0-1'), and GB-33 (3'). Benzo(a)pyrene was detected in excess of the USEPA RBC for industrial workers at GB-1 (14-16'), HA-3 (0-0.5'), GB-10 (7-8'), and GB-33 (3'). Therefore, direct contact with soil in the vicinity of samples HA-3 and GB-33 may represent a significant current human exposure pathway for industrial workers due to the presence of benzo(a)pyrene. Under future conditions, if soil at depth in the vicinity of GB-1 and GB-10 were exposed, this soil could represent a significant exposure pathway for Site workers due to detected concentrations of benzo(a)pyrene.

Dibenz(a,h)anthracene was detected at a concentration greater than the NYSDEC residential direct contact number or 14.3 µg/kg in soil samples GB-1 (14-16'), GB-4 (10-12'), and GB-33 (3'). Dibenz(a,h)anthracene was not detected in any samples in excess of the USEPA RBC for industrial exposures. Therefore, the presence of dibenz(a,h)anthracene in soil does not represent a significant exposure pathway for Site workers or visitors.

Volatilization of Chemicals in Soil to Ambient Air

Twelve of the chemicals of potential concern in soil are VOCs. Therefore, the presence of these chemicals may result in a complete exposure pathway via volatilization from soil to ambient air and subsequent inhalation by Site workers and visitors. The SCGs do not include criteria based on inhalation exposures; therefore, this pathway was not evaluated further.

Leaching of Chemicals in Soil to Ground Water

As shown in Table 6-10, organic chemicals present in soil at concentrations in excess of ground water protection criteria include all of the VOCs of potential concern (acetone, 2-butanone, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, and xylene) and four of the SVOCs of potential concern (benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and naphthalene). The VOCs detected in excess of the ground water protection criterion are all also identified as chemicals of potential concern in ground water. Therefore, these 12 VOCs may pose a potential threat to ground water and are further evaluated in Section 6.3.2.

None of the SVOCs that were detected at concentrations above the ground water protection criteria for soil were identified as chemicals of potential concern in Site ground water (i.e., none had detected concentrations in ground water in excess of ground water quality standards and/or guidance values). Actually, none of the four SVOCs were detected in any ground water samples. Therefore, under current conditions, leaching of SVOC chemicals of potential concern in soil to ground water is not a significant human exposure pathway.

6.3.1.2 *Inorganic Compounds*

A total of eight inorganic elements were identified as chemicals of potential concern in soil. These chemicals were identified based on detected concentrations in excess of RSCOs without consideration of Site background data or, for those chemicals with RSCOs of "Site Background", based on detected concentrations in excess of Eastern United States (U.S.) background levels as listed in TAGM-4046. TAGM-4046 does not include ground water protection criteria and direct contact criteria for inorganic elements.

In order to further evaluate the inorganic chemicals of potential concern in soil, Table 6-11 compares the maximum detected concentrations of these chemicals to the RSCOs, Eastern U.S. background concentrations as listed in TAGM-4046 (NYSDEC, 1995), and Eastern U.S. background concentrations reported by USGS (1984). The maximum detected concentrations of six inorganic chemicals of potential concern exceed the RSCOs when background concentrations are not considered (arsenic, beryllium, chromium, iron, nickel, and zinc). These chemicals all have RSCOs listed as a value or site background. As noted above, no site background soil data was collected as part of the VRI. However, as shown in Table 6-11, the maximum detected concentrations of three of these inorganic elements (arsenic, chromium, and iron) are all within the Eastern U.S. background concentrations as listed in TAGM-4046. The maximum detected concentrations of the remaining three inorganics (beryllium, nickel, and zinc), while above the TAGM-4046 Eastern U.S. background levels, are nevertheless well within the Eastern U.S. background levels listed in USGS (1984). The RSCOs for calcium and magnesium are listed only as SB. As shown in Table 6-11, although the maximum detected concentrations of these inorganic elements exceed the TAGM-4046 Eastern U.S. background levels, they are well within the Eastern U.S. background levels cited by USGS (1984). Therefore, all eight inorganic chemicals of potential concern are well within background ranges for Eastern US soils. Therefore, there are no unacceptable exposure pathways for inorganic chemicals of concern in soil at the Site.

TABLE 6-11
COMPARISON OF MAXIMUM DETECTED CONCENTRATIONS TO BACKGROUND CONCENTRATIONS FOR INORGANICS
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Chemical	RSCO	Maximum Detected Concentration	Eastern USA Background (TAGM 4046)	Eastern USA Background (USGS 1270) [1]
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Arsenic	7.5 or SB	10.2	3-12	-
Beryllium	0.16 or SB	3.9	0 - 1.75	<1 - 7
Calcium	SB	128,000	130 - 35,000	100 - 280,000
Chromium	10 or SB	28	1.5 - 40	-
Iron	2,000 or SB	30,400	2,000 - 550,000	-
Magnesium	SB	16,000	100 - 5,000	50 - 50,000
Nickel	13 or SB	31.8	0.5 - 25	<5 - 700
Zinc	20 or SB	68.5	9 - 50	<5 - 2,900

NOTES:

- mg/kg = milligrams per kilogram
- RSCO = recommended soil cleanup objective from NYSDEC TAGM-4046 (NYSDEC, 1995)
- SB = site background (not established for this site)
- NA = None available
- [1] Source: USGS (1984)

6.3.1.3 *Summary of Soil Exposure Pathways*

Under current conditions, direct contact with trichloroethene and benzo(a)pyrene may represent a significant human exposure pathway for Site workers based on exceedences of benchmark levels established for industrial settings (the RBCs). Trichloroethene was detected in one surface sample (GB-10, 1-2′) and benzo(a)pyrene was detected in two surface samples (HA-3, 0-0.5′ and GB-33, 3′) at concentrations in excess of the respective RBCs. Under future conditions, if subsurface soils were to be exposed, the presence of benzo(a)pyrene at two additional soil sampling locations (GB-1, 14-16′ and GB-10, 7-8′) may represent a significant human exposure pathway for site workers.

The presence of 12 VOC chemicals of potential concern in soil may represent a complete exposure pathway via volatilization from soil to ambient air and subsequent inhalation by Site workers and visitors. These chemicals are acetone, 2-butanone, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, and xylene. The SCGs do not include criteria for soil based on inhalation exposures; therefore, this pathway was not evaluated further.

The presence of 12 VOC chemicals of potential concern in soil may also pose a risk to ground water via leaching. These chemicals are further evaluated below.

6.3.2 *Ground Water*

Chemicals of potential concern in ground water at the Site based detected concentrations in excess of the ground water SCGs include 19 VOCs and four inorganic elements. The VOCs include acetone, benzene, 2-butanone, chloroethane, chloroform, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, ethylbenzene, methylene chloride, tetrachloroethene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, 1,2,4-trimethylbenzene, vinyl chloride, and xylenes. The inorganic elements are iron, magnesium, manganese, and sodium. Twelve of the above VOCs are also chemicals of potential concern based on detected concentrations in excess of the impact to ground water SCGs for soil.

Table 6-12 presents the maximum detected concentration of the chemicals of potential concern in ground water and the relevant SCGs. The SCGs used to identify chemicals of potential concern in ground water are the NYSDEC Class GA ground water quality standards and guidance values, which are based on use of water for potable supply. However, as noted in Section 6.2, ground water is not currently used for any purpose at the Site or in the vicinity of the Site. Therefore, the only potential exposure

TABLE 6-12
COMPARISON OF MAXIMUM DETECTED CONCENTRATIONS IN GROUND WATER TO CLASS GA GROUND WATER STANDARDS
GREIF BROS. FACILITY - TONAWANDA, NY
NYSDEC VCP NUMBER V00334-9
ERM PROJECT NUMBER D6714.00

Chemical	Class GA Standard	Class GA Guidance Value	Maximum Detected Concentration
Units	(ug/l)	(ug/l)	(ug/l)
VOLATILE ORGANIC COMPOUNDS			
Acetone		50	3,300
Benzene	1		620
2-Butanone		50	1,700
Chloroethane	5		530
Chloroform	7		190
1,1-Dichloroethane	5		8,300
1,2-Dichloroethane	0.6		960
1,1-Dichloroethene	5		25,000
1,2-Dichloroethene (Total)	5		3,000
Ethylbenzene	5		2,100
Methylene chloride	5		19
Tetrachloroethene	5		71
Toluene	5		8,200
1,1,1-Trichloroethane	5		220,000
1,1,2-Trichloroethane	1		150
Trichloroethene	5		210,000
1,2,4-Trimethylbenzene	5		1,200
Vinyl chloride	2		550
Xylenes (total)	5		9,100
INORGANICS			
Iron	300		4,500
Magnesium		35,000	240,000
Manganese	300		500
Sodium	20,000		370,000

pathway for chemicals in Site ground water is volatilization to ambient air. As noted in Section 6.1.2, VOCs were not detected at significant concentrations in ground water in perimeter monitoring wells at the Site. Volatilization of the VOC chemicals of potential concern to ambient air at the facility may represent a complete exposure pathway for Site workers and visitors via inhalation. The SCGs do not include criteria based on inhalation exposures, therefore this pathway was not evaluated further.

6.4 *INTERPRETATION OF EXPOSURE ASSESSMENT*

A summary of potential human exposures to chemicals in soil and ground water via each pathway of potential concern is provided below.

Direct Contact with Soil

A total of five chemicals are present in one or more soil samples in excess of the NYSDEC residential direct contact level (tetrachloroethene, trichloroethene, benzo(a)anthracene, benzo(a)pyrene, and dibenz(a,h)anthracene). However, the Site is presently used for commercial/industrial purposes. Under current conditions, direct contact with two of the above chemicals in soil (trichloroethene and benzo(a)pyrene) may represent a significant human exposure pathway for Site workers based on detected concentrations in excess of benchmark levels established for industrial settings (RBCs) in three surface soil samples. Under future conditions, if subsurface soil were to be exposed to the surface, the presence of benzo(a)pyrene at two additional soil sampling locations may potentially represent a significant human exposure pathway for Site workers.

Inhalation of Chemicals in Soil

Twelve VOCs were identified as chemicals of potential concern in soil based on detected concentrations in excess of applicable RSCOs. Therefore, the presence of these chemicals in Site soil may potentially result in a complete exposure pathway via volatilization from soil and subsequent inhalation by Site workers and visitors. The SCGs do not include soil criteria based on inhalation exposures; therefore, this pathway was not evaluated further.

Leaching of Chemicals in Soil to Ground Water

Leaching of chemicals in Site soil to ground water may represent a complete exposure pathway for 12 chemicals of potential concern based on detected concentrations in excess of NYSDEC soil impact to ground water concentrations and the presence of these chemicals in shallow Site ground water. The specific chemicals of potential concern for this pathway include acetone, 2-butanone, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, ethylbenzene,

tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, and xylenes. Potential exposures for these chemicals via ground water are addressed below.

Ingestion of Ground Water and Direct Contact with Ground Water

Ground water at the Site itself and in the site vicinity is not currently used for drinking water or any other potable purposes based on the results of the well search. Therefore, ingestion of ground water and direct contact with ground water do not represent complete exposure pathways at the Site.

Inhalation of Chemicals from Ground Water

Chemicals of potential concern in ground water based on detected concentrations in excess of water supply standards and guidance values include 19 VOCs. Specific VOCs include acetone, benzene, 2-butanone, chloroethane, chloroform, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, ethylbenzene, methylene chloride, tetrachloroethene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, 1,2,4-trimethylbenzene, vinyl chloride, and xylenes. The presence of these VOCs in on-site ground water may result in a complete exposure pathway via volatilization and subsequent inhalation by Site workers and visitors. The SCGs do not include ground water criteria based on inhalation exposures; therefore, this pathway was not evaluated further.

7.0 PROPOSED DATA GAP INVESTIGATION

Review of all data available to date suggests the following areas require additional investigation to further estimate the extent of affected media and facilitate remedial design.

Soil

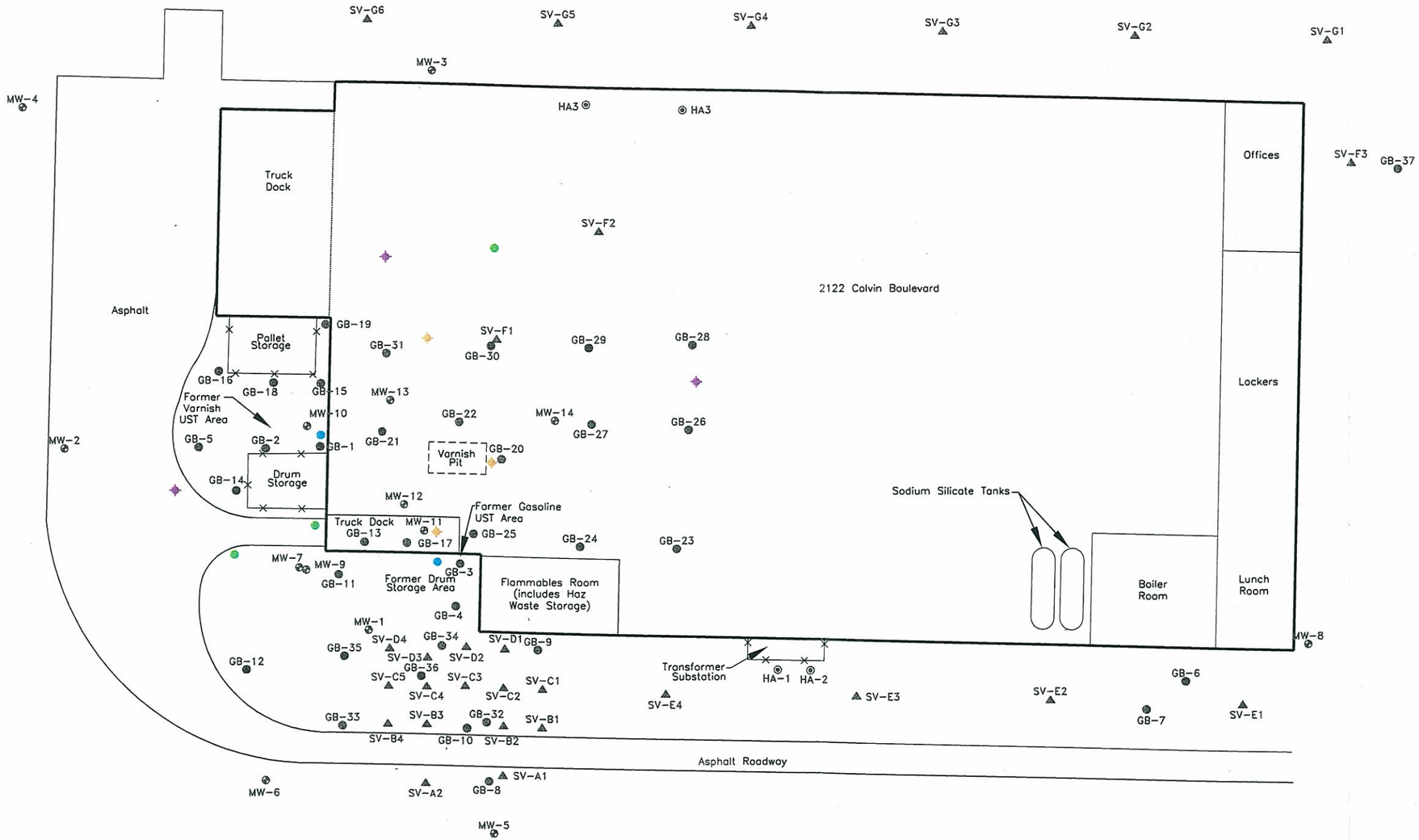
- Estimate the lateral extent of VOC-affected soil north of the varnish pit;
- estimate the vertical extent of VOC-affected soil beneath and north of the varnish pit;
- estimate the lateral extent of VOC-affected soil west and south of soil boring GB-14;
- estimate the lateral extent of VOC and SVOC-affected soil in the truck bay area;
- estimate the lateral and vertical extent of SVOC-affected soil in the HA-3 area;
- estimate the extent of SVOC-affected soil on the north side of the access road to the western portion of the facility; and
- collect geotechnical data adjacent to foundations in the former varnish UST area and the former drum storage area to facilitate proposed interim remedial measures (see Section 8.0).

Ground Water

- Estimate and confirm the extent of shallow overburden ground water north, east, south, and west of the varnish pit;
- characterize intermediate overburden ground water beneath the varnish pit area, north of the varnish pit area, and in the truck bay area;
- evaluate the presence or absence of shallow overburden ground water in the vicinity of soil boring GB-14;
- evaluate ground water in the vicinity of the former drum storage area; and
- evaluate ground water in the vicinity of the former varnish UST area.

Figure 7-1 presents a map showing the locations of proposed soil borings and ground water monitoring wells to address the perceived data gaps listed above. Several areas with apparent data gaps will be addressed or eliminated by implementation of one or more of the potential Interim Remedial Measures (IRMs) discussed in Section 8.0, specifically excavation actions proposed for the former varnish UST area and the former drum storage area. Installation of monitoring wells in these areas at this point is not recommended as excavation is proposed in these areas. Therefore, installation of additional soil borings and/or ground water monitoring wells in these areas will be proposed after implementation of potential IRMs described in the following section.

Figure 7-1
Proposed Data Gap Investigation
Greif Brothers Facility
Tonawanda, New York



Legend

- Proposed Shallow Overburden Monitoring Well Location
- Proposed Shallow Overburden Soil Boring
- Proposed Geotechnical Soil Boring
- Proposed Intermediate Overburden Soil Boring/Temporary Monitoring Well
- Monitoring Well Location
- Soil Vapor Location
- Soil Boring Location
- Hand Auger Location

N

60 30 0 60

Scale in Feet

Installation of soil borings and monitoring wells, sample collection methodologies and laboratory analytical parameters, and other aspects of the proposed Data Gap Investigation will be performed in accordance with the NYSDEC-approved RI Work Plan (ERM, 2000). However, review of Table 6-10 demonstrates that several VOCs detected in soil and ground water at the Site have ionization potentials greater than the ionization potential of a standard PID lamp (typically 10.2 to 10.8 eV). Therefore, ERM proposes to use flame ionization detectors (FIDs) or PIDs with lamps rated at 11.4 eV or higher for all future field screening of soil at the Site. Additionally, ERM proposes to collect and analyze another round of ground water samples for chemicals of concern as well as for various analytical parameters useful in evaluating the potential for natural attenuation at the Site. Parameters useful in evaluating natural attenuation processes include selected VOCs and their degradation products, common electron donors (ammonia, ferrous iron, soluble manganese, and sulfide), common electron acceptors (DO, ferric iron, nitrate, sulfate, manganese), alkalinity, carbon dioxide, methane, hydrogen, dissolved organic carbon, total organic carbon, total dissolved solids, hardness, base cations, and base anions.

Performance of the Data Gap Investigation (DGI) is recommended prior to implementation of IRMs at the Site in order to facilitate development of cost-effective IRMs. The results of the DGI will be compiled into a report that will be submitted to NYSDEC and other relevant parties for review and comment. The DGI Report will include a revised discussion of potential IRMs if appropriate based on the results of the DGI. Potential IRMs will not be initiated at the Site prior to receipt of approval from NYSDEC.

8.0 POTENTIAL INTERIM REMEDIAL MEASURES

The results of investigative work completed to date document occurrence of several VOCs and SVOCs at concentrations above applicable SCGs in soil and shallow overburden ground water at the Site. Potential IRMs presented below will address each area of concern in general accordance with NYSDEC Technical and Administrative Guidance Memorandum Number 4042 on IRMs (NYSDEC, 1992). Areas of concern at the Site are differentiated by chemicals of concern as well as by accessibility. The primary objective of the potential IRMs discussed in this section is the elimination or reduction of potential on-going sources of VOCs to ground water. The potential IRMs are designed primarily as temporary and/or partial responses to identified problems, although some may be suitable as final remedies. The potential IRMs discussed below are tentative and subject to modification pending results of the proposed Data Gap Investigation.

8.1 GB-10 AND FORMER DRUM STORAGE AREA

Affected soils are located around soil boring GB-10 adjacent to the asphalt access road that leads to the western portion of the facility. Soil borings in this area indicate that VOC-affected soil extends north into the former drum storage area as shown by samples from borings GB-3 and GB-4 and more recently soil borings GB-34 and GB-36. ERM proposes soil excavation and off-site disposal as the IRM for VOC- and SVOC-affected soils in this area. The impacted soils with the highest concentration in soil boring GB-10 (4,100 mg/kg) are located at 1-2 feet bgs with concentrations decreasing to 250 mg/kg at 14 to 15 bgs. These soils may be a continuing source to adjacent soil and shallow overburden ground water in this area. Perforated piping and riser will be installed in the excavated area prior to backfilling. This may provide a means of sampling shallow ground water if encountered and may allow for more rapid and cost-effective implementation of in-situ remedial methodologies to enhance natural degradation and restore ground water quality, if appropriate.

Excavation adjacent to the building will be limited by the building foundation/footer. A geotechnical evaluation of subsurface soils immediately adjacent to the foundation/footer will be performed prior to excavation activities to determine the impact of excavation adjacent to the building foundation system. It is critical that the building foundation system not be undermined during the excavation operations. Excavation at the building wall can extend down vertically to the footer and slope away from the bottom of the footer at a slope determined by the geotechnical soils evaluation.

8.2 *FORMER VARNISH UST AREA*

Soils affected by VOCs associated with varnish in this area are located between 12-16 feet bgs and immediately adjacent to the west end of the building. ERM proposes limited excavation and off-site disposal as the IRM for the impacted soils in this area. The proximity of these soils to the building foundation in this area may limit the potential to remove all affected soils. Impacted soils with the highest detected concentration of xylenes (2,900 mg/kg) are located 12-16 feet bgs at soil boring GB-2. Similar to the GB-10 area, perforated piping and riser will be installed prior to back filling of the excavated area. This may provide a means of sampling shallow ground water if encountered and may allow for more rapid and cost-effective implementation of in-situ remedial methodologies to enhance natural degradation and restore ground water quality, if appropriate.

The excavation adjacent to the building may be limited by the building foundation/footer. A geotechnical evaluation of subsurface soils will be performed in the DGI to determine the impact of excavation adjacent to the building foundation system. It is critical that the building foundation system not be undermined during the excavation operations. Excavation at the building wall can extend down vertically to the footer and slope away from the bottom of the footer at a slope determined by the geotechnical soil evaluation.

8.3 *VARNISH PIT/TRUCK BAY AREA*

Soils around the varnish pit are impacted primarily with VOCs at depths ranging from 11-16 feet BGS. Given that the facility is an operating facility excavation to these depths inside the building may not be technically feasible. Remedial alternatives that may be viable for this area of concern include in-situ methods or combination of methods such as ground water recovery, multi-phase extraction, air sparging, chemical oxidation, and/or enhanced natural degradation.

ERM proposes an IRM for this area that will be a component of the final remedy and provide a measure to lessen the potential risk of migration of constituents from this source area. The proposed IRM tentatively consists of three components:

- thorough cleaning of the varnish pit;
- limited soil excavation in the truck bay area; and
- recovery of shallow overburden ground water recovery from beneath the building slab in the vicinity of the varnish pit and the truck bay (if necessary).

Any fluids present in the varnish pit or the truck bay excavation will be recovered using a vacuum truck and transported off-site for proper disposal or recycling.

If necessary, ERM proposes to recover shallow, perched overburden ground water through installation of ground water recovery wells and pumps in the varnish pit and the east end of the truck bay. These locations are tentatively proposed based on the occurrence of structural lows in these areas as mapped on the top of the silty clay/clay unit. These lows represent likely areas of accumulation of DNAPL (if present) and affected ground water. Recovered fluids will be discharged to the local sanitary sewer if approved by the local Public-Operated Treatment Works (POTW) or treated on-site if necessary to facilitate discharge to the POTW.

8.4 *IMPLEMENTATION OF IRMs*

The general scope of work to implement the IRMs described above will include the following steps:

- preparation of a Work Plan outlining IRM activities for each area of concern;
- excavation of affected soils;
- collection of confirmatory soil samples from excavated areas;
- installation of perforated piping and riser in excavated areas;
- backfilling of excavated areas with compacted clean fill;
- transportation of excavated affected soils off-site to an approved treatment, storage, and disposal facility;
- well installations, well development, and saturated zone testing;
- installation of ground water recovery system equipment (if appropriate);
- installation of ground water treatment system (if appropriate); and
- collection and analysis of treatment system water samples (if appropriate).

The removal or reduction of fill and soil source areas to the maximum extent practicable should result in improved shallow overburden ground water quality for the constituents of concern in each area. It is proposed that a quarterly ground water monitoring program be instituted following the IRM implementation at the Site to monitor ground water quality and verify the efficacy of the IRMs and to evaluate if additional remedial measures will be required to achieve Site clean-up objectives for soil and ground water. At the conclusion of four quarterly sampling events (approximately one year), ERM proposes to submit a report on the results of the sampling and analysis. The report will include a section on any proposed follow-up work deemed necessary. This report may be incorporated into the final RI/FS or the Remedial Action Plan developed for the Site depending upon project timing.

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Appendix A
Soil Boring Logs From Previous Investigations

Environmental Resources Management

GB-1

WO No:	U4304.04.01	Date Completed	9 Jun 98		
oject	Grief Tonawanda Phase II	Client	Grief Brothers Corporation		
Location	Tonawanda, New York	Bore Depth (ft)	28'	Diameter	2"
North	N/A	Surface Elev	N/A		
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	Push Probe	Driller	N/A	Geologist	Lance Traves
Drilling Co.	Summit Drilling				

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery %	Sample Description/Classification	
							Feet Below Ground Surface	
0								
	3-4'		100	1	2-4'	20	3-4'	Light brown, dry, medium stiff clay with stones.
								Slight odor.
	4-8'		50	2	4-8'	100	4-8'	Reddish-brown with mottling, dry, medium stiff clay.
5								No odor.
	8-12'		3	3	8-12'	100	8-12'	Reddish-brown, moist, grey mottling, soft clay.
								No odor.
10								
			100	4		100	12-16'	Reddish-brown, moist, soft clay with gravel/
								fines lenses @ 13-14' and 15-16'. Solvent
								odor in lenses
15								
			12	5		90	16-20	Reddish-brown, moist, soft clay with gravel/
								fines lenses . Solvent odor in lenses
20	20-21'		7	6	20-21'	90	20-21'	Reddish-brown, soft clay, moist. No odor.

Environmental Resources Management

GB-1

WO No:	U4304.04.01	Date Completed	9 Jun 98				
Project	Grief Tonawanda Phase II	Client	Grief Brothers Corporation				
Location	Tonawanda, New York	Bore Depth (ft)	28'	Diameter	2"		
North	N/A	Surface Elev	N/A				
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	Push Probe	Driller	N/A	Geologist	Lance Traves		
Drilling Co.	Summit Drilling						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery %	Sample Description/Classification
							Feet Below Ground Surface
25	24-26'		NA	7	24-26'	60	24-26' Reddish-brown, soft clay, moist. No odor.
	26-28'		4	8	26-28'	60	26-28' Fine-grained yellow sand. No odor.
							End of boring at 28' Below Ground Surface (BGS)
30							Note: Background PID 1 ppm
							Collected water sample by extending a stainless
							steel screen into the boring, and extracted a water
							sample with Tigon tubing and a vacuum pump.
35							
40							
45							

Environmental Resources Management

GB-2

WO No:	U4304.04.01	Date Completed	9 Jun 98				
Project	Grief Tonawanda Phase II	Client	Grief Brothers Corporation				
Location	Tonawanda, New York	Bore Depth (ft)	20'	Diameter	2"		
North	N/A	Surface Elev	N/A				
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	Push Probe	Driller	N/A	Geologist	Lance Traves		
Drilling Co.	Summit Drilling						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery %	Sample Description/Classification
							Feet Below Ground Surface
0				1		10	0-4' Not sampled. Stone and fines fill. No odor.
	4-8'		50	2	4-8'	90	4-8' Reddish-brown, dry, medium stiff clay. No odor.
5							
	8-12'		70	3	8-12'	90	8-12' Reddish brown with grey mottling, dry, medium
							stiff clay. Slight solvent odor.
10							
	12-16'		120.0	4	12-16'		12-16' Brown, moist, soft clay with wet, small gravel
							lense at approximately 14'. Solvent odor.
15							
	16-20'		75	5	16-20'		16-20' Silty, wet, brown clay with sand and gravel lense.
							Solvent odor
20							End of boring at 20' Below Ground Surface (BGS)

Environmental Resources Management

GB-3

WO No:	U4304.04.01	Date Completed	9 Jun 98				
Project	Grief Tonawanda Phase II	Client	Grief Brothers Corporation				
Location	Tonawanda, New York	Bore Depth (ft)	12'	Diameter	2"		
North	N/A	Surface Elev	N/A				
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	Push Probe	Driller	N/A	Geologist	Lance Traves		
Drilling Co.	Summit Drilling						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery %	Sample Description/Classification
							Feet Below Ground Surface
0				1		10	0-4' Not sampled. Gravel/stone fill. Odor and staining.
					-		
				2		10	4-8' Gravel/stone fill. Odor and staining.
5							
	8-10'		20	3	8-10'	100	8-10' Wet gravel fill grading to moist, reddish-brown,
							soft clay. Black staining and petroleum odor in
							wet gravel fill.
10	10-12'		2	4	10-12'		Wet gravel fill grading to moist, reddish-brown,
							soft clay. Black staining and petroleum odor in
							wet gravel fill.
							End of boring at 28' Below Ground Surface (BGS)
15							
							Note: Background PID 1 ppm
							Collected water sample with temporary well and
							a vacuum pump.
20							

Environmental Resources Management

GB-4

WO No:	U4304.04.01	Date Completed	9 Jun 98				
Project	Grief Tonawanda Phase II	Client	Grief Brothers Corporation				
Location	Tonawana, New York	Bore Depth (ft)	20'	Diameter	2"		
North	N/A	Surface Elev	N/A				
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	Push Probe	Driller	N/A	Geologist	Lance Traves		
Drilling Co.	Summit Drilling						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery %	Sample Description/Classification
							Feet Below Ground Surface
0	0-4'		60	1	0-4'	60	0-4' Stone fill, grading to brown, dry, medium stiff clay
							with stones. Solvent odor.
	4-8'		50	2	4-8'	10	4-8' Brown, dry, medium stiff clay grading to wet, silty
5							clay. Solvent odor.
10							
				3		0	12-20' Unable to collect sample (wet).
15							End of boring at 20' Below Ground Surface (BGS)
							Note: Background PID 1 ppm
							Collected water sample by extending a stainless
20							steel screen into the boring, and extracted a water
							sample with Tigon tubing and a vacuum pump.

Environmental Resources Management

GB-5

WO No:	U4304.04.01	Date Completed	9 Jun 98				
Project	Grief Tonawanda Phase II	Client	Grief Brothers Corporation				
Location	Tonawanda, New York	Bore Depth (ft)	20'	Diameter	2"		
North	N/A	Surface Elev	N/A				
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	Push Probe	Driller	N/A	Geologist	Lance Traves		
Drilling Co.	Summit Drilling						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery %	Sample Description/Classification	
							Feet Below Ground Surface	
0				1		20	0-4'	Gravel fill grading to fine sand backfill. No odor.
	4-8'		1.0	2	4-8'	50	4-8'	Fine sand backfill. No odor
5								
	8-12'		1	3	8-12'	60	8-12'	Wet, fine sand grading to reddish-brown clay.
								Solvent odor.
10								
	12-16'		1.0	4	12-16'	90	12-16'	Brown, wet, silty clay grading to reddish-brown,
								soft, silty clay. No odor.
15								
	16-20'		1	5	16-20'	100	16-20'	Reddish-brown, moist, soft, silty clay. No odor
	20-24'		1	6	20-24	100	20-24'	Reddish brown, soft clay grading to wet, silty clay.
20								End of boring at 20' Below Ground Surface (BGS)
								Note: Background PID 0.5 ppm

Environmental Resources Management

GB-6

WO No:	U4304.04.01	Date Completed	9 Jun 98				
Project	Grief Tonawanda Phase II	Client	Grief Brothers Corporation				
Location	Tonawanda, New York	Bore Depth (ft)	12'	Diameter	2"		
North	N/A	Surface Elev	N/A				
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	Push Probe	Driller	N/A	Geologist	Lance Traves		
Drilling Co.	Summit Drilling						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery %	Sample Description/Classification
							Feet Below Ground Surface
0	0-4'		0.5	1	0-4'		0-4' Topsoil grading to brown, medium stiff, dry, sandy
							clay. No odor.
	4-8'		0.5	2	4-8'		4-8' Brown, medium stiff, dry, sandy clay grading to
5							soft brown clay with stones.
							8-12' Refusal. Possible pad.
10							
							End of boring at 12' Below Ground Surface (BGS)
							Note: Background PID 0.5 ppm
15							
20							

Environmental Resources Management

GB-7

WO No:	U4304.04.01	Date Completed	9 Jun 98				
Project	Greif Tonawanda Phase II	Client	Grief Brothers Corporation				
Location	Tonawanda, New York	Bore Depth (ft)	24'	Diameter	2"		
North	N/A	Surface Elev	N/A				
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	Push Probe	Driller	N/A	Geologist	Lance Traves		
Drilling Co.	Summit Drilling						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery %	Sample Description/Classification
							Feet Below Ground Surface
0	0-4'		0.2	1	0-4'	100	0-4' Topsoil grading to brown, dry, sandy clay. No odor.
	4-8'		0.2	2	4-8'	100	4-8' Brown, dry, medium stiff clay with trace stone.
5							No odor.
	8-12'		0.5	3	8-12'	100	8-12' Brown, dry, medium stiff clay with trace stone
							grading to moist, silty clay. No odor
10							
	12-16'		0.5	4	12-16'	100	12-16' Brown with grey mottling, moist, soft, silty clay.
							No odor.
15							
	16-20'		0.3	5	16-20'	100	16-20' Brown, soft clay. No odor
20	20-24'		0.5	6	20-24'	100	20-24' Brown, soft clay. No odor
							End of boring at 24' Below Ground Surface (BGS)

Environmental Resources Management

GB-8

WO No:	D6711.00.01	Date Completed	19 Nov 98		
ject	Sonoco	Client	Sonoco		
cation	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-3				0-3'	3	0-6"	GRAVEL/ Fill material.
			0.1				6"-1'	Dark brown/grey FMC SAND, GRAVEL, some silt, dry.
			11.5				1-2'	Grey SILT, FMC SAND, Some fine gravel, dry, damp.
			0.0				2-3'	Lt.-med brown/grey SILT, FMC SAND, dry, damp.
	4-8		0.1		4-8'	4	4-5'	Med. brown/reddish CLAY, med. brown silt, fine sand, damp
5			0.0				5-6'	Medium brown/reddish CLAY, medium brown silt, no sand, damp.
			1.0				6-7'	Same as above, less silt.
			0.0				7-8'	Same as above.
	8-12'		0.1		8-12'	4	8-9'	Med. brown/red CLAY, med. brown silt, lt. brown, fine sand,
								fine gravel, damp.
10			0.1				9-10'	Dark brown/grey , loose, FMC SAND, gravel, some silt.
			0.0				10-11'	Medium brown SILT, CLAY, damp.
			0.0				11-12'	Medium brown/red CLAY, some silt, damp.
	12-16'		0.0		12-16'	2	12-14'	Med. brown, fine SAND & SILT, some fine gravel, damp.
							14-15'	Med. brown.red CLAY with some silt, damp to moist.
15			0.0				15-16'	Same as above.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-9

WO No:	D6711.00.01	Date Completed	18 Nov 98		
Project	Sonoco	Client	Sonoco		
Location	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'	4	0-6"	Grass.
			0.0				6"-1'	Dark brown soil/FMC SAND, some silt, small amt. of gravel, dry.
			0.0				1-2'	Med. brown, FMC SAND, little silt, no gravel, dry.
			0.0				2-3'	Same as above, increasing silt, dry.
			0.0				3-4'	Med. brown, sandy, SILT, FM SAND, dry.
5	4-8'		1.0		4-8'	4	4-5'	Same as above.
							5-6'	Med. brown/reddish SILT to CLAY, slightly damp.
							6-7'	Same as above, increase in CLAY, damp.
							7-8'	Same as above.
	8-12'		0.1		8-12'	4	8-9'	Med. brown to reddish CLAY, some silt, damp.
10							9-10'	Same as above, damp.
							10-11'	Med. brown/reddish SILT & CLAY, damp.
							11-12'	Same as above.
	12-16'		0.1		12-16'	4	12-13'	Med. to dark brown CLAY, damp to slightly moist.
							13-14'	Same as above, some FM SAND, lt. brown/tan.
15							14-15'	Med. to dark brown CLAY, some FM sand, lt. brown/tan
								damp to moderately moist.
							15-16'	Same as above.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-10

WO No:	D6711.00.01	Date Completed	19 Nov 98				
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"		
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner		
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick		
Drilling Co.	Summitt Drilling Co.						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'		0-6"	Grass, soil.
						3	6"-1'	Dark brown soil, FMC SAND, gravel, dry.
			15.0				1-2'	Dark brown/grey FMC SAND, gravel, some larger rock fragments,
								dry, petroleum odor.
			0.0				2-4'	Lt. to med. brown sandy SILT, fine sand, slightly damp.
5	4-7'		0.0		4-7'	3	4-5'	Med. brown.reddish to grey SILT, some fine sand, slightly damp.
							5-6'	Same as above.
							6-7'	Med. borwn.reddish CLAY, damp.
	7-10'				7-10'	3	7-7.5'	Med. brown/reddish CLAY, damp.
			12.0				7.5-8'	Seme SILT, FMC sand, gravel, dry.
10							8-9'	Med. brown/reddish CLAY, damp.
							9-10'	Same as above.
	10-13'				10-13'	3	10-11'	Med. brown silty CLAY, some fine sand, damp.
							11-12'	Med. brown to reddish/grey silty CLAY, very moist.
							12-12.5'	Med./dark brown/grey, FMC SAND, gravel, some silt, dry.
15							12.5-13'	Med. brown/reddish silty CLAY, moist.
	13-16'				13-16'		13-14'	Med. brown silty CLAY, some fine sand, damp.
			700.0				14-15'	Dark brown/grey FMC SAND, gravel, silt, petroleum odor.
							15-16'	Medium brown/reddish grey silty CLAY.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-11

WO No:	D6711.00.01	Date Completed	18 Nov 98		
Project	Sonoco	Client	Sonoco		
Location	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Rick	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'		0-6"	Grass
			0.0			1	6"-1'	Med. to dark brown SILT, some FM sand, dry.
			0.0				1-2'	Loose, limestone GRAVEL, med. to dark brown silt, FM sand, dry,
								~1-2" section of gravel.
			0.0				2-4'	Medium to dark SILT, FM SAND, dry.
5	4-8'		0.0		4-8'	4	4-5'	Same as above, becoming more clay.
			0.0				5-8'	Med. to dark brown/reddish CLAY, slightly damp.
	8-12'		0.0		8-12'	4	8-9'	Med. brown/reddish CLAY, damp.
			0.0				9-12'	Med. brown/reddish CLAY, damp to moist.
10								
	12-16'				12-16'	4	12-13'	Med. brown/reddish CLAY, damp to moist.
							13-14'	Med. brown/reddish CLAY, becoming slightly more moist.
							14-16'	Same as above, but much softer.
15								
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-12

WO No:	D6711.00.01	Date Completed	19 Nov 98		
oject	Sonoco	Client	Sonoco		
ocation	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'		0-6"	Grass.
			0.0			4	6"-1'	Dark brown FMC SANDy soil, trace fine gravel, dry.
			0.0				1-2'	Lt. to med. grey fine SAND, SILT, no gravel, dry to damp.
			0.0				2-3'	Same as above, increase in fine sand.
			0.0				3-4'	Med. to dark brown SILT, fine SAND, dry to damp.
5	4-8'		0.0		4-8'	4	4-5'	Med. brown SILT, fine SAND, to red/brown CLAY, dry to damp.
			0.0				5-7'	Med. brown/reddish CLAY, little to no silt, dry damp.
			0.0				7-8'	Med. brown/reddish CLAY, very hard, dry, damp.
	8-12'		0.0		8-12'	4	8-9'	Med. brown/reddish CLAY, trace silt, damp.
			0.0				9-10'	Same as above, trace grey silt.
10			0.0				10-11'	Med. brown, fine sandy SILT, damp.
			0.0				11-12'	Med. brown, fine SAND & SILT to brown/red clay,
								damp, slightly moist.
	12-16'		0.0		12-16'		12-13'	Med. brown/slightly reddish silty CLAY, moist.
			0.0				13-15'	Same as above.
15							15-16'	Med. brown/reddish silty CLAY, trace lt. to med. brown fine
								sand, moist.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-13

WO No:	D6711.00.01	Date Completed	19 Nov 98		
oject	Sonoco	Client	Sonoco		
ocation	Tonawanda, New York	Bore Depth (ft)	8'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'		0-6"	Concrete.
						2	6"-1'	Mix concrete, gravel, FMC sand.
							1-3'	Dark brown to black SILT, GMC sand, gravel, wet, oily liquid
								present, petroleum-like odor present.
							3-4'	Med. brown SILT, FM sand, damp.
5	4-8'		0.0			4	4-5'	Dark brown/grey SILT, FMC sand, gravel, wet.
								Material fill from upper portion of boring.
			0.0				5-6'	Brown to reddish CLAY, damp, some silt and fine sand.
			0.0				6-8'	Brown to reddish CLAY, damp.
								End of boring at 8' Below Ground Surface (BGS)
10								
15								
20								

Environmental Resources Management

GB-14

WO No:	D6711.00.01	Date Completed	19 Nov 98		
ject	Sonoco	Client	Sonoco		
cation	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A.
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Rick	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-3'				0-3'		0-6"	Grass
			0.0			3	6"-1'	Med to dark brown sandy SILT, some FM gravel, dry.
			0.0				1-2'	Med. brown sandy SILT, some gravel, dry.
			0.0				2-3'	Med. brown SILT, very little FM sand, no gravel, dry.
	3-7'		0.0		3-7'	3	3-5'	Med. brown SILT & FM SAND, dry, large increase in sand.
5			0.0				5-6'	Med. brown sandy SILT, FM sand, no gravel, dry.
			0.0				6-7'	Same as above, but slightly damp.
	7-10'		0.5		7-10'	3	7-8'	Med. brown sandy SILT, reddish clay, slightly damp.
			2.5				8-9'	Same as above, increase in clay, damp to moist.
			5.5				9-10'	Same as above, increase in clay, damp to moist.
10	10-13'		2.5		10-13'	3	10-11'	Brown.red CLAY, lt. to med. brown, sandy silt, damp.
			0.5				11-13'	Med./dark brown/reddish CLAY, moist.
	13-16'		3.5	1	13-16'	2	13-16'	Med./dark brown/reddish CLAY, moist.
15								
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-15

WO No:	D6711.00.01	Date Completed	18 Nov 98				
Project	Sonoco	Client	Sonoco				
cation	Tonawanda, New York	Bore Depth (ft)	15'	Diameter	2"		
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner		
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	GeoProbe	Driller	Rick	Geologist	Chris Sturick		
Drilling Co.	Summitt Drilling Co.						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'		0-6"	Grass, loose soil.
			0.0			3	6"-1'	Dark brown soil, FMC SAND, some silt, dry.
			0.0				1-2'	Med. to dark brown SAND & SILT, FM sand, damp.
			0.0				2-3'	Med. brown silty SAND, Increasing in MF sand, some damp.
								rock fragments, damp.
5							3-4'	Med. brown sandy SILT, MF sand less, increasing in silt, some
								grey streaking.
	4-7'		450.0		4-7'	3	4-5'	Med. brown sandy SILT, MF sand, samp, strong solvent-like odor.
			15.0				5-6'	Same as above, solvent-like odor present.
			12.0				6-7'	Same as above, solvent-like odor present.
10	7-13'		7.5		7-13'	3	7-8'	Med. brown, sandy SILT, FM sand, damp, solvent-like odor .
			0.0				8-9'	Med. brown SILT & CLAY, trace FM SAND, damp, trace odor.
			0.0				9-10'	Same as above, little to no sand.
			110.0				10-11'	Med. brown, sandy SILT, FM sand, some clay, damp, strong
								solvent odor.
15			10.0				11-12'	Med. brown/red CLAY, silt, damp to moist, slight solvent odor.
			2.5				12-13'	Same as above.
	13-15'		60.0		13-15'	2	13-14'	Med. brown.reddish SILT & CLAY, damp to moist.
								Poor recovery, odor present.
			60.0				14-15'	Same as above. Odor.
20								

Environmental Resources Management

GB-16

WO No:	D6711.00.01	Date Completed	18 Nov 98				
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"		
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner		
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	GeoProbe	Driller	Rick	Geologist	Chris Sturick		
Drilling Co.	Summitt Drilling Co.						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-3'				0-3'		0-6"	Grass, loose soil, some gravel.
			0.0			2.5	6"-1'	Dark brown, FMC SANDy soil, some silt, dry.
			0.0				1-2'	Med. brown sandy SILT, FMC sand, dry.
			0.0				2-3'	Same as above, but becoming moist.
	4-7'		0.2		4-7'	2.5	4-5'	Med. brown SILT, lt. to med. brown SAND, FM sand, wet.
5								Sandy layer saturated.
			0.1				5-6'	Med. brown SILT, little reddish clay, some sand, slightly damp.
			0.1				6-7'	Same as above, slight increase in clay.
	7-10'		0.0		7-10'	3	7-8'	med. brown SILT & SAND, FM sand, very moist, ~3"
								of silt & sand.
10			0.0				8-10'	Med to darker brown CLAY, damp.
	10-13'				10-13'	0.2	10-13'	Med. to dark brown CLAY, damp to moist, poor recovery.
	13-16'		0.0		13-16'	2.3	13-14'	med. brown to lt. brown sandy SILT, FMC sand, very moist.
			0.1				14-15'	Med. to dark brown/reddish CLAY, damp to moist.
15							15-16'	Same as above, increasing moisture.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-17

WO No:	D6711.00.01	Date Completed	19 Nov 98				
iect	Sonoco	Client	Sonoco				
ation	Tonawanda, New York	Bore Depth (ft)	7'	Diameter	2"		
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner		
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A.		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	GeoProbe	Driller	Rick	Geologist	Chris Sturick		
Drilling Co.	Summitt Drilling Co.						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'		0-6"	Concrete.
						2.5	6"-1'	Mix of concrete and gravel, dry.
			13.5				1-2'	Dark brown to black FMC SAND, SILT and GRAVEL, wet.
								Black oily material mixed with sand, silt and gravel.
							2-4'	Med. brown FM SAND, silt, damp.
5	4-7'		2.5		4-7'	1.2	4-6'	Brown to grey sandy (fmc) SILT, gravel and rock fragments,
								wet. Poor recovery. Material from above (0-4') falling into
								this part of boring.
			0.0				6-7'	Brown to reddish SILT, CLAY, moist.
								End of boring at 7' Below Ground Surface (BGS)
10								
15								
20								

Environmental Resources Management

GB-18

WO No:	D6711.00.01	Date Completed	19 Nov 98				
ject	Sonoco	Client	Sonoco				
cation	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"		
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner		
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick		
Drilling Co.	Summitt Drilling Co.						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4				0-4		0-6"	Gravel, fill material.
						3.8	6"-1'	Dark brown, FMC SAND, silt, gravel, dry.
							1-3'	Lt. to med. silty SAND, lt. to med. brown sand, some gravel, dry.
							3-4'	Lt. to med. brown SILT, fine sand, few small gravel, damp.
	4-8'				4-8'	4.0	4-5'	Same as above.
5							5-6'	Dark brown, GRAVEL, FMC sand, silt. Lt. to med. brown silt,
								fine sand, gravel.
							6-7'	Med. to lt. brown SILT, fine sand, some fine gravel, damp.
							7-8'	Med. brown, silty CLAY, damp.
	8-12'				8-12'	3.5	8-9'	Med. brown, sandy SILT, FMC sand, some fine gravel, wet.
10							9-10'	Med. brown SILT, less sand, no gravel.
							10-12'	Med. brown/reddish CLAY, damp.
	12-16'				12-16'	0.8	12-13'	Med. brown/reddish SILT & CLAY, some fine sand, gravel.
							13-14'	Med. brown SILT & CLAY, some fine sand.
15								(Poor recovery. Possible in falling from higher in boring.
								Material pushed down through boring.)
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-19

WO No:	D6711.00.01	Date Completed	19 Nov 98		
Project	Sonoco	Client	Sonoco		
Location	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'		0-6"	Gravel. Dark brown/grey GRAVEL, FMC sand, dry.
						3.0	6"-1'	Med./dark brown, fine SAND, silt, damp.
							1-3'	Med/dark brown, fine SAND, silt, gravel and rock fragments, dry.
			3.5				3-4'	Grey GRAVEL and fill.
	4-7'				4-7'	2.0	4-5'	Same GRAVEL and fill.
5			7.0				5-6'	Same as above, but becoming wet.
							6-7'	Med brown to reddish silty CLAY, some fine sand, damp.
	7-10'		3.0		7-10'	2.5	7-8'	Med. brown/reddish CLAY, moist.
							8-9'	Same as above, but increasing in fine sand.
							9-10'	Same as above. Some large rock fragments (fill material).
10	10-13'		3.0		10-13'	2.0	10-11'	Med. brown/grey FMC SAND, gravel, silt, moist to wet.
							11-12'	Lt. to med. brown fine SAND, silt, some clay, damp.
							12-13'	Med. brown/reddish silty CLAY, some fine sand, damp.
	13-16'		3.0		13-16'		13-14'	Med. brown/reddish silty CLAY, some gravel & rock fragments,
								damp to moist.
15							14-15'	Med. brown/reddish silty CLAY, damp to moist.
							15-16'	Med brown/reddish CLAY, damp to moist.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-20

WO No:	D6711.00.01	Date Completed	19 Nov 98		
Project	Sonoco	Client	Sonoco		
Location	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'				0-4'	2.0	0-6"	Concrete. Concrete and dust from drilling through concrete.
							6"-1'	Black/dark brown FMC SAND, some gravel, dry.
							1-2'	Lt to med. brown FM SAND, silt, dry.
	4-8'				4-8'	1.5	4-8'	Lt. to med. brown, FMC SAND, some silt and gravel, dry.
5								Little recovery.
	8-12'				8-12'	2.0	8-9'	Lt. to med. brown FMC SAND, wet, becoming medium brown,
								silty clay.
10			200+				9-12'	Med. brown CLAY, little silt, moist to wet, strong odor.
	12-16'				12-16'	4.0	12-14'	Lt. to med. brown FMC SAND, gravel, some silt, wet.
								Strong solvent odor.
							14-15'	Lt. to med FMC SAND, less gravel, increase in silt, wet.
15			300.0				15-16'	Med. brown/red CLAY, fine sand, some silt, wet.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-21

WO No:	D6711.00.01	Date Completed	19 Nov 98		
Project	Sonoco	Client	Sonoco		
Location	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner
East	N/A	Riser Elev	N/A		
Screen	N/A	Length (ft)	N/A	Diameter	N/A.
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A
Riser	N/A	Length (ft)	N/A	Diameter	N/A
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick
Drilling Co.	Summitt Drilling Co.				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'					1.0	0-6"	Concrete. Poor recovery.
							6"-1'	Dark brown/black FMC SAND, gravel, some silt, dry
							1-4'	Med. brown SILT, FMC SAND, little to no gravel, damp.
	4-8'		8.0		4-8'	4.0	4-5'	Med./darker brown/grey SILT, some fine sand, little clay,
5								dry to damp, solvent odor present.
							5-6'	Lt./med. brown/some grey, fine sandy SILT, some clay,
								dry to damp, little odor.
							6-7'	Same as above, but increasing in fine sand, trace odor.
							7-8'	Med. brown/grey SILT, clay, dry to damp, trace odor.
10	8-12'		13.0		8-12'	4.0	8-8.5'	Med. brown SILT, CLAY, F SAND, moist, odor present.
							8.5-9'	Same as above, increase in fine sand, wet.
							9-10'	Med brown SILT, brown/red clay, damp.
							10-11'	Med. brown SILT, brown/red CLAY, damp.
			0.5				11-12'	Med. brown SILT, some to less brown clay, damp.
15	12-16'					3.0	12-13'	Poor recovery. Material from upper boring.
							13-14'	Med. brown silty CLAY, some fine sand, moist.
							14-15'	Med. brown/reddish CLAY, less silt, damp to moist.
			3.0				15-16'	Med. brown CLAY, damp to moist.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

GB-22

WO No:	D6711.00.01	Date Completed	19 Nov 98				
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)	16'	Diameter	2"		
North	N/A	Surface Elev	N/A	Sampler	Stainless/ Acetate Liner		
East	N/A	Riser Elev	N/A				
Screen	N/A	Length (ft)	N/A	Diameter	N/A		
Slot Size	N/A	Stabilized DTW	N/A	feet TOC	N/A		
Riser	N/A	Length (ft)	N/A	Diameter	N/A		
Drilling Method	GeoProbe	Driller	Dave	Geologist	Chris Sturick		
Drilling Co.	Summitt Drilling Co.						

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Sample ID	Graphic Log	PID Reading (PPM)	Split-Spoon #	Sample Depth (feet BGS)	Recovery (feet)	Sample Description/Classification	
							Feet Below Ground Surface	
0	0-4'					2.0	0-6"	Concrete.
							6"-1.5'	Black/dark brown FMC SAND, some silt and gravel, dry.
			110.0				1.5-4'	Lt./med. brown SILT, FM sand, dry to damp, some clay,
								strong solvent odor.
	4-8'		50.0			4.0	4-5'	Med. brown silty CLAY, dry to damp, solvent odor present.
5			50.0				5-6'	Lt./med. brown fine SAND, some silt, damp to dry, solvent odor.
							6-7'	Med. brown SILT, some clay, little fine sand, dry to damp.
								Solvent odor present.
			30.0				7-8'	Same as above, but increasing in sand.
	8-12'					4.0	8-9'	Lt./med. brown fine sandy SILT, some clay, damp to moist.
10								Solvent odor present.
							9-10'	Med. brown SILT, brown.red clay, damp, solvent odor present.
			100.0				10-11'	Med. brown SILT, some fine sand, some brown/red clay.
								Solvent odor present.
							11-12'	Med. brown CLAY, some silt, damp, solvent odor present.
15	12-16'					4.0	12-13'	Same as above.
			70.0				13-14'	Med. brown FMC SAND, silt, little gravel, wet, solvent odor.
							14-15'	Med. brown, soft, silty CLAY, moist to damp.
			110.0				15-16'	Med. brown, soft CLAY, moist to damp.
								End of boring at 16' Below Ground Surface (BGS)
20								

Environmental Resources Management

MW-1

WO No:	D6711.00.01	Date Completed		18 Nov 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		29'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		19'	Diameter	2"	
Drilling Method	Hollow Stem	Driller		Mike Pucci	Geologist	S. Pepling	
Drilling Co.	Summitt Drilling Co.	Drill Rig.		Davey DK-5			

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification	
								Feet Below Ground Surface	
0								0-1'	Grass
			0	5-5-8-12		1'-3'	1.2	1'-3'	SILT, medium brown, little clay, trace fine sand
									damp, medium
			0	6-10-7-15		3'-5'	2	3'-5'	SILT and CLAY, dark red, dry, stiff, some varved
									grey mottling, some medium brown, moist fine
5									sand stringers 0.05" thick at 3.7', 4.0', and 4.3'bgs
			0	6-10-12-17		5'-7'	2	5'-7'	SILT and CLAY, dark red brown, trace fine sand,
									stiff, dry-damp, some grey mottling varved
			0	5-9-10-16		7'-9'	1.6	7'-9'	CLAY, dark red brown, stiff, damp, some silt,
									varved little trace mottling
10			0	3-5-5-8		9'-11'	2	9'-11'	CLAY, medium dark red brown, medium, moist,
									little silt
			0	1-3-2-2		11'-13'	2	11'-12'	CLAY, medium dark red brown, soft, moist,
									little silt, a sand stringer <0.05' thick at 11.5'
			0	1-3-2-2		13'-15'	2	13'-15'	CLAY, medium dark red/grey/brown, moist, soft,
15									little silt
			0	1-1-1-2		15'-17'	2	15'-17'	CLAY, medium-dark red/grey/brown, moist, soft,
									little silt
			0	1-2-2-3		17'-19'	1.6	17'-19'	CLAY and SILT, medium red-brown, wet, soft
20			0	3-6-14-16		19'-21'	1.2	19'-21'	Very fine SAND, medium-red brown, wet, firm
									trace silt.
			0	2-2-2-5		21'-23'	0.9	21'-23'	Very fine-fine SAND, medium brown, wet, firm
									little silt
			0	1-5-13-18		23'-25'	1.6	23'-25'	As Above

Environmental Resources Management

MW-1 continued

WO No:	D6711.00.01	Date Completed		18 Nov 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		29'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		19'	Diameter	2"	
Drilling Method	Hollow Stem	Driller		Mike Pucci	Geologist	S. Pepling	
Drilling Co.	Summitt Drilling Co.	Drill Rig.	Davey DK-5				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification	
								Feet Below Ground Surface	
25									
			0	6-5-5-7		25'-27'	2	25'-27'	Very fine- fine SAND, medium brown, wet, firm
									little silt
			0	2-2-2-3		27'-29'	1.6	27'-28'	As Above
								28'-29'	SILT and CLAY, dark grey brown, wet, soft trace
30									fine gravel
									End of Boring @ 29' below ground surface
35									
40									
45									

Environmental Resources Management

MW-2

WO No:	U4301.01.07	Date Completed		18 Nov 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		40'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		19'	Diameter	2"	
Drilling Method	Hollow Stem	Driller	Mike Pucci		Geologist	S. Pepling	
Drilling Co.	Sumitt Drilling Co.	Drill Rig: Davey DK-5					

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)		Sample Description/Classification
								Feet Below Ground Surface	
0									
									Asphalt
			0	12-14-18-24		2'-4'	2	2'-4'	SILT, medium brown, damp, medium, little clay
									varved some grey mottleing, 8 fine sand
									stingers, medium brown (damp), <0.05' thick
5			0	10-14-11-20		4'-6'	2	4'-6'	SILT, medium red brwon, damp, stiff, varved
									some grey mottlong, some clay
			0	6-8-8-11		6'-8'	2	6'-8'	SILT, medium red brown, damp, silt, varved some
									grey mottling, some clay
			0	3-4-4-5		8'-10'	1.3	8'-10'	SILT,red brown, moist, medium, some clay
10									
			0	2-3-2-3		10'-12'	2	10'-12'	SILT, dark red-brown, moist, soft, some clay
			0	2-2-2-2		12'-14'	1.8	12'-14'	SILT, dark red brown, moist, soft, some clay
15			0	2-2-1-2		14'-16'	1.7	14'-16'	SILT and CLAY, dark-red-brown, moist-very
									moist, very soft
			0	1-1-1-2		16'-18'	2	16'-18'	SILT and CLAY, darkbrown-red, very moist,
									very soft
			0	3-4-7-10		18'-20'	2	18'-19.8'	SILT and CLAY, medium brown, very moist, soft
20								19.8'-20'	Fine SAND and SILT, medium brown, very
									moist, firm
			0	5-4-4-6		20'-22'	1.3	20'-22'	Fine SAND and SILT,yellow to red brown, very
									moist, firm
			0	12-5-6-7		22'-24'	1.4	22'-24'	Fine SAND, red-brown, very moist, firm, some silt

Environmental Resources Management

MW-2 continued

WO No:	D6711.00.01	Date Completed		18 Nov 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		40'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	SEE ATTACHED MAP
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		19'	Diameter	2"	
Drilling Method	Hollow Stem	Driller		Mike Pucci	Geologist	S. Pepling	Location Sketch Map
Drilling Co.	Summitt Drilling Co.	Drill Rig.	Davey DK-5				

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification	
								Feet Below Ground Surface	
25			0	1-3-4-5		24'-26'	1.7	24'-25'	Fine SAND, red-brown, very moist, firm, some silt
								25'-26'	SILT and CLAY, moist, stiff, trace fine gravel
			0	3-4-5-7		26'-28'	1.3	26'-28'	SILT and CLAY, medium brown, moist, stiff, fine
									gravel
			0	4-6-6-9		28'-30'	1.8	28'-30'	SILT and CLAY, medium brown, moist, stiff,
30									trace fine gravel
			0	3-3-5-7		30'-32'	1.9	30'-32'	SILT and CLAY, medium brown, moist, stiff,
									trace fine gravel
			0	3-5-7-10		32'-34'	1.5	32'-34'	SILT and CLAY, medium brown, moist, stiff,
									trace fine gravel
35			0	2-3-5-10		34'-36'	2	34'-36'	SILT and CLAY, medium brown, moist, stiff
									trace fine gravel
			0	3-5-6-10		36'-38'	2	36'-38'	SILT and CLAY, medium brown, moist-very moist
									stiff, trace fine gravel
			0	2-3-5-10		28'-40'	2	38'-40'	SILT and CLAY, medium brown, moist, stiff,
40									trace fine gravel
									End of Boring @ 40' BGS
45									

Environmental Resources Management

MW-3

WO No:	D6711.00.01	Date Completed		1 Dec 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		36'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	SEE ATTACHED MAP
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		25'	Diameter	2"	
Drilling Method	Hollow Stem	Driller	Mike Pucci		Geologist	S. Pepling	Location Sketch Map
Drilling Co.	Summitt Drilling Co.	Drill Rig.	Davey DK-5				

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification
								Feet Below Ground Surface
0								Grass
			0	2-3-3-5		0-2'	0.9	0-2' SILT, medium brown, moist, soft, little clay, trace
								fine sand, trace fine gravel
			0	3-5-5-6		2'-4'	1	2'-4' SILT, medium-dark brown, damp, soft, some
								orange-grey mottling, some clay
5			0	4-6-6-12		4'-6'	1.9	4'-6' CLAY, medium-dark brown, medium damp, grey
								mottling, 9 sand lenses 0.05' thick - medium &
								fine sand, damp-mosit, little silt
			0	5-8-9-17		6'-8'	1.8	6'-8' CLAY, medium-dark red brown, damp, stiff,
								varved some grey mottling, little silt
10			0	5-9-8-12		8'-10'	1.6	8'-10' CLAY, medium-red brown, damp, stiff, varved
								some grey mottling, little silt
			0	4-5-4-5		10'-12'	1.9	10'-12' CLAY, medium red brown, damp, stiff, little silt
			0	2-2-2-4		12'-14'	2	12'-14' CLAY, medium red brown, very moist-wet, soft,
								some silt
15			0	1-2-3-1		14'-16'	2	14'-16' CLAY, medium red brown, very moist-wet, soft,
								some silt
			0	1-1-2-1		16'-18'	2	16'-18' CLAY, medium red brown, wet, very soft, some
								silt
			0	1-3-3-2		18'-20'	2	18'-20' CLAY, mediium red-brown to brown, wet, soft,
20								some silt
			0	1-1-2-3		20'-22'	1.8	20'-21.1' CLAY, med brown-red, wet, very soft, some silt
								21.1'-21.4' Fine SAND and SILT, med brown red, wet, firm
								21.4'-22' CLAY, med brown-red, wet, very soft, some silt
			0	3-9-5-7		22'-24'	2	22'-24' Fine SAND, med red-brown, wet, firm, some silt

Environmental Resources Management

MW-3 continued

WO No:	D6711.00.01	Date Completed	1 Dec 98				
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)	36'	Diameter	8.25"		
North	N/A	Surface Elev	N/A	Sampler	S/S	SEE ATTACHED MAP	
East	N/A	Riser Elev	N/A				
Screen	Schedule 40 PVC	Length (ft)	10'	Diameter	2"		
Slot Size	10-Slot	Stabilized DTW	N/A	feet TOC	N/A		
Riser	Schedule 40 PVC	Length (ft)	25'	Diameter	2"		
Drilling Method	Hollow Stem	Driller	Mike Pucci	Geologist	S. Pepling	Location Sketch Map	
Drilling Co.	Summitt Drilling Co.	Drill Rig	Davey DK-5				

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification	
								Feet Below Ground Surface	
25			0	1-1-2-1		24'-26'	2	24'-26'	Fine SAND, medium brwon-red, wet soft, some
									silt
			0	1-1-2-3		26'-28'	1.8	26'-28'	Fine SAND and SILT, MED red-brwon, wet, soft
			0	2-3-1-1		28'-30'	2	28'-30'	Fine SAND, medium red-brown, wet, firm, some
30									silt
			0	2-4-3-5		30'-32'	2	30'-32'	Fine SAND, medium red-brown, wet, firm, some
									silt
			0	2-4-3-2		32'-34'	2	32'-34'	Fine SAND, medium red-brown, wet, firm, some
									silt
35			0	5-16-21-24		34'-36'	2	34'-35.5'	Fine SAND, mediuum red-brwon, wet, firm, some
									silt
								35.5'-36'	Fine & coarse SAND, medium grey, wet,
									compact, trace silt
									End of boring @ 36' BGS
40									
45									

Environmental Resources Management

MW-4

WO No:	D6711.00.01	Date Completed		3 Dec 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		30'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	SEE ATTACHED MAP
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		19'	Diameter	2"	
Drilling Method	Hollow Stem	Driller	Mike Pucci		Geologist	S. Pepling	Location Sketch Map
Drilling Co.	Summitt Drilling Co.	Drill Rig	Davey DK-5				

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification	
								Feet Below Ground Surface	
0									
			0						Asphalt
			0	4-3-19-18		2'-4'	1.7	2'-3.5'	SILT and CLAY, medium brwon, damp, stiff,
									some grey mottleing varved
5								3.5'-4'	2 Medium brown, fine sand stringers <0.05' thick
			0	7-15-14-13		4'-6'		4'-6'	CLAY, medium red-brown, damp, hard, some
									grey mottling varved
			0	3-5-4-7		6'-8'	1.8	6'-7'	CLAY, medium red-brown, damp, stiff, some
									varved some grey mottling, some silt
10								7'-8'	CLAY, medium brown, damp, stiff, some silt
									becomes moist at 6.8' BGS
			0	2-3-4-4		8'-10'	1.2	8'-10'	CLAY, medium brwon, moist, soft, some silt
			0	1-1-2-3		10'-12'	1.8	10'-12'	CLAY & SILT med red-brown, moist, very soft
			0	1-2-2-1		12'-14'	1.8	12'-14'	CLAY & SILT, med red-brown, moist, very soft
15			0	1-3-2-1		14'-16'	2	14'-16'	CLAY & SILT, med red-brown, very moist, very
									soft
			0	1-1-1-1		16'-18'	2	16'-18'	CLAY & SILT, medium red-brown to brown-red
									very moist, very soft
			0	1-1-3-5		18'-20'	2	18'-19.2'	CLAY & SILT, med red-brown, very moist, soft
20								19.2'-20'	Fine SAND and SILT, med brown red, wet, firm
			0	14-44-28-21		20'-22'	2	20'-22'	Fine SAND & SILT, medium brown, wet, very
									compact
			0	3-4-9-4		22'-24'	1	22'-24'	Fine SAND & SILT, medium brown, wet, firm

Environmental Resources Management

MW-4 continued

WO No:	D6711.00.01	Date Completed		3 Dec 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		30'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	SEE ATTACHED MAP
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		19'	Diameter	2"	
Drilling Method	Hollow Stem	Driller		Mike Pucci	Geologist	S. Pepling	Location Sketch Map
Drilling Co.	Summitt Drilling Co.	Drill Rig	Davey DK-5				

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification	
								Feet Below Ground Surface	
25			0	1-3-6-3		24'-26'	1.5	24'-26'	SILT and Fine SAND, medium brown, wet, stiff
			0	3-3-3-5		26'-28'	2	26'-27.3'	SILT & fine SAND, medium brown, wet stiff
								27.3'-28'	SILT & CLAY, med brown, very moist, stiff.
									trace fine gravel
30			0	3-2-2-3		28'-30'	1.8	28'-30'	SILT & CLAY, med brown, very moist, stiff.
									trace fine gravel
									End of boring @ 30' BGS
35									
40									
45									

Environmental Resources Management

MW-5

WO No:	D6711.00.01	Date Completed		3 Dec 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		28'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		18'	Diameter	2"	
Drilling Method	Hollow Stem	Driller	Mike Pucci		Geologist	S. Pepling	
Drilling Co.	Summitt Drilling Co.	Drill Rig	Davey DK-5				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification	
								Feet Below Ground Surface	
0									Grass
			0	3-6-6-7		0-2'	1.1	0-2'	SILT, medium brwon to dark brwon, damp, firm
									little fine sand, plant roots
			0	5-7-10-18		2'-4'	1.4	2'-4'	SILT, medium brown, damp, medium, some grey
									mottling varved, some clay
5			0	10-16-17-27		4'-6'	1.6	4'-6'	CLAY & SILT, medium red-brown, , damp,
									hard, some grey mottlong varved
			0	6-12-11-18		6'-8'	1.6	6'-8'	CLAY & SILT, medium red -brwon, damp,
									medium, some grey mottling varved
			0	3-7-8-11		8'-10'	1.4	8'-10'	CLAY & SILT, medium red-brwon, damp,
10									medium, some grey mottling varved
			0	3-4-5-6		10'-12'	2	10'-12'	CLAY & SILT, medium brown, damp, medium
									some grey mottling
			0	2-3-4-4		10'-12'	1.8	12'-14'	CLAY, medium brown, moist, medium, some silt
15			0	2-3-3-3		14'-16'	2	14'-16'	CLAY, medium red-brown, moist, medium, some
									silt
			0	3-2-3-3		16'-18'	2	16'-17.7'	CLAY & SILT, medium red-brown, moist - very
									moist, soft
			0	1-1-3-5		18'-20'	2	17.7'-18'	SILT & fine SAND, medium red brwon, very
20									moist, soft, some clay
			0	1-6-16-32		18'-20'	2	18'-20'	Fine SAND, medium brown, wet, firm, some silt
			0	20-38-38-40		20'-22'	1.7	20'-22'	Fine SAND, medium brown, wet, very compact
									some silt
			0	7-8-7-15		22'-24'	1.5	22'-23'	Fine SAND, medium brown, wet, firm, some silt

Environmental Resources Management

MW-5 continued

WO No:	D6711.00.01	Date Completed		3 Dec 98			
Project	Sonoco	Client	Sonoco				
Location	Tonawanda, New York	Bore Depth (ft)		28'	Diameter	8.25"	
North	N/A	Surface Elev		N/A	Sampler	S/S	
East	N/A	Riser Elev		N/A			
Screen	Schedule 40 PVC	Length (ft)		10'	Diameter	2"	
Slot Size	10-Slot	Stabilized DTW		N/A	feet TOC	N/A	
Riser	Schedule 40 PVC	Length (ft)		18'	Diameter	2"	
Drilling Method	Hollow Stem	Driller		Mike Pucci	Geologist	S. Pepling	
Drilling Co.	Summitt Drilling Co.	Drill Rig	Davey DK-5				

SEE ATTACHED MAP

Location Sketch Map

Depth (feet BGS)	Graphic Log	Well Construction Schematic	PID Reading (PPM)	Blows per 0.5 feet	Split-Spoon #	Sample Depth (feet BGS)	Recovery (ft)	Sample Description/Classification
								Feet Below Ground Surface
25								23'-23.2' SILT & CLAY, medium brown, stiff, wet
								23.2'-24' Fine SAND,& SILT, medium brown, wet, firm
			0	15-10-5-8		24'-26'	1.8	24'-24.5' Fine SAND & SILT, medium brown, wet, firm
								24.5'-25' SILT & CLAY, medium brown, soft, wet
								25'-26' Fine SAND and SILT, medium brown, firm
30			0	1-4-5-8		26'-28'	2	26'-26.2' SAND & SILT, medium brown, wet, firm
								26.2'-28' CLAY, medium brown, moist, stiff, some silt,
								trace fine gravel
								End of boring @ 28' BGS
35								
40								
45								

Appendix B
Laboratory Data Tables From Previous Investigations

Table 3

Summary of Phase II Soil Sample Analytical Results

2122 Colvin Bvd. Tonanwanda, NY

	Boring (sample depth)											Cleanup	Criteria
Compound	GB-1 (14-16')	GB-1 (20-24')	GB-2 (12-16")	GB-3 (8-9')	GB-4 (10-12')	GB-5 (16-20')	GB-6 (6-8')	GB-7 (18-20')	HA-1 (0-6")	HA-2 (0-6")	HA-3 (0-6")	NY GW Prot.	USEPA DC
TPH (mg/kg)	370	NA	NA	3,300	NA	NA	NA	<27	NA	NA	NA	NA	NA
PCBs (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND		
VOC (ug/kg)							NA	NA	NA	NA	NA		
Ethylbenzene	12,000	960J	ND	11,000	2500J	ND						5,500	7800000
1,2,4-Trimethylbenzene	13,000	750J	1,100,000	14,000	ND	ND						NA	NA
Toluene	ND	ND	140,000	17,000	ND	ND						1500	650000
Xylenes (total)	51,000	ND	2,900,000	81,000	13,000	ND						1200	410000
SVOCs (ug/kg)		NA		NA		NA			NA	NA			
Acenaphthene	840		ND		200J		ND	ND			ND	90000	4700000
Ancenaphthylene	ND		ND		ND		ND	ND			810J	41000	NA
Anthracene	1,800		ND		460		ND	ND			820J	700000	23000000
Benzo(a)anthracene	2,800		79J		790		ND	ND			2,900	3000	900
Benzo(a)pyrene	2,400		67J		750		ND	ND			2,900	11000	90
Benzo (b) fluoranthene	3,000		85J		1,000		ND	ND			3,500	1100	900
Benzo(g,h,I,)perylene	1,200		ND		330J		ND	ND			1800J	800000	NA
Benzo (k) fluoranthene	1,200		ND		400		ND	ND			1900J	1100	9000
bis(2-Ethylhexyl)phthlalate	100J		ND		110J		ND	ND			ND	122000	46000
Carbazole	2,100		ND		850		ND	ND			ND	NA	32000
Chrysene	2,600		94J		780		ND	ND			3,000	400	88000
Dibenz[a,h]anthracene	330J		ND		98J		ND	ND			ND	165000	90
Dibenzofuran	510		ND		130J		ND	ND			ND	6200	NA
Di-n-butyl phthalate	ND		79J		ND		ND	ND			ND	8100	7800000
Fluoranthene	6,100		ND		2,100		ND	ND			8,000	19000000	3100000
Fluorene	840		180J		230J		ND	ND			ND	350000	3100000
Indeno (1,2,3,-cd) pyrene	1,300		ND		340J		ND	ND			1800J	3200	900
2-Methylnaphthalene	140J		460		ND		ND	ND			ND	36000	NA
Naphthalene	480		19,000		80J		ND	ND			ND	13000	3100000
Phenanthrene	5,400		150J		1,900		ND	ND			3,700	220000	NA
Pyrene	5,000		130J		1,600		ND	ND			6,900	665000	2300000

NA - Parameter Not Analyzed

ND - Below Laboratory Detection Limit

J - Compound detected at a concentration estimated below the laboratory's detection limit.

Shaded box indicates concentration above cleanup criteria

Table 4
Summary of Phase II Groundwater Analaytical Results

2122 Colvin Blvd. Tonawanda, NY

Compound	Conc. (ug/L)			Cleanup Criteria	
	GB-2	GB-3	GB-4	NY GW	MCL
VOCS					
Acetone	ND	900	ND	50	NA
Benzene	ND	620	ND	1	5
Chlorethane	ND	530	ND	50	NA
1,1-Dichlorethane	ND	ND	310	5	NA
1,2-Dichloroethene (total)	ND	1,200	560	5	70
Ethylbenzene	2,100	ND	600	5	700
1,1,1-Trichloroethane	ND	ND	360	5	200
Toluene	1,700	8,200	ND	5	1,000
1,2,4-Trimethylbenzene	1,200	400	ND	NA	NA
Vinyl choloride	ND	550	ND	2	2
Xylenes (total)	9,100	7,800	3,100	5	10,000

NA - Not Available
ND - Below Laboratory Detection Limit
Shaded box indicates concentration above cleanup criteria

Table 11
Summary of Phase III Soil VOC Analytical Results
2122 Colvin Blvd.
Tonawanda, NY

	Boring (sample depth)						Cleanup	Criteria
Compound	GB-8 (1-2')	GB-9 (4-5')	GB10 (1-2')	GB-10 (14-15')	GB-11 (13-15')	GB-12 (15-16')	**NY GW**	**USEPA Prot.**
VOCs (ug/kg)	ND				ND	ND		
Acetone		ND	ND	ND			110	8,000
Acrolein		ND	ND	ND			NA	NA
1,1-Dichloroethane		ND	ND	ND			200	11,000
1,2-Dichloroethane		ND	ND	ND			100	10
1,1-Dichloroethene		ND	ND	ND			400	30
1,2-Dichloroethene (total)		4.7J	48,000	1,300J			300	200
Ethylbenzene		ND	ND	2,700			5,500	5,000
Methyl Ethyl Ketone		ND	ND	ND			300	NA
Tetrachloroethene		ND	19,000J	3,300			1,400	40
Toluene		ND	ND	2,600			1,500	5,000
1,1,1-Trichloroethane		ND	ND	ND			760	900
1,1,2-Trichloroethane		ND	ND	ND			NA	10
Trichloroethane		4.2J	ND	ND			NA	NA
Trichloroethene		ND	4,000,000	210,000			700	20
1,2,4-Trimethylbenzene		ND	29,000	11,000			100	NA
4-Methyl-2-Pentanone		ND	ND	ND			NA	NA
Xylenes (total)		ND	81,000	22,000			1,200	74,000

NA - Parameter Not Analyzed

ND - Below Laboratory Detection Limit

J - Compound detected at a concentration estimated below the laboratory's detection limit.

Shaded box indicates concentration above cleanup criteria

Table 11
Summary of Phase III Soil VOC Analytical Results
2122 Colvin Blvd.
Tonawanda, NY

	Boring (sample depth)						Cleanup	Criteria
Compound	GB-14 (13-14')	GB-15 (3-4')	GB-15 (6-7')	GB-15 (14-15')	GB-16 (6-7')	GB-17 (1-2')	**NY GW**	**USEPA Prot.**
VOCs (ug/kg)		ND			ND			
Acetone	ND		ND	ND		ND	110	8,000
Acrolein	130		ND	ND		ND	NA	NA
1,1-Dichloroethane	2,600		ND	ND		ND	200	11,000
1,2-Dichloroethane	ND		ND	ND		ND	100	10
1,1-Dichloroethene	ND		ND	ND		ND	400	30
1,2-Dichloroethene (total)	ND		ND	ND		ND	300	200
Ethylbenzene	ND		630	590		1,400J	5,500	5,000
Methyl Ethyl Ketone (2-butanone)	ND		ND	ND		ND	300	NA
Tetrachloroethene	ND		ND	ND		ND	1,400	40
Toluene	ND		ND	ND		ND	1,500	5,000
1,1,1-Trichloroethane	16,000		ND	ND		9,500	760	900
1,1,2-Trichloroethane	ND		ND	ND		ND	NA	10
Trichloroethane	ND		ND	ND		900J	NA	NA
Trichloroethene	21		ND	ND		ND	700	20
1,2,4-Trimethylbenzene	ND		380	ND		10,000	100	NA
4-Methyl-2-Pentanone	ND		ND	ND		ND	NA	NA
Xylenes (total)	ND		520	2,800		6,400	1,200	74,000

NA - Parameter Not Analyzed

ND - Below Laboratory Detection Limit

* - Indicated elevated laboratory detection limit.

Shaded box indicates concentration above cleanup criteria

Table 11
Summary of Phase III Soil VOC Analytical Results
2122 Colvin Blvd.
Tonawanda, NY

	Boring (sample depth)						Cleanup	Criteria
Compound	GB-17 (4-5')	GB-18 (11-12')	GB-19 (14-15')	GB-20 (11-12')	GB-20 (15-16')	GB-21 (8-9')	**NY GW**	**USEPA Prot.**
VOCs (ug/kg)		ND	ND					
Acetone	ND			ND	1,100	110	110	8,000
Acrolin	ND			ND	ND	ND	NA	NA
1,1-Dichloroethane	170			ND	260	210	200	11,000
1,2-Dichloroethane	6.5			ND	12	5.5J	100	10
1,1-Dichloroethene	24			ND	350	220	400	30
1,2-Dichloroethene (total)	65			ND	48	55	300	200
Ethylbenzene	24			ND	17	ND	5,500	5,000
Methyl Ethyl Ketone (2-butanone)	ND			ND	250	ND	300	NA
Tetrachloroethene	ND			ND	5.3J	ND	1,400	40
Toluene	ND			ND	5.7J	ND	1,500	5,000
1,1,1-Trichloroethane	990			41,000	3,200	750	760	900
1,1,2-Trichloroethane	9.5			ND	ND	ND	NA	10
Trichloroethane	ND			ND	ND	ND	NA	NA
Trichloroethene	520			84,000	20,000	2,300	700	20
1,2,4-Trimethylbenzene	8.8			ND	ND	ND	100	NA
4-Methyl-2-Pentanone	ND			ND	10J	ND	NA	NA
Xylenes (total)	99			4,100	75	ND	1,200	74,000

NA - Parameter Not Analyzed

ND - Below Laboratory Detection Limit

ND* - Indicated elevated laboratory detection limit.

Shaded box indicates concentration above cleanup criteria

Table 11
Summary of Phase III Soil VOC Analytical Results
2122 Colvin Blvd.
Tonawanda, NY

	Boring (sample depth)						Cleanup	Criteria
Compound	GB-22 (10-11')	GB-22(15-16')	MW-1 (9-11')	MW-2(12-14')	MW-3 (10-12')	MW-4 (12-14')	**NY GW**	**USEPA Prot.**
VOCs (ug/kg)			ND	ND*	ND*	ND		
Acetone	7,300	3,100					110	8,000
Acrolein	ND	ND					NA	NA
1,1-Dichloroethane	2,900	ND					200	11,000
1,2-Dichloroethane	240J	ND					100	10
1,1-Dichloroethene	650	ND					400	30
1,2-Dichloroethene (total)	240J	ND					300	200
Ethylbenzene	ND	ND					5,500	5,000
Methyl Ethyl Ketone(2 batanone)	ND	ND					300	NA
Tetrachloroethene	ND	ND					1,400	40
Toluene	ND	ND					1,500	5,000
1,1,1-Trichloroethane	55,000	2,700					760	900
1,1,2-Trichloroethane	ND	ND					NA	10
Trichloroethane	ND	ND					NA	NA
Trichloroethene	63,000	3,400					700	20
1,2,4-Trimethylbenzene	ND	ND					100	NA
4-Methyl-2-Pentanone	ND	ND					NA	NA
Xylenes (total)	480	ND					1,200	74,000

NA - Parameter Not Analyzed

ND - Below Laboratory Detection Limit

ND* - Listed VOCs Below Laboratory Detection Limit. Suspected laboratory contaminants n-hexane and acetone were detected above the MDL.

J - Compound detected at a concentration estimated below the laboratory's detection limit.

Shaded box indicates concentration above cleanup criteria

Table 12
Summary of Phase II Soil PNA Analytical Results
2122 Colvin Blvd.
Tonawanda, NY

	Boring (sample depth)								Cleanup	Criteria
Compound	GB-10 (7-8')	GB-15 (6-7')	GB-15 (14-15')	GB-17 (1-2')	GB-20 (11-12')	GB-21 (15-16')	MW-2 (12-14')	MW-3 (10-12')	**NY GW Prot.**	**USEPA DC**
PNAs (ug/kg)					ND	ND	ND	ND		
Acenaphthene	ND	ND	ND	750					90,000	4,700,00
Ancenaphthylene	ND	ND	ND	ND					41,000	N/A
Anthracene	ND	ND	ND	330J					700,000	2.3 x E07
Benzo(a)anthracene	ND	ND	ND	260J					3,000	900
Benzo(a)pyrene	1,100J	ND	ND	ND					11,000	90
Benzo (b) fluoranthene	1,300J	ND	ND	380					1,100	900
Benzo(g,h,I,)perylene	ND	ND	ND	85J					800,000	N/A
Benzo (k) fluoranthene	ND	ND	ND	120J					1,100	9,000
Chrysene	1,400J	ND	ND	590					400	88,000
Dibenz[a,h]anthracene	ND	ND	ND	ND					165,000	90
Fluoranthene	2,000J	ND	83J	1,700					1.9 x E07	3.1 x E07
Fluorene	ND	ND	ND	970					350,000	3.1 x E06
Indeno (1,2,3,-cd) pyrene	ND	ND	ND	ND					3,200	900
Naphthalene	800J	69J	ND	510					13,000	3.1 x E06
Phenanthrene	1,300J	ND	51J	3,200					220,000	N/A
Pyrene	2,600J	ND	72J	1,300					665,000	2.3 x E06

NA - Parameter Not Analyzed

ND - Below Laboratory Detection Limit

J - Compound detected at a concentration estimated below the laboratory's detection limit.

Shaded box indicates concentration above cleanup criteria

Table 13
Summary of Phase III Groundwater VOC Analaytical Results

2122 Colvin Blvd. Tonawanda, NY

Compound	Conc. (ug/L)						Cleanup	Criteria
	GB-20	MW-1	MW-2	MW-3	MW-4	MW-5	NY GW	MCL
VOCS		ND	ND	ND	ND	ND		
Acetone	3,300						50	NA
Chloroform	190						50	5
1,1-Dichloroethane	8,300						5	NA
1,2-Dichloroethane	960						800	5
1,1-Dichloroethene	25,000						5	7
1,2-Dichloroethene (total)	760						5	70
Ethylbenzene	400						5	700
Methyl Ethyl Ketone	1,700						NA	NA
4-Methyl-2-Pentanone	130						50	NA
Tetrachloroethene	71						5	5
Toluene	150						5	1,000
1,1,1-Trichloroethane	220,000						5	200
1,1,2-Trichloroethane	150						NA	5
Trichloroethene	210,000						5	5
1,2,4-Trimethylbenzene	150						NA	NA
Vinyl choloride	18						2	2
Xylenes (total)	1,600						5	10,000

NA - Not Available
ND - Below Laboratory Detection Limit
Shaded box indicates concentration above cleanup criteria

Appendix C
Empire Report Dated 14 September 2001

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone: (716) 851-7220 • **FAX:** (716) 851-7226
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

October 29, 2001

Mr. Jon S. Fox, P.G.
ERM - Northeast Inc.
5788 Widewaters Parkway
DeWitt, New York 13214

Dear Mr. Fox:

Voluntary Cleanup Project
Sonoco Products Company
Greif Bros. Corp.
Colvin Blvd, Town of Tonawanda
V00334-9

Enclosed for your reference is a copy of the September 14, 2001 report prepared by EmpireGeo Services Inc. for the Ciminelli Development Company. This investigation was performed on a 10 acre portion of the Grief Bros. facility.

If you have any questions, please call me at 716/851-7220.

Sincerely,

Michael J. Hinton, P.E.
Division of Environmental Remediation
Region 9

cc: Mr. Daniel King, Division of Environmental Remediation, Region 9

EMPIRE GEO
SERVICES, INC.
A SUBSIDIARY OF SJB SERVICES, INC.

Western New York Office
5167 South Park Avenue
Hamburg, New York 14075

Tel: [716] 649-8110
Fax: [716] 649-8051

September 14, 2001

Ciminelli Development Co. Inc.
Centerpointe Corporate Park
350 Essjay Road
Williamsville, New York 14221

RECEIVED
SEP 2 1 2001
CIMINELLI DEVELOPMENT COMPANY, INC.

Attention : Mr. Corey Stewart
Reference : 10-Acre site, Tonawanda New York

Dear Mr. Stewart,

The following report summarizes the results of the limited environmental monitoring and analytical testing performed on a 10-acre tract of land on Colvin Boulevard in Tonawanda, New York. This work was performed in general accordance with our proposal dated July 26, 2001 as accepted by Mr. Corey Stewart. The authorized scope of work was as follows:

- Drilling of seven (7) test borings at widely spaced locations around the site. This subsurface information was to be used for both environmental and geotechnical evaluation of the site.
- Monitoring of two (2) test borings by an Environmental Geologist during drilling; an HNu Photoionization Detector was used for "Screening" of the recovered split spoon samples for the presence of volatile organic vapors.
- Installation of two (2) temporary PVC groundwater observation wells.
- Collection of two (2) groundwater samples. Analysis of both groundwater samples for metals, volatile and semi-volatile compounds.
- Preparation of this report summarizing the results.

SJB Services Inc./ Empire GeoServices Inc. used track-mounted CME–850 and trailer mounted CME-45C rotary drill rigs manufactured by Central Mine Equipment Company to advance the test borings and complete the well installations. This work was completed during the time span of August 6th through 8th, 2001. The test borings were advanced through the overburden soils using 4-1/4 inch inside diameter (I.D.) hollow stem augers equipped with a center plug to prevent soil from entering the augers during drilling. Disturbed soil samples from the boring locations were recovered by driving a 24-inch long by 2-inch outside diameter (O.D.) split-spoon sampler into the soil below the bottom of the augers utilizing a 140-pound hammer freely falling 30-inches, in accordance with ASTM D-1586. The number of blows required to drive the split spoon sampler for the second and third six-inch intervals is the Standard

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OCT 2 2 2001
NYSDEC - REG. 9
FOIL
REL UNREL

Penetration Test (SPT) N-value and this value is recorded on the appropriate space on the boring log. Representative soils samples were stored in 8-ounce glass jars with screw-on lids denoting boring number, sample number, sample interval and blow counts.

An Empire geologist monitored the advancement of test borings B-1 and B-7 in the field and prepared boring logs based on visual observations of the recovered soil samples. The soil samples were generally described using ASTM D-2488 for identification of soils. Features such as relative density or consistency (obtained from the SPT), color, grain size, moisture, etc. were recorded on the boring logs

In conjunction with the subsurface exploration program, field measurements were taken by Empire to evaluate the presence of and/or organic vapor concentrations in the soils. Organic vapor measurements were obtained using a photoionization detector (PID). The PID used to measure total organic vapors was an HNu Model PI 101 manufactured by HNu Systems, Inc., with a 10.2 eV ultraviolet light source. The PID was calibrated prior to field use. PID "screening" provides a relative indication of the presence of volatile organic compounds (VOC's) in the soil samples by measuring the aggregate concentration, if any, of VOC's which have off-gassed from the sample and /or accumulated in the headspace of its container.

Ambient background organic vapor measurements were obtained upwind of each borehole location prior to drilling to establish site conditions. The range of these "background" readings during the monitoring period (August 7, 2001) were 0.0 to 1.0 parts per million (ppm). Organic vapor measurements were obtained on soil samples as they were removed from the split-spoon sampler and in the sample jar headspace after the soil samples were placed in the sample jar.

The PID readings obtained during the drilling and sampling operations approximated the ambient background levels. The PID readings obtained are a quantitative measurement utilized for general reference and are affected by sample moisture and temperature. PID measurements taken on the recovered soil samples are presented on the subsurface boring logs enclosed in Appendix A.

Temporary groundwater monitoring wells were installed in test borings B-1 and B-7 upon the completion of drilling. The wells consisted of a 2-inch I.D. schedule 40 polyvinyl chloride (PVC) flush joint threaded riser pipe with a section of slotted (0.020-inch slot) schedule 40 PVC well screen placed at the bottom of the borehole. The hollow stem augers were then withdrawn from the borehole, and the native soils and auger cuttings where then allowed to collapse around the PVC well pipe.

Groundwater samples were collected from the monitoring wells on August 27 th, 2001. Individual disposable polyethylene bailers were used to sample each well. Groundwater was sampled by carefully lowering the bailer equipped with a bottom filling check valve into the groundwater and allowing it to fill. The bailer was slowly withdrawn and the contents emptied into appropriate precleaned glass sample jars with a Teflon

septum cap. The samples were placed in an ice cooler at approximately 4-degrees C, and delivered to Friend Analytical Laboratory (FLI) in Waverly, New York via courier for testing. FLI is a New York State Department of Health certified environmental testing laboratory. A chain-of-custody record was completed and forwarded with the samples. The groundwater samples collected were analyzed for Volatile Organic Compounds (USEPA Method 8260), Semi-Volatile Organic Compounds (USEPA Method 8270), and total RCRA metals.

The reported analytical results obtained on the collected samples were compiled and compared to the standards set forth in the "Water Quality Regulations – Surface Water and Groundwater Standards" Title 6, Chapter X, Parts 700-705 prepared by the New York State Department of Environmental Conservation (NYSDEC). The reported results were compared to standards set forth for class GA fresh groundwater in the NYSDEC regulations. The following tables summarize the analytical data.

Table 1
Analytical Test Results – Metals
Colvin Blvd. 10 Acre Site
(Results expressed in micrograms per liter or parts per billion)

Metal	Well/Boring B-1	Well/Boring B-7	NYSDEC water quality standards
Barium	37	38	1,000
Lead	4	1	25

There were no other metals reported above the laboratory detection limits in the samples submitted for analysis.

The following table summarizes the analysis of the groundwater samples for volatile organic compounds (EPA Test Method 8260).

Table 2
Analytical Test Results – Volatile organic compounds (EPA Test Method 8260)
Colvin Blvd. 10 Acre Site
(Results expressed in micrograms per liter or parts per billion)

Compound	Well/Boring B-1	Well/Boring B-7	NYSDEC water quality standards
Benzene	0.9	N/D	1.0

N/D indicates that the compound was not detected in the sample

There were no other volatile organic compounds reported above the laboratory detection limits in the samples submitted for analysis.

The following table summarizes the analysis of the groundwater samples for semi volatile organic compounds (EPA Test Method 8270).

Table 3 Analytical Test Results – Semi-volatile organic compounds (EPA Test Method 8270) Colvin Blvd. 10 Acre Site (Results expresses in micrograms per liter or parts per billion)			
Compound	Well/Boring B-1	Well/Boring B-7	NYSDEC water quality standards
Bis-2-ethylhexyl phthalate	N/D	11	5

N/D indicates that the compound was not detected in the sample

There were no other semi volatile organic compounds reported above the laboratory detection limits in the samples submitted for analysis.

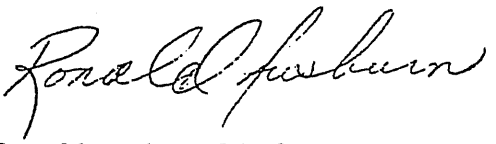
In summary, bis-2-ethylhexyl phthalate was at detected in the groundwater sample obtained from Boring B-7 at a level exceeding its current NYSDEC standard. Bis-2-ethylhexyl phthalate is a compound used as a plasticizer in the production of many different plastic products, including the tubing used in laboratories. Empire contacted Mr. Richard Friend of Friend Laboratory Inc. (the analytical laboratory utilized for this project) regarding the possibility of laboratory-induced contamination of the sample by the detected Bis-2-ethylhexyl phthalate. Mr. Friend stated that this compound is very common in the use and production of plastic and plastic-related products. Mr. Friend informed Empire that it might be possible that the Bis-2-ethylhexyl phthalate was detected as a laboratory "artifact", however, it is more likely that this particular compound is present in the environment at and around the site.

Based on the results of the analytical testing, it is our recommendation that additional confirmatory sampling and analysis of well B-7 be performed to assess the presence of Bis-2-ethylhexyl phthalate in the groundwater at the site at the reported level.

We trust this information satisfies your current requirements. If you have further questions, please contact the undersigned at any time. We appreciated the opportunity to be of service to you.

Respectfully Submitted,
EMPIRE GEOSERVICES INC.

Frank R. Minnolera Jr.
Staff Geologist



Ronald Ausburn C.P.G.
Manager of Environmental Services

APPENDIX A

SUBSURFACE EXPLORATION LOGS

SHARON (60' WIDE) AVENUE.
(TOWN STREET)

REQUIRED OWNER
TOWN OF TONAWANDA
S.B.L. 53.15-1-3

REQUIRED OWNER
UNKNOWN
SHOWN AS PART OF
S.B.L. 53.15-1-4.11
ON ERIE COUNTY TAX MAPS

REQUIRED OWNER
CONTINENTAL FIBRE DRUM, Inc.
S.B.L. 53.15-1-4.1
L. 9400 , P. 563

N88°10'20"E 1323.07' SOUTHERLY LINE OF MAP COVER No. 1312

1367.37' MEAS. ; 1367.923' DEED

15' WIDE SANITARY SEWER RIGHT-OF-WAY AGREEMENT WITH THE TOWN OF TONAWANDA L. 4311 , P. 254

POINT OF BEGINNING PARCEL "B"

TOTAL AREA
20.664 Ac.±
(900,138 sq.ft.±)

B-1 GROUND WATER SAMPLE LOCATION

APPROXIMATE LOCATION OF WETLAND

1 STORY BRICK & FIBERGLASS BUILDING No. 2122

B-2

B-3

B-4

B-5

B-6

B-7

MW-5, BM

N06°30'10"E 276.16' MEAS. / 276.80' DEED

COLVIN BOULEVARD (COUNTY ROAD 118)

LANDS OF NIAGARA MOHAWK POWER CORPORATION

ERIE-LACKAWANNA RAILWAY
(FORMERLY THE ERIE RAILROAD COMPANY)

MW-5 DESIGNATED AS BENCHMARK
RIM ELEVATION-569.9 FEET

SOIL TEST BORINGS

EMPIRE GEO SERVICES, INC.

SUBSURFACE INVESTIGATION PLAN

Proposed Office and
Warehouse Building
Colvin Blvd and Sharon Ave
Town of Tonawanda, New York

Dr. By: ——	Chkd. By: CG
Scale: NTS	Date: 8/01
Proj. No.: BD1043	Drwn. No.: 2

DATE:
START 8/7/01
FINISH 8/7/01
SHEET 1 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-1
SURF. ELEV 568.0
G.W. DEPTH See Notes

PROJECT: PROPOSED 10-ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GREIF BROS FACILITY
COLVIN BLVD, TONAWANDA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 6/6	6/12	12/18	N	PID	SOIL OR ROCK CLASSIFICATION	NOTES
	1	5	4				Gray-Brown SLAG (moist, FILL)	
		3	2		7	BKG		
	2	5	5				Contains occasional Silty Clay Seams	
		4	7		9	BKG		
5	3	7	5					
		9	9		12	BKG		
	4	11	10				Red-Brown Silty CLAY, tr. sand (moist, very stiff, CL)	
		12	11		22	BKG		
	5	3	2				Becomes Brown-Gray (wet, medium to soft)	
10		2	2		4	BKG		
	6	2	2					
		2	2		4	BKG		
15	7	1	1/0.1		2	BKG	(soft)	
	8	WOH	1					
		1	1		2	BKG		
	9	WOH	/.0				Red-Brown Clayey SILT, little f-c Sand, tr. gravel	
20		4	5		4	BKG	(wet, medium to soft, ML)	
	10	4	4				Red-Brown SILT, little fine Sand, tr. gravel, tr.	
25		1	1		5	BKG	clay (wet, loose, ML)	
30	11	WOH	/2.0		WOH	BKG	(very loose)	
35	12	WOH	/1.5	4	WOH		Brown-Gray Silty CLAY, tr. sand (moist, very soft, CL)	
40	13	WOH	2					

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: S. WOLKIEWICZ

DRILL RIG TYPE: CME 850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 8/7/01
FINISH 8/7/01
SHEET 2 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-1
SURF. ELEV 568.0
G.W. DEPTH See Notes

PROJECT: PROPOSED 10 - ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GRIEF BROS FACILITY
COLVIN BLVD, TONAWANDA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID	SOIL OR ROCK CLASSIFICATION	NOTES
		4	6		6	BKG	Contains little-some f-c Sand, tr. gravel (moist-wet, medium)	
45	14	4	4				Red-Brown SILT, little fine Sand (wet, firm, ML)	
		13	16		17	BKG		
								No Recovery Sample #15
50	15	5	11					
		8	9		19	-		
55	16	6	9					
		7	7		16	-		Poor Recovery Sample #16
60	17	1	2				Gray-Brown Silty CLAY, little-some f-c Sand tr. shale (moist-wet, medium, CL)	
		5	6		7	BKG		
65	18	54	100/0.4		REF		Gray f-m SAND and Silt, tr. gravel (moist, SM)	
							Boring Complete at 64.9'	2" PVC Temporary Well Installed at Boring Completion
70								
75								
80								

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: S. WOLKIEWICZ
DRILL RIG TYPE: CME - 850
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 8/8/01
FINISH 8/8/01
EET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-2
SURF. ELEV 568.0 +/-
G.W. DEPTH See Notes

PROJECT: PROPOSED 10-ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GRIEF BROS. FACILITY
COLVIN BLVD., TONAWANDA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 6/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	4	8			Gray-Brown f-c SAND, numerous Slag Fragments tr. gravel, tr. cinders (moist, FILL)	
		12	9		20		
	2	9	15				
		25	22		40	Brown Clayey SILT, tr. sand, tr. gravel (moist, FILL)	
5	3	9	10				
		11	13		21	Brown Silty CLAY , numerous Silt partings (moist, very stiff, CL)	
	4	11	10				
		9	10		19		
	5	10	12			Becomes Red-Brown , Contains occasional Gray Mottles	
10		14	8		26		
	6	4	6			(stiff)	
15		7	9		13		
						Boring Complete at 15.0'	No Free Standing Water Encountered at Boring Completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: S. WOLKIEWICZ

DRILL RIG TYPE: CME 850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 8/6/01
FINISH 8/6/01
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-3
SURF. ELEV 568.0 +/-
G.W. DEPTH See Notes

PROJECT: PROPOSED 10-ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GRIEF BROS. FACILITY
COLVIN BLVD., TONAWANDA

DEPTH FT.	SAMPL. NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	4	5			Gray-Brown SLAG (moist, FILL)	
		7	3		12		
	2	5	5			Brown Silty CLAY, tr. sand, occasional Silt Partings (moist, stiff, CL)	
		9	12		14		
5	3	5	7			Becomes Red-Brown	
		7	6		14		
	4	5	7			(moist-wet, very stiff)	
		9	12		16		
	5	6	3			(wet, medium)	
10		2	1		5		
	6	4	3				
15		3	2		6		
						Boring Complete at 15.0'	No Free Standing Water Encountered at Boring Completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: S. WOLKIEWICZ

DRILL RIG TYPE: CME 850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 8/6/01
FINISH 8/6/01
SHEET 1 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-4
SURF. ELEV 568.4
G.W. DEPTH See Notes

PROJECT: PROPOSED 10-ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GREIF BROS FACILITY
COLVIN BLVD, TONAWANDA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 6/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	7	7			Brown-Gray SILT and Slag (moist, FILL)	
		8	7		15		
	2	4	5			Becomes Black	
		6	7		11		
5	3	20	8				Poor Recovery
		10	12		18		Sample #3 and #4
	4	10	10				
		10	10		20		
	5	3	4			Red-Brown and Gray Varved Silty CLAY, tr sand	
10		4	5		8	(wet, medium, CL)	
15	6	3	2			Becomes Red-Brown (medium to soft)	
		2	1		4		
	7	1	9			Red-Brown SILT, little fine Sand (wet, firm, ML)	
20		5	3		14		
	8	2	2			Brown Silty CLAY, tr. sand (moist, medium to soft, CL)	
25		2	2		4		
	9	4	3			Contains little f-c Sand, tr. gravel (medium)	
30		3	2		6		
	10	WOH	1			(soft)	
35		2	2.0		3		
	11	2	2			(medium)	
40		4	4		6		

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: S. WOLKIEWICZ
DRILL RIG TYPE: CME 850
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 8/6/01
FINISH 8/6/01
'EET 2 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-4
SURF. ELEV 568.4
G.W. DEPTH See Notes

PROJECT: PROPOSED 10 - ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GRIEF BROS FACILITY
COLVIN BLVD, TONAWANDA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 6/6	6/12	12/18	N	PID	SOIL OR ROCK CLASSIFICATION	NOTES
45	12	3	4					
		4	4		7			
50	13	WOH	1					
		4	11		5			
55	14	1	3					
		3	4		6			
60	15	1	3					No Recovery Sample #15
		5	5		8			
65	16	9	14				Brown-Gray SILT, some f-c Sand, tr.-little f-c Gravel (moist, compact, ML)	
		23	36		37			
70	17	13	45	50/0.2	REF		Gray-Brown f-c SAND, little silt, tr. shale (moist, very compact, SM)	
75							Boring Complete with Sample Spoon Refusal at 69.2'	Free Standing Water Recorded at 21.1' at Boring Completion
80								

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: S. WOLKIEWICZ

DRILL RIG TYPE: CME - 850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 8/7/01
FINISH 8/7/01
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-5
SURF. ELEV 569.5
G.W. DEPTH See Notes

PROJECT: PROPOSED 10-ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GREIF BROS. FACILITY
COLVIN BLVD., TONAWANDA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	5	4			Brown Clayey SILT, some fine Sand, tr. gravel,	
		8	9		12	tr. roots (moist, FILL)	
	2	6	5			Contains tr. slag	
		9	10		14		
5	3	5	8			Yellow and Red-Brown fine SAND, tr.-little Clayey	
		9	6		17	Silt (moist, FILL)	
	4	7	9			Gray-Brown f-c SAND, tr.-little Clayey Silt, tr.	
		10	5		19	gravel (moist, FILL)	
	5	3	3			Brown Silty CLAY, tr. sand, occasional Pinkish	
10		6	4		9	Gray Mottles (moist, stiff, CL)	
	6	8	6			Contains occasional Silt Partings	
15		5	4		11		
						Boring Complete at 15.0'	No Free Standing Water Encountered at Boring Completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: M. MATHIES

DRILL RIG TYPE: CME 45

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 8/7/01
FINISH 8/7/01
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-6
SURF. ELEV 570.4
G.W. DEPTH See Notes

PROJECT: PROPOSED 10-ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GREIF BROS. FACILITY
COLVIN BLVD., TONAWANDA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	2	3			Brown SILT, little fine Sand, tr. clay, tr. gravel,	
		5	4		8	tr. roots (moist, FILL)	
	2	3	5			Brown Silty CLAY, tr. sand, tr. gravel (moist, FILL)	
		6	5		11		
5	3	2	3			Brown Silty CLAY, tr. sand (moist, medium, CL)	
		4	5		7		
	4	4	4				
		5	6		9		
	5	3	4			Contains occasional Gray-Brown Silt partings (stiff)	
10		8	7		12		
	6	7	5				
15		6	4		11		
						Boring Complete at 15.0'	No Free Standing Water Encountered at Boring Completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: M. MATHIES
DRILL RIG TYPE: CME 45
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 8/7/01
FINISH 8/7/01
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-7
SURF. ELEV 570.0
G.W. DEPTH See Notes

PROJECT: PROPOSED 10-ACRE SITE
PROJ. NO.: BD 1043
LOCATION: GREIF BROS. FACILITY
COLVIN BLVD., TONAWANDA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 6/6	6/12	12/18	N	PID	SOIL OR ROCK CLASSIFICATION	NOTES
	1	4	3				Brown-Black SILT, little fine Sand, tr. organics	
		7	6		10	BKG	(moist, FILL)	
	2	8	9				Red-Brown Silty CLAY, tr.-little f-c Sand (moist,	
		6	9		15	BKG	stiff, CL)	
5	3	5	8					
		10	9		16	BKG	(very stiff)	
	4	17	12					
		15	14		27	BKG		
	5	3	3					
10		4	4		7	BKG	(moist-wet, medium)	
	6	WOH	/1.0					
		1	1		1	BKG	(wet, very soft)	
	7	1	2					
		2	1		4	BKG	(soft)	
15	8	WOH	/1.5		WOH			
							(very soft)	
	9	WOH	/1.0					
		1	1		1	BKG		
	10	2	4				Red-Brown SILT, little fine Sand (wet, firm, ML)	
20		7	5		11	BKG		
	11	2	4					
25		5	7		9	BKG	(loose)	
							Boring Complete at 25.0'	2" PVC Temporary Well Installed at Boring Completion
30								
35								
40								

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: M. MATHIES

DRILL RIG TYPE: CME 45C

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

APPENDIX B

ANALYTICAL RESULTS

FLI
FRIEND LABORATORY I · N · C

ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:10-SEP-2001

Lab Sample ID: L75209-1

SJB Services
Frank Minnolera
5167 South Park Avenue
Hamburg, NY 14075

Sample Source: COLVIN BLVD.,10 ACRE SITE
Origin: B-7 TEMP WELL
Description: GRAB
Sampled On: 27-AUG-01 12:45 by CLIENT
Date Received: 28-AUG-01 10:02
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Arsenic	U	mg/l	0.002	30-AUG-01 00:00	SM3114B	00-196-27
Barium	0.038	mg/l	0.016	05-SEP-01 08:34	EPA 6010	01-146-06
Cadmium	U	mg/l	0.005	05-SEP-01 08:34	EPA 6010	01-146-06
Chromium	U	mg/l	0.010	05-SEP-01 08:34	EPA 6010	01-146-06
Lead	0.001	mg/l	0.001	30-AUG-01 00:00	EPA 7421	01-014-85
Mercury	U	mg/l	0.0002	07-SEP-01 00:00	EPA 7470	01-002-21
Selenium	U	mg/l	0.002	31-AUG-01 00:00	SM3114B	00-007-43
Silver	U	mg/l	0.010	05-SEP-01 08:34	EPA 6010	01-146-06
EPA 8260						
Chloromethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Vinyl chloride	U	ug/l	2	30-AUG-01 00:10	EPA 8260	01-126-8923
Chloroethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Bromomethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
1,1-Dichloroethene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
/ ne	U	ug/l	25	30-AUG-01 00:10	EPA 8260	01-126-8923
n disulfide	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Methylene chloride	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
trans-1,2-Dichloroethene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
1,1-Dichloroethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
cis-1,2-Dichloroethene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
MEK(2-Butanone)	U	ug/l	25	30-AUG-01 00:10	EPA 8260	01-126-8923
Chloroform	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
1,1,1-Trichloroethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Carbon tetrachloride	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Benzene	U	ug/l	0.7	30-AUG-01 00:10	EPA 8260	01-126-8923
1,2-Dichloroethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Trichloroethene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
1,2-Dichloropropane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Bromodichloromethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
cis-1,3-Dichloropropene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
MIBK(4-Methyl-2-pentanone)	U	ug/l	10	30-AUG-01 00:10	EPA 8260	01-126-8923
Toluene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
trans-1,3-Dichloropropene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923

C NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY:
ND or U = None Detected
< = less than
ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank
J = result estimated below the quantitation limit

formation in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services.
mples will be discarded after 14 days unless we are advised otherwise.

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FRIEND LABORATORY I·N·C
ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date: 10-SEP-2001

Lab Sample ID: L75209-1

JJB Services
Frank Minnolera
5167 South Park Avenue
Hamburg, NY 14075

Sample Source: COLVIN BLVD. TD ACRE SITE
Origin: B-7 TEMP. WELL
Description: DRAB
Sampled On: 27-AUG-01 12:45 by CLIENT
Date Received: 28-AUG-01 10:07
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
1,1,2-Trichloroethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Tetrachloroethene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
2-Hexanone	U	ug/l	10	30-AUG-01 00:10	EPA 8260	01-126-8923
Dibromochloromethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Chlorobenzene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Ethylbenzene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
p-Xylene/m-Xylene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
o-Xylene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Styrene	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Bromoform	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
1,1,2,2-Tetrachloroethane	U	ug/l	5	30-AUG-01 00:10	EPA 8260	01-126-8923
Surrogate Recovery:						
Dibromofluoromethane	96	%				01-126-8923
Toluene-d8	99	%				01-126-8923
4-Bromofluorobenzene	96	%				01-126-8923
EPA 8270						
Bis(2-chloroethylether)	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Phenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2-Chlorophenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
1,3-Dichlorobenzene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
1,4-Dichlorobenzene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
1,2-Dichlorobenzene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Bis(2-chloroisopropylether)	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
hylphenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
hloroethane	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
N-nitrosodi-N-propylamine	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
3-Methylphenol/4-Methylphenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Nitrobenzene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Isophorone	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2-Nitrophenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2,4-Dimethylphenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Bis(2-chloroethoxymethane)	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2,4-Dichlorophenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
1,2,4-Trichlorobenzene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Naphthalene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
4-Chloroaniline	U	ug/l	10	04-SEP-01 13:44	EPA 8270	01-063-2921
Hexachlorobutadiene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
4-Chloro-3-methylphenol	U	ug/l	10	04-SEP-01 13:44	EPA 8270	01-063-2921
2-Methylnaphthalene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Hexachlorocyclopentadiene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2,4,6-Trichlorophenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921

IC NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY:
ND or U = None Detected
< = less than
ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank
J = result estimated below the quantitation limit

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FRIEND LABORATORY I·N·C
ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date: 10-SEP-2001

Lab Sample ID: L75209-1

JB Services
Frank Minnolera
5167 South Park Avenue
Hamburg, NY 14075

Sample Source: COLVIN BLVD. 10 ACRE SITE
Origin: B-7 TEMP. WELL
Description: GRAB
Sampled On: 27-AUG-01 12:45 by CLIENT
Date Received: 28-AUG-01 10:07
P.O. No.: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
2,4,5-Trichlorophenol	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2-Chloronaphthalene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2-Nitroaniline	U	ug/l	20	04-SEP-01 13:44	EPA 8270	01-063-2921
Dimethyl phthalate	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Acenaphthylene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2,6-Dinitrotoluene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
3-Nitroaniline	U	ug/l	20	04-SEP-01 13:44	EPA 8270	01-063-2921
Acenaphthene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2,4-Dinitrophenol	U	ug/l	20	04-SEP-01 13:44	EPA 8270	01-063-2921
Dibenzofuran	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
2,4-Dinitrotoluene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
4-Nitrophenol	U	ug/l	20	04-SEP-01 13:44	EPA 8270	01-063-2921
Diethyl phthalate	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Fluorene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
4-Chlorophenylphenylether	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
4-Nitroaniline	U	ug/l	20	04-SEP-01 13:44	EPA 8270	01-063-2921
2-Methyl-4,6-dinitrophenol	U	ug/l	20	04-SEP-01 13:44	EPA 8270	01-063-2921
N-Nitrosodiphenylamine	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
4-Bromophenylphenylether	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Hexachlorobenzene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Pentachlorophenol	U	ug/l	20	04-SEP-01 13:44	EPA 8270	01-063-2921
Phenanthrene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Anthracene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Carbazole	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Di-n-butyl phthalate	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
F[illegible]nthene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
P[illegible]	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Butylbenzyl phthalate	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Benzo(a)anthracene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
3,3-Dichlorobenzidine	U	ug/l	10	04-SEP-01 13:44	EPA 8270	01-063-2921
Chrysene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Bis-2-ethylhexyl phthalate	11	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Di-n-octyl phthalate	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Benzo(b)fluoranthene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Benzo(k)fluoranthene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Benzo(a)pyrene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Indeno(1,2,3-cd)pyrene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Dibenzo(a,h)anthracene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921
Benzo(g,h,i)perylene	U	ug/l	5	04-SEP-01 13:44	EPA 8270	01-063-2921

C[illegible] NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: [signature]
Lab Director

KEY:
ND or U = None Detected
< = less than
ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank
J = result estimated below the quantitation limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services.
Samples will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs . . . Since 1963."

FRIEND LABORATORY INC

ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:10-SEP-2001

Lab Sample ID: L75209-1

Services
Frank Minnolera
5167 South Park Avenue
Hamburg, NY 14075

Sample Source: COLVIN BLVD. - 10 ACRE SITE
Origin: B-7 TEMP. WELL
Description: CRAB
Sampled On: 27-AUG-01 12:45 by CLIENT
Date Received: 28-AUG-01 10:07
P.O. No: N/A

alysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Extraction Information:				29-AUG-01 00:00	EPA 3510	01-068-88
rrogate Recovery:						
rphenyl-d14	70	%				01-063-2921
Fluorophenol	44	%				01-063-2921
enol-d5	32	%				01-063-2921
4,6-Tribromophenol	65	%				01-063-2921
trobenzene-d5	64	%				01-063-2921
Fluorobiphenyl	68	%				01-063-2921

NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: _____
Lab Director

ND or U	= None Detected	< = less than	ug/L = micrograms per liter (equivalent to parts per billion)
mg/L	= milligrams per liter (equivalent to parts per million)	mg/kg	= milligrams per kilogram (equivalent to parts per million)
B	= analyte was detected in the method or trip blank	J	= result estimated below the quantitation limit

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"Our family, caring about your analytical needs . . . Since 1963."

FRIEND LABORATORY I·N·C
ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:10-SEP-2001

Lab Sample ID: L75209-2

B Services
rank Minnolera
5167 South Park Avenue
Hamburg, NY 14075

Sample Source: COLVIN BLVD. 10 ACRE SITE
Origin: 8-1 TEMP. WELL
Description: GRAB
Sampled On: 27-AUG-01 13:00 by CLIENT
Date Received: 28-AUG-01 10:07
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Arsenic	U	mg/l	0.002	30-AUG-01 00:00	SM3114B	00-196-27
Barium	0.037	mg/l	0.016	05-SEP-01 08:37	EPA 6010	01-146-06
Cadmium	U	mg/l	0.005	05-SEP-01 08:37	EPA 6010	01-146-06
Chromium	U	mg/l	0.010	05-SEP-01 08:37	EPA 6010	01-146-06
Lead	0.004	mg/l	0.001	30-AUG-01 00:00	EPA 7421	01-014-85
Mercury	U	mg/l	0.0002	07-SEP-01 00:00	EPA 7470	01-002-21
Selenium	U	mg/l	0.002	31-AUG-01 00:00	SM3114B	00-007-43
Silver	U	mg/l	0.010	05-SEP-01 08:37	EPA 6010	01-146-06
EPA 8260						
Chloromethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Vinyl chloride	U	ug/l	2	30-AUG-01 00:44	EPA 8260	01-126-8924
Chloroethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Bromomethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
1,1-Dichloroethene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Acetone	U	ug/l	25	30-AUG-01 00:44	EPA 8260	01-126-8924
C disulfide	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
M ane chloride	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
trans-1,2-Dichloroethene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
1,1-Dichloroethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
cis-1,2-Dichloroethene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
MEK(2-Butanone)	U	ug/l	25	30-AUG-01 00:44	EPA 8260	01-126-8924
Chloroform	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
1,1,1-Trichloroethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Carbon tetrachloride	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Benzene	0.9	ug/l	0.7	30-AUG-01 00:44	EPA 8260	01-126-8924
1,2-Dichloroethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Trichloroethene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
1,2-Dichloropropane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Bromodichloromethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
cis-1,3-Dichloropropene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
MIBK(4-Methyl-2-pentanone)	U	ug/l	10	30-AUG-01 00:44	EPA 8260	01-126-8924
Toluene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
trans-1,3-Dichloropropene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924

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Approved by: Lab Director

EY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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FRIEND LABORATORY I·N·C
ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date: 10-SEP-2001

Lab Sample ID: L75209-2

JB Services
Frank Minnolera
5167 South Park Avenue
Hamburg, NY 14075

Sample Source: COLVIN BLVD.,10 ACRE SITE
Origin: B-1 TEMP. WELL
Description: GRAB
Sampled On: 27-AUG-01 13:05 by CLIENT
Date Received: 28-AUG-01 10:02
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
1,1,2-Trichloroethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Tetrachloroethene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
2-Hexanone	U	ug/l	10	30-AUG-01 00:44	EPA 8260	01-126-8924
Dibromochloromethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Chlorobenzene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Ethylbenzene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
p-Xylene/m-Xylene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
o-Xylene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Styrene	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Bromoform	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
1,1,2,2-Tetrachloroethane	U	ug/l	5	30-AUG-01 00:44	EPA 8260	01-126-8924
Surrogate Recovery:						
Dibromofluoromethane	96	%				01-126-8924
Toluene-d8	99	%				01-126-8924
4-Bromofluorobenzene	96	%				01-126-8924
EPA 8270						
Bis(2-chloroethylether)	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Phenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2-Chlorophenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
1,3-Dichlorobenzene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
1,4-Dichlorobenzene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
1,2-Dichlorobenzene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Bis(2-chloroisopropylether)	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
? hylphenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
I iloroethane	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
N-...crosodi-N-propylamine	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
3-Methylphenol/4-Methylphenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Nitrobenzene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Isophorone	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2-Nitrophenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2,4-Dimethylphenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Bis(2-chloroethoxymethane)	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2,4-Dichlorophenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
1,2,4-Trichlorobenzene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Naphthalene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
4-Chloroaniline	U	ug/l	10	04-SEP-01 14:38	EPA 8270	01-063-2922
Hexachlorobutadiene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
4-Chloro-3-methylphenol	U	ug/l	10	04-SEP-01 14:38	EPA 8270	01-063-2922
2-Methylnaphthalene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Hexachlorocyclopentadiene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2,4,6-Trichlorophenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922

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Approved by: _____ Lab Director

KEY:
ND or U = None Detected
< = less than
ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
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FLI
FRIEND LABORATORY I · N · C

ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:10-SEP-2001

Lab Sample ID: L75209-2

JB Services
Frank Minnolera
5167 South Park Avenue
Hamburg, NY 14075

Sample Source: COLVIN BLVD., 10 ACRE SITE
Origin: B-1 TEMP. WELL
Description: GRAB
Sampled On: 27-AUG-01 13:00 by CLIENT
Date Received: 28-AUG-01 10:07
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
2,4,5-Trichlorophenol	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2-Chloronaphthalene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2-Nitroaniline	U	ug/l	20	04-SEP-01 14:38	EPA 8270	01-063-2922
Dimethyl phthalate	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Acenaphthylene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2,6-Dinitrotoluene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
3-Nitroaniline	U	ug/l	20	04-SEP-01 14:38	EPA 8270	01-063-2922
Acenaphthene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2,4-Dinitrophenol	U	ug/l	20	04-SEP-01 14:38	EPA 8270	01-063-2922
Dibenzofuran	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
2,4-Dinitrotoluene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
4-Nitrophenol	U	ug/l	20	04-SEP-01 14:38	EPA 8270	01-063-2922
Diethyl phthalate	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Fluorene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
4-Chlorophenylphenylether	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
4-Nitroaniline	U	ug/l	20	04-SEP-01 14:38	EPA 8270	01-063-2922
2-Methyl-4,6-dinitrophenol	U	ug/l	20	04-SEP-01 14:38	EPA 8270	01-063-2922
N-Nitrosodiphenylamine	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
4-Bromophenylphenylether	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Hexachlorobenzene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Pentachlorophenol	U	ug/l	20	04-SEP-01 14:38	EPA 8270	01-063-2922
Phenanthrene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Anthracene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Carbazole	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Di-n-butyl phthalate	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
F[illegible]anthene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
e	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
b[illegible]benzyl phthalate	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Benzo(a)anthracene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
3,3-Dichlorobenzidine	U	ug/l	10	04-SEP-01 14:38	EPA 8270	01-063-2922
Chrysene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Bis-2-ethylhexyl phthalate	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Di-n-octyl phthalate	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Benzo(b)fluoranthene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Benzo(k)fluoranthene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Benzo(a)pyrene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Indeno(1,2,3-cd)pyrene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Dibenzo(a,h)anthracene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922
Benzo(g,h,i)perylene	U	ug/l	5	04-SEP-01 14:38	EPA 8270	01-063-2922

[illegible]2 NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: [signature]
Lab Director

Y:	ND or U	= None Detected	< = less than	ug/L	= micrograms per liter (equivalent to parts per billion)
	mg/L	= milligrams per liter (equivalent to parts per million)		mg/kg	= milligrams per kilogram (equivalent to parts per million)
	B	= analyte was detected in the method or trip blank		J	= result estimated below the quantitation limit

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FRIEND LABORATORY INC
ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:10-SEP-2001

Lab Sample ID: L75209-2

B Services
Frank Minnolera
5167 South Park Avenue
Hamburg, NY 14075

Sample Source: COLVIN BLVD., 10 ACRE SITE
Origin: B-1 TEMP. WELL
Description: GRAB
Sampled On: 27-AUG-01 13:00 by CLIENT
Date Received: 28-AUG-01 10:07
P.O. No.: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Extraction Information:				29-AUG-01 00:00	EPA 3510	01-068-88
Surrogate Recovery:						
Terphenyl-d14	70	%				01-063-2922
2-Fluorophenol	44	%				01-063-2922
Phenol-d5	33	%				01-063-2922
2,4,6-Tribromophenol	52	%				01-063-2922
Nitrobenzene-d5	61	%				01-063-2922
2-Fluorobiphenyl	65	%				01-063-2922

NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: Lab Director

Y:	ND or U	= None Detected	< = less than	ug/L	= micrograms per liter (equivalent to parts per billion)
	mg/L	= milligrams per liter (equivalent to parts per million)		mg/kg	= milligrams per kilogram (equivalent to parts per million)
	B	= analyte was detected in the method or trip blank		J	= result estimated below the quantitation limit

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Page 1 of 1

CHAIN OF CUSTODY RECORD

CUSTOMER CODE #

PROJECT NO./ NAME	CLIENT NAME	SAMPLE SITE	SAMPLER'S SIGNATURE
10 Acre Site	SJB Services	Colvin Blvd, Tonawanda	

-75309

SAMPLE NO.	SAMPLING DATE	SAMPLING TIME	ORIGIN/SOURCE	# OF CONTAINERS	PRESERVATION COOL	PRESERVATION OTHER	ANALYSES/TESTS REQUESTED
B-7	8/27/01	1245	TEMP. WELL B-7	4		X -1	VOC, SVOC's, METALS (RCRA)
B-1	8/27/01	1300	TEMP. WELL B-1	4		X-2	VOC's, SVOC's, METALS (RCRA)
			TOTAL 8 CONT.				

RELINQUISHED BY SIGNATURE / PRINT	DATE/TIME	RECEIVED BY SIGNATURE / PRINT	DATE/TIME	RELINQUISHED BY SIGNATURE / PRINT	DATE/TIME
[signature] F. Minnella	8/27/01 1330	Shipped Via Velocity			
RECEIVED BY SIGNATURE / PRINT	DATE/TIME	RELINQUISHED BY SIGNATURE / PRINT	DATE/TIME	RECEIVED AT LAB BY SIGNATURE / PRINT	DATE/TIME
				[signature] Toni Jones	8/28/01 1007

REMARKS

FRIEND LABORATORY, INC.
ONE RESEARCH CIRCLE • WAVERLY, NEW YORK 14892
PHONE (607) 565-3500 • FAX (607) 565-4081

Appendix D
Laboratory Analytical Report – Soil Vapor Samples

GORE
Creative Technologies Worldwide

W. L. GORE & ASSOCIATES, INC.

100 CHESAPEAKE BLVD., P.O. BOX 10 • ELKTON, MARYLAND 21922-0010 • PHONE: 410/392-7600
FAX: 410/506-4780

GORE-SORBER® Screening Survey
Final Report

Former Sonoco Products Company
Tonawanda, NY

August 30, 2001

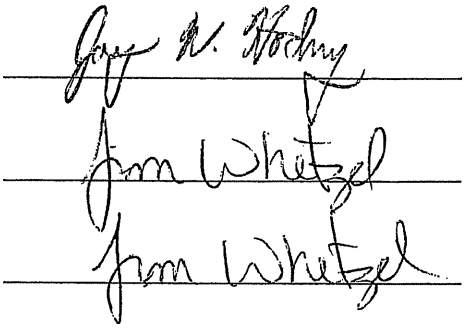
Prepared For:
ERM - Northeast Incorporated
5788 Widewaters Parkway, Suite 312
Dewitt, NY 13214

W.L. Gore & Associates, Inc.

Written/Submitted by:
Jay W. Hodny, Ph.D., Project Manager

Reviewed/Approved by:
Jim E. Whetzel, Project Manager

Analytical Data Reviewed by:
Jim E. Whetzel, Chemist



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GORE-SORBER® Screening Survey
Final Report

REPORT DATE: August 30, 2001 **AUTHOR:** JWH

SITE INFORMATION

Site Reference: Former Sonoco Products Company, Tonawanda, NY
Customer Purchase Order Number: City of Tonawanda, Erie
Gore Production Order Number: 10744169 **Gore Site Code:** BVY

FIELD PROCEDURES

 # Modules shipped: 37
Installation Date(s): 7/10,11/2001 **# Modules Installed:** 30
Field work performed by: ERM - Northeast Incorporated

Retrieval date(s): 7/25/2001 **Exposure Time:** 14-15 **[days]**
 # Modules Retrieved: 28 **# Trip Blanks Returned:** 3
 # Modules Lost in Field: 2 **# Unused Modules Returned:** 4

Date/Time Received by Gore: 7/26/2001 @ 1:50 PM **By:** ML
Chain of Custody Form attached: √
Chain of Custody discrepancies: None
Comments:
Module #341806 was identified as a trip blank on the Chain of Custody. Gore selected and treated modules #341800 and –801 as trip blanks also.
Modules #341795 and -797 were not retrieved and considered lost from the field.
Modules #341802, -803, -804, and -805 were returned unused.

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GORE-SORBER® Screening Survey
Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbers, each containing 40mg of a suitable granular adsorbent) to a thermal desorption tube for analysis. Sorbers remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation.

Analytical Method Quality Assurance:
The analytical method employed is a modified EPA method 8260/8270. Before each run sequence, two instrument blanks, a sorber containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorber containing BFB is also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at three calibration levels of 5, 20, and 50µg are analyzed at the beginning of each run. The criterion for each target compound is less than 35% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbers not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection
Instrument ID: # 3 **Chemist:** SM
Compounds/mixtures requested: Gore Chlorinated VOC Target Compounds (A10) plus BTEX.
Deviations from Standard Method: None
Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6).

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GORE-SORBER® Screening Survey
Final Report

DATA TABULATION

 # CONTOUR MAPS ENCLOSED: Four (4) B-sized color contour maps
LIST OF MAPS ENCLOSED:

- Benzene, Toluene, Ethyl benzene, and total Xylenes (BTEX)
- cis- & trans-1,2-Dichloroethene (c,t-1,2-DCE)
- 1,1,1-Trichloroethane (1,1,1-TCA)
- Trichloroethene (TCE)

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE-SORBER Screening Modules received and analyzed by W.L. Gore & Associates, Inc., as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on either a single-level (QA Level 1) or three-level (QA Level 2) standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified specifically to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- QA/QC trip blank modules were provided to document potential exposures that were not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.

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Final Report

- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Project Specific Comments:

- The minimum (gray) contour level, for each mapped analyte or group of analytes, was set at the maximum blank level observed or the method detection limit, whichever was greater. When target compounds are summed together (i.e., BTEX), the contour minimum is arbitrarily set at 0.02 µg or the maximum blank level, whichever is greater. The maximum contour level was set at the maximum value observed.
- Stacked total ion chromatograms (TIC's) are included in Appendix A. The six-digit serial number of each module is incorporated into the TIC identification (e.g.: 123456S.D represents module #123456).
- 1,1-DCE, TCE, and 1,1,1-TCA were detected on the trip blanks. No other target analytes were observed on the trip and/or the method blanks. Thus, target analyte levels reported for the field-installed modules that exceed trip and method blank levels, and the analyte method detection limit, have a high probability of originating from on-site sources.
- The linear arrangement and large sampling intervals precluded soil gas plume definition in some of areas of sampled.
- The mapped spatial patterns indicated elevated levels in the soil gas primarily at the two module locations within the building and with the group of modules south of the building.
- If the objective of the soil gas survey was to delineate the nature and extent of the contamination, then additional soil gas sampling is recommended in those areas where the color contours appear to extend into unsampled areas. Subsequent sampling events can be combined with the data from this event and mapped together to provide greater coverage.

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GORE-SORBER® Screening Survey
Final Report

KEY TO DATA TABLE
Former Sonoco Products Company, Tonawanda, NY

UNITS

µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect

ANALYTES

BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
ClBENZ	chlorobenzene
ct12DCE	cis- & trans-1,2-dichloroethene
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
11DCA	1,1-dichloroethane
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
TCE	trichloroethene
PCE	tetrachloroethene
14DCB	1,4-dichlorobenzene
11DCE	1,1-dichloroethene
$CHCl_3$	chloroform
CCl_4	carbon tetrachloride
112TCA	1,1,2-trichloroethane
1112TetCA	1,1,1,2-tetrachloroethane
1122TetCA	1,1,2,2-tetrachloroethane
13DCB	1,3-dichlorobenzene
12DCB	1,2-dichlorobenzene

BLANKS

TBn	unexposed trip blanks, travels with the exposed modules
method blank	QA/QC module, documents analytical conditions during analysis

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APPENDIX A:

1. CHAIN OF CUSTODY
2. DATA TABLE
3. STACKED TOTAL ION CHROMATOGRAMS
4. COLOR CONTOUR MAPS

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GORE-SORBER® Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order # 10744169

GORE Creative Technologies Worldwide

W. L. Gore & Associates, Inc., Survey Products Group

100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: ERM-NORTHEAST INC.	Site Name: CITY OF TONAWANDA
Address: 5788 WIDEWATERS PARKWAY	Site Address: ERIE COUNTY NY.
SUITE 312	
DE WITT, NY. 13214	Project Manager: JON FOX
Phone: (315) 445-2554	Customer Project No.: D6714.00.01
FAX:	Customer P.O. #: Same Quote #: 206434

Serial # of Modules Shipped				# of Modules for Installation 34 # of Trip Blanks 3
# 341766	# 341779 ✓	#	#	Total Modules Shipped: 37 Pieces
# 341781	# 341785 ✓	#	#	Total Modules Received: 37 Pieces
# 341789	# 341806 ✓	#	#	Total Modules Installed: 30 Pieces
#	#	#	#	Serial # of Trip Blanks (*Client Decides*) # 341806
#	#	#	#	# # #
#	#	#	#	# # #
#	#	#	#	# # #
#	#	#	#	# # #
#	#	#	#	# # #
#	#	#	#	# # #
#	#	#	#	# # #

Prepared By: Mary Ann Kruy
Verified By: Mary Ann Murphy

Installation Performed By:
Name (*please print*): JAMES A MOORE
Company/Affiliation: ERM, Inc.

Installation Method(s) (*circle those that apply*):
Slide Hammer (Hammer Drill) Auger
Other:

Installation Start Date and Time: 7 / 10 / 01 10 :50 (AM) PM
Installation Complete Date and Time: 7 / 11 / 01 13 :00 AM (PM)

Retrieval Performed By:
Name (*please print*): JAMES A MOORE
Company/Affiliation: ERM Inc.

Total Modules Retrieved: 29 Pieces
Total Modules Lost in Field: 2 Pieces
Total Unused Modules Returned: 6 Pieces

Retrieval Start Date and Time: 7 / 25 / 01 09 :00 (AM) PM
Retrieval Complete Date and Time: 7 / 25 / 01 11 :35 (AM) PM

Relinquished By / Affiliation	Date	Time	Received By / Affiliation	Date	Time
W.L. Gore & Associates, Inc.					
[signature] ERM, Inc.	7/25/01	1430			
			Mary Ann Kruy W.L. Gore & Associates, Inc.	7/26/01	13:50

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GORE-SORBER® Screening Survey Installation and Retrieval Log

Page 2 of 2

SITE NAME & LOCATION
FORMER SONOCO PRODUCTS COMPANY
TONAWANDA, NY

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR (Check as appropriate)			MODULE IN WATER (check one)		COMMENTS
				LPH	ODOR	NONE	YES	NO	
1.	341766 ✓	7/10/01 0115	7/25/01 0900			X		X	SV# A2 A1 ✓
2.	341767 ✓	7/10/01 0140	7/25/01 0907			X		X	SV# A2 ✓
3.	341768 ✓	7/10/01 0205	7/25/01 0915			X		X	SV# B1 ✓
4.	341769 ✓	7/10/01 0215	7/25/01 0918			X		X	SV# B2 ✓
5.	341770 ✓	7/10/01 0225	7/25/01 0922			X		X	SV# B3 ✓
6.	341771 ✓	7/10/01 0232	7/25/01 0926			X		X	SV # B4 ✓
7.	341772 ✓	7/10/01 0235	7/25/01 0930			X		X	SV # C1 ✓
8.	341773 ✓	7/10/01 0245	7/25/01 0940			X		X	SV # C2 ✓
9.	341774 ✓	7/10/01 0255	7/25/01 0945			X		X	SV # C3 ✓
10.	341775 ✓	7/10/01 0300	7/25/01 0950			X		X	SV # C4 ✓
11.	341776 ✓	7/10/01 0315	7/25/01 0955			X		X	SV # C5 ✓
12.	341777 ✓	7/10/01 0320	7/25/01 1000			X		X	SV # D1 ✓
13.	341778 ✓	7/10/01 0330	7/25/01 1003			X		X	SV # D2 ✓
14.	341779 ✓	7/10/01 0340	7/25/01 1006		X		X		SV # D3 ✓
15.	341781 ✓	7/10/01 0355	7/25/01 1021			X		X	SV # D4 ✓
16.	341782 ✓	7/10/01 0410	7/25/01 1053			X		X	SV# ~~ESP~~ SVE4
17.	341783 ✓	7/10/01 0425	7/25/ 1047			X		X	SVE3 ✓
18.	341784 ✓	7/10/01 0455	7/25/01 1040			X		X	SVE2 ✓
19.	341785 ✓	7/10/01 0455	7/25/01 — [redacted]			X		X	SV-DUPE1 ✓
20.	341789 ✓	7/10/01 0505	7/25/01 1031			X		X	SVE1 ✓
21.	341790 ✓	7/11/01 0820	7/25/01 1130			X		X	SVG1 ✓
22.	341791 ✓	7/11/01 0845	7/25/01 1135			X		X	~~SVF3~~ SVF3 ✓
23.	341792 ✓	7/11/01 0845	7/25/01 —			X		X	SV-DUPE2 ✓
24.	341793 ✓	7/11/01 0900	7/25/01 1122			X		X	~~SVG2~~ SVG2 ✓
25.	341794 ✓	7/11/01 0910	7/26/01 1118			X		X	SVG3 ✓
26.	341795 —	7/11/01 0935	7/25/01 GORE-SORBER MISSING			X		X	SVG4 —
27.	341796 ✓	7/11/01 0945	7/25/01 1110			X		X	SVG5 ✓
28.	341797 —	7/11/01 0950	7/25/01 GORE-SORBER MISSING.			X		X	SVG6 —
29.	341798 ✓	7/11/01 1035	7/25/01 1103			X		X	SVF2 2' depth ✓
30.	341799 ✓	7/11/01 1103	7/25/01 1100			X		X	SVF1 ✓
31.	341800								
32.	341801								
33.	341802								
34.	341803								
35.	341804								
36.	341805								
37.	341806	TRIP BLANK	7/25/01 —			X		X	SV-TB
38.									
39.									
40.									
41.									
42.									

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GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
ERM-NORTHEAST INC., DE WITT, NY
GORE STANDARD TARGET VOCs/SVOCs (A10 + BTEX)
CITY OF TONAWANDA, ERIE COUNTY, NY
SITE BVY - PRODUCTION ORDER #10744169

DATE ANALYZED	SAMPLE NAME	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug
	MDL=		0.03	0.03	0.02	0.02	0.02		0.08	0.02	0.02	0.03	0.01	0.03
7/30/2001	341766	0.42	0.25	0.14	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd
7/30/2001	341767	0.71	0.21	0.10	0.05	0.23	0.13	0.74	bdl	0.74	nd	nd	nd	nd
7/30/2001	341768	0.18	0.09	0.05	nd	0.04	nd	nd	nd	nd	0.09	0.10	nd	nd
7/30/2001	341769	0.06	0.06	nd	nd	nd	nd	0.03	nd	0.03	0.10	0.11	nd	nd
7/30/2001	341770	0.07	0.07	nd	nd	nd	nd	39.53	2.87	36.66	1.16	nd	nd	1.03
7/30/2001	341771	0.10	nd	0.10	nd	nd	nd	19.37	0.68	18.69	0.35	0.06	nd	2.47
7/30/2001	341772	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl
7/30/2001	341773	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
7/30/2001	341774	1.78	0.31	0.57	0.16	0.47	0.27	53.34	2.90	50.44	2.57	1.30	0.09	52.19
7/30/2001	341775	0.08	nd	nd	nd	0.05	0.03	2.66	0.83	1.83	8.16	9.66	0.37	5.69
7/31/2001	341776	nd	nd	nd	nd	nd	nd	0.34	0.29	0.05	3.69	4.58	0.17	0.18
7/31/2001	341777	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.04	nd	nd
7/31/2001	341778	1189.04	0.04	2.10	67.32	713.30	406.27	9.24	1.25	7.98	0.47	0.22	0.03	0.18
7/31/2001	341779	851.22	0.13	11.12	143.18	406.01	290.79	43.30	36.45	6.84	177.07	839.77	26.42	2.04
7/31/2001	341781	1.81	0.03	0.14	0.20	0.90	0.54	0.99	0.75	0.24	8.61	75.89	2.47	0.88
7/31/2001	341782	0.35	0.11	0.08	nd	0.13	0.03	nd	nd	nd	nd	nd	nd	nd
7/31/2001	341783	1.01	0.20	0.15	0.08	0.43	0.15	nd	nd	nd	nd	0.22	nd	nd
7/31/2001	341784	0.15	nd	nd	nd	0.09	0.06	nd	nd	nd	nd	0.04	nd	nd
7/31/2001	341785	0.18	nd	nd	nd	0.10	0.08	nd	nd	nd	nd	nd	nd	nd
7/31/2001	341789	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
7/31/2001	341790	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
7/31/2001	341791	0.02	nd	nd	nd	0.02	nd	nd	nd	nd	nd	0.21	nd	bdl
7/31/2001	341792	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.13	nd	bdl
7/31/2001	341793	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
7/31/2001	341794	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
7/31/2001	341796	0.31	0.09	nd	nd	0.09	0.13	nd	nd	nd	nd	nd	nd	nd
7/31/2001	341798	0.35	0.11	0.07	nd	0.09	0.07	0.03	bdl	0.03	0.05	237.24	7.11	24.00
7/31/2001	341799	1.03	0.28	0.57	0.04	0.10	0.04	205.56	113.32	92.24	71.25	1627.21	62.92	558.32
7/31/2001	341800	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.68	nd	0.64
7/31/2001	341801	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.24	nd	0.16
7/31/2001	341806	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl
7/30/2001	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Maximum	1189.04	0.31	11.12	143.18	713.30	406.27	205.56	113.32	92.24	177.07	1627.21	62.92	558.32
	Standard Dev.	271.38	0.10	2.11	29.47	152.59	92.73	40.36	22.18	20.37	35.44	340.80	12.71	105.43
	Mean	73.17	0.07	0.54	7.54	40.07	24.95	13.40	5.69	7.71	9.77	99.88	3.56	23.11

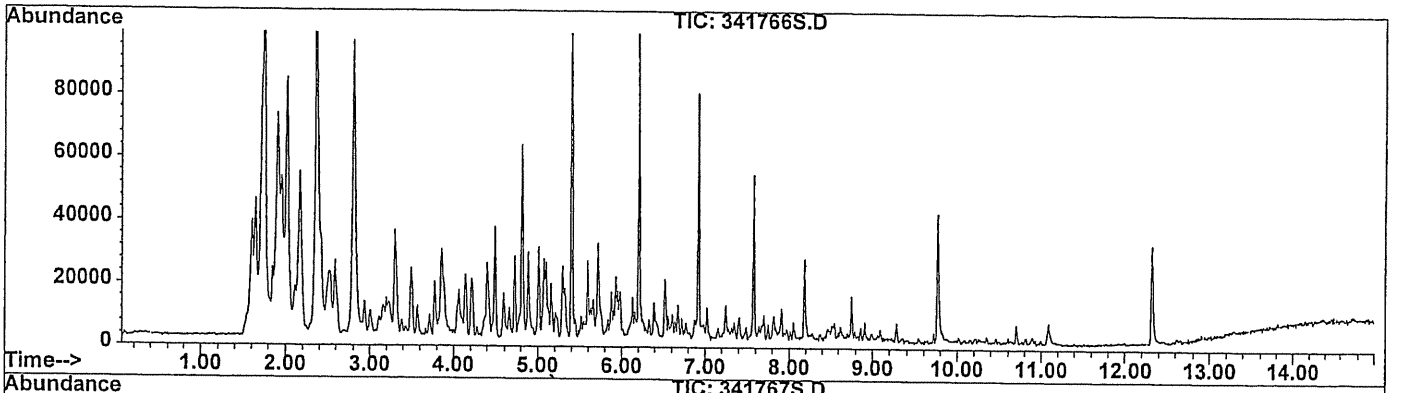
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

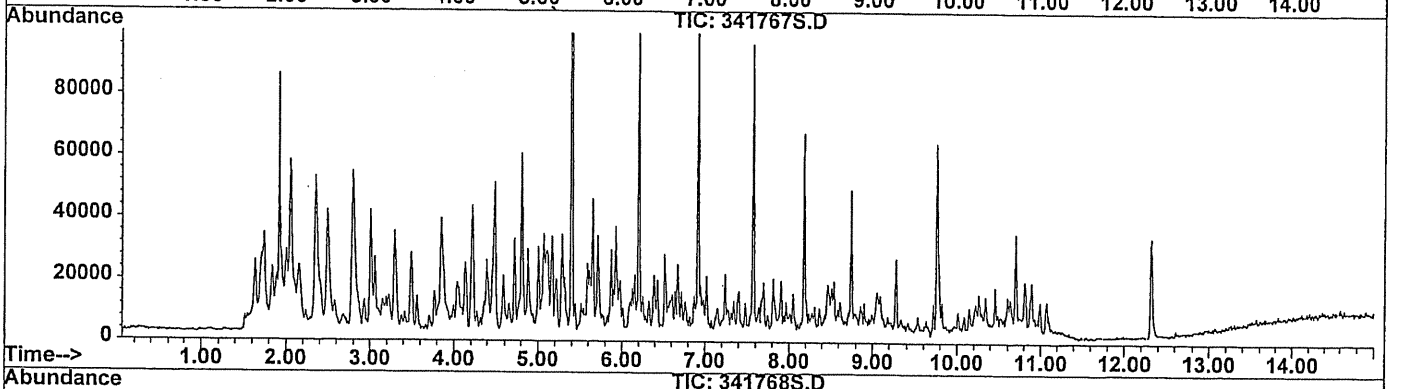
GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
ERM-NORTHEAST INC., DE WITT, NY
GORE STANDARD TARGET VOCs/SVOCs (A10 + BTEX)
CITY OF TONAWANDA, ERIE COUNTY, NY
SITE BVY - PRODUCTION ORDER #10744169

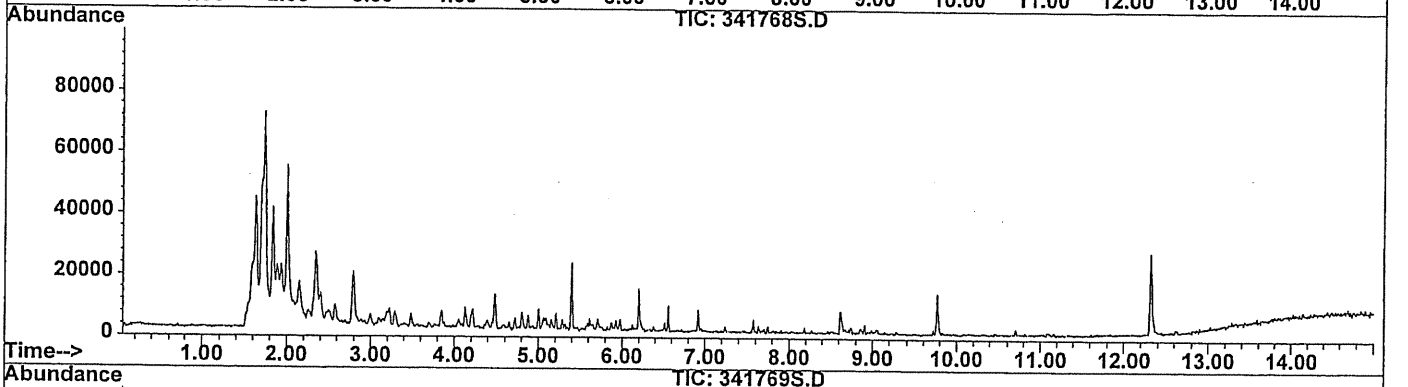
SAMPLE NAME	PCE, ug	14DCB, ug	1,1DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	ClBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.03	0.02	0.06	0.02	0.03	0.07	0.01	0.02	0.02	0.05	0.02
341766	nd	nd	nd	0.14	nd	nd	nd	nd	nd	nd	nd
341767	nd	nd	nd	0.12	nd	nd	nd	nd	nd	nd	nd
341768	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341769	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341770	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd
341771	nd	nd	nd	0.09	nd	nd	nd	nd	nd	nd	nd
341772	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341773	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341774	0.64	nd	0.11	0.07	nd	bdl	nd	nd	0.05	nd	nd
341775	0.04	nd	1.28	0.03	1.57	nd	nd	nd	nd	nd	nd
341776	nd	nd	0.70	nd	nd	nd	nd	nd	nd	nd	nd
341777	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341778	0.22	nd	nd	bdl	nd	0.16	nd	nd	0.07	nd	nd
341779	1.65	nd	7.65	nd	nd	0.12	nd	nd	0.02	nd	nd
341781	nd	nd	7.18	0.06	nd	nd	nd	nd	nd	nd	nd
341782	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341783	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd
341784	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341785	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341789	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341790	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341791	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341792	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341793	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341794	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
341796	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd
341798	nd	nd	4.53	0.08	nd	nd	nd	nd	nd	nd	nd
341799	15.95	nd	68.28	0.65	180.25	0.30	nd	nd	bdl	nd	nd
341800	nd	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd
341801	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd
341806	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	15.95	0.00	68.28	0.65	180.25	0.30	0.00	0.00	0.07	0.00	0.00
Standard Dev.	3.01	0.00	12.92	0.13	34.05	0.07	0.00	0.00	0.02	0.00	0.00
Mean	0.66	0.00	3.21	0.05	6.49	0.02	0.00	0.00	0.01	0.00	0.00

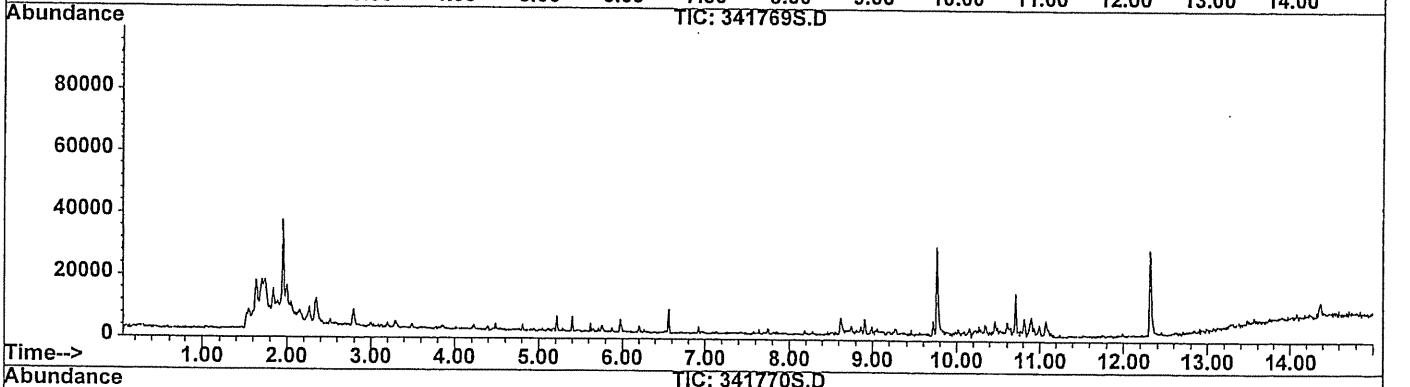
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

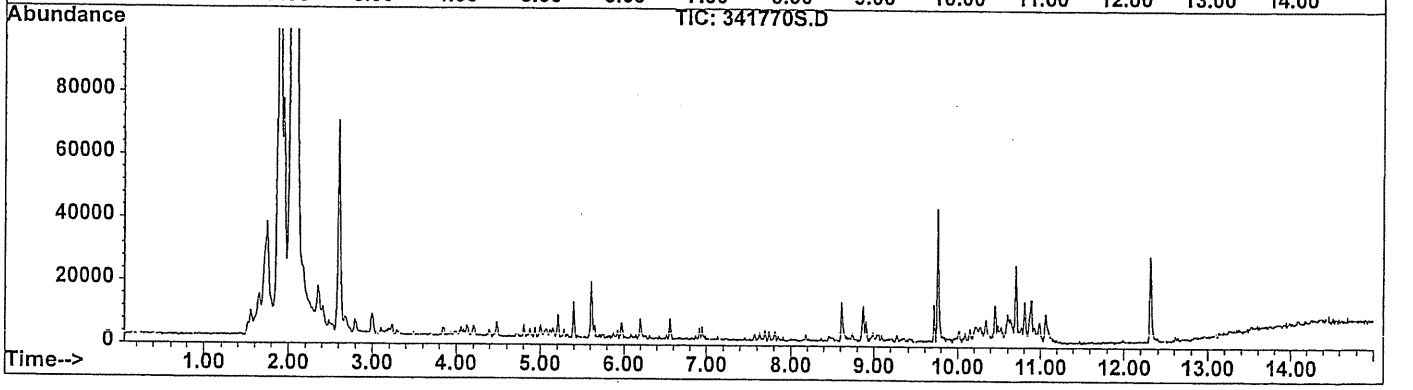
TIC - SITE BVY - PRODCUTION ORDER #10744169
IN NUMERICAL ORDER



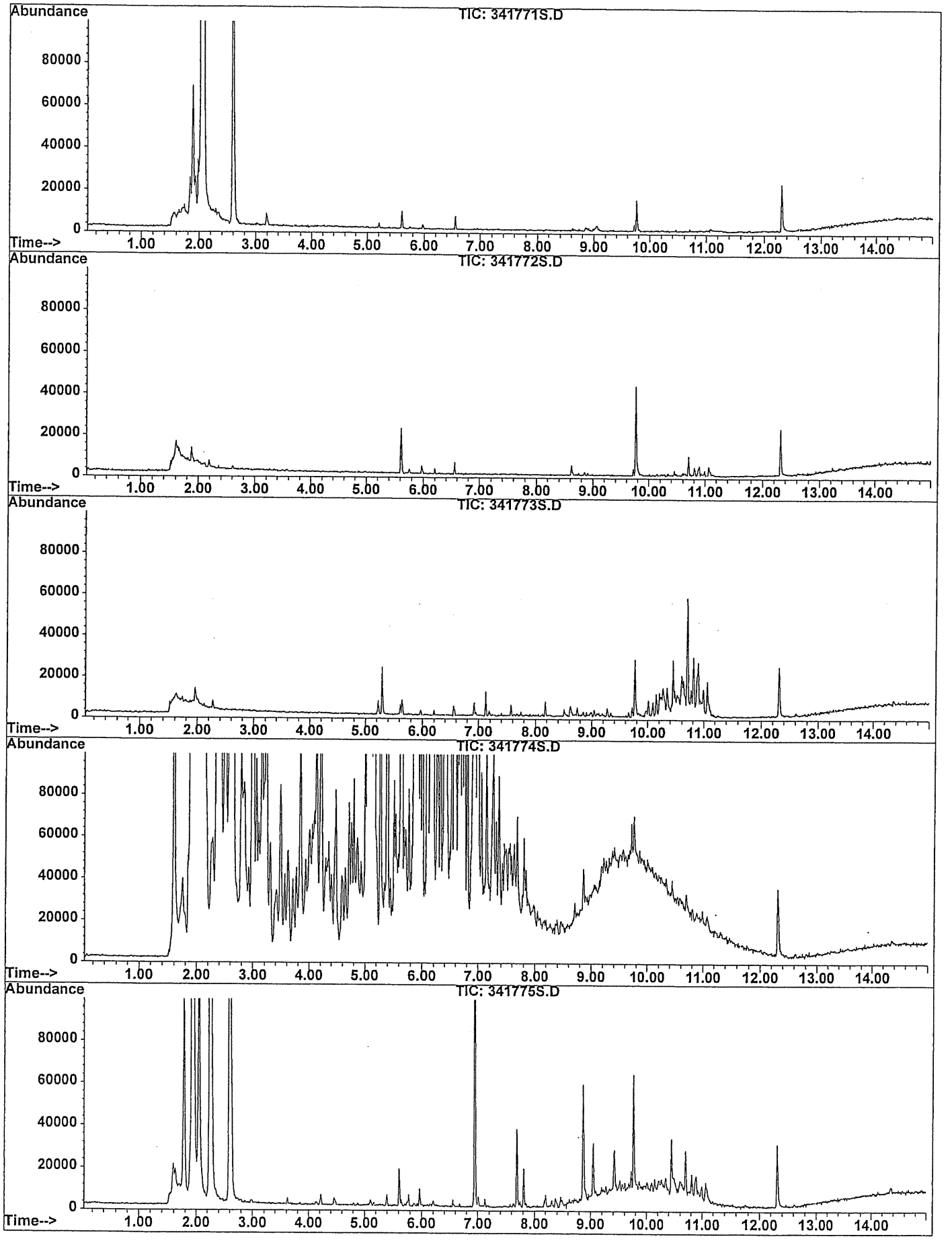




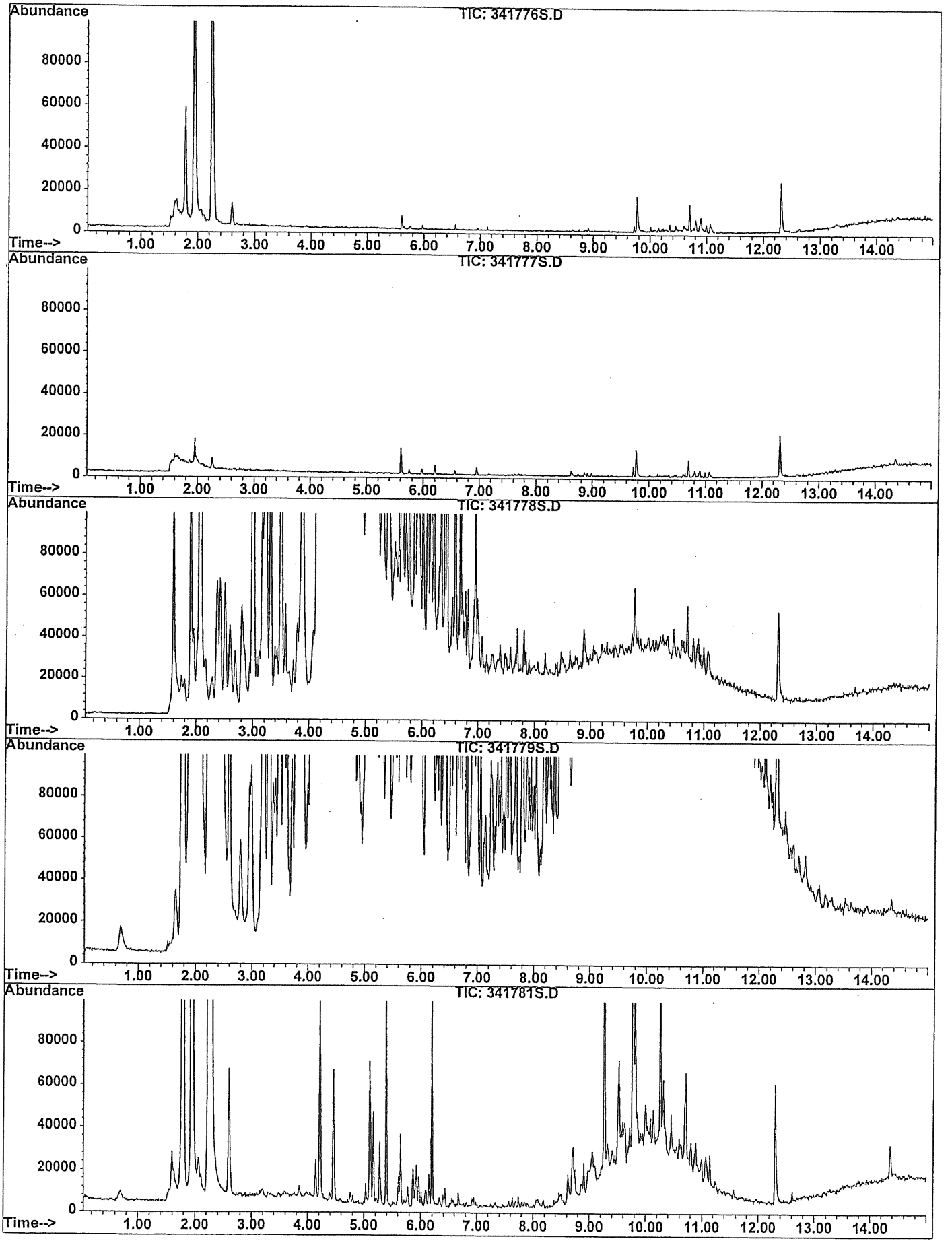




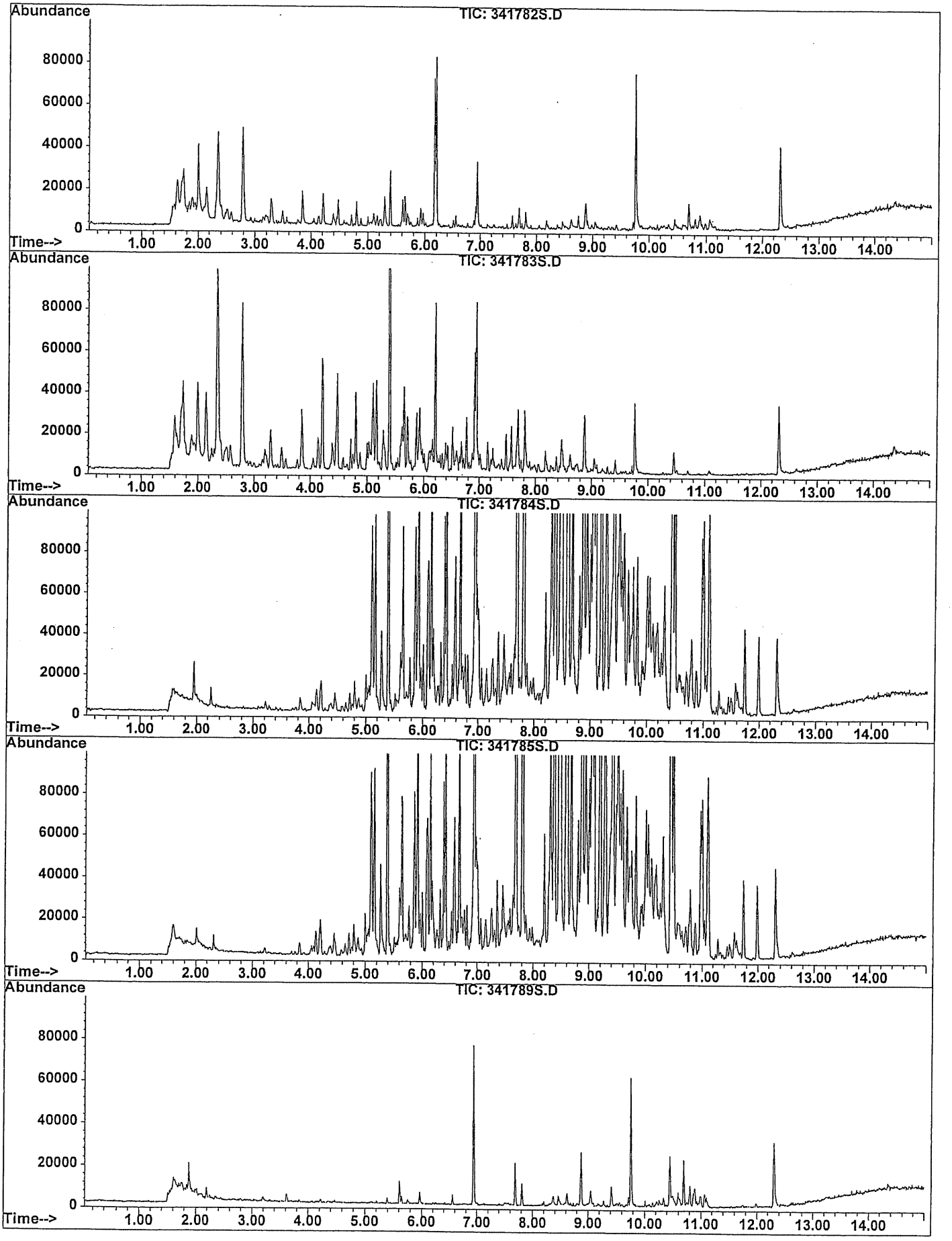
TIC - SITE BVY - PRODCUTION ORDER #10744169
IN NUMERICAL ORDER



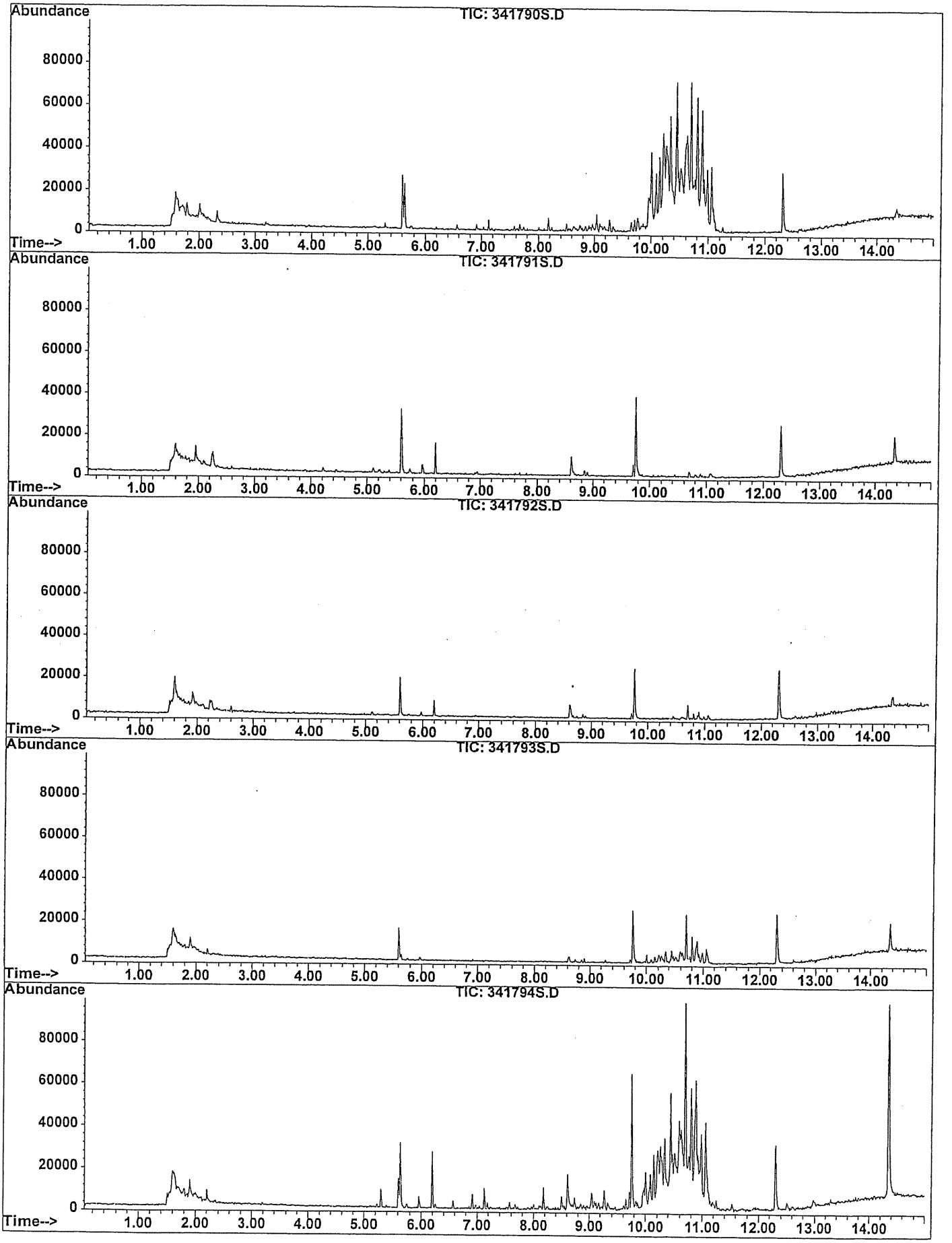
TIC - SITE BVY - PRODCUTION ORDER #10744169
IN NUMERICAL ORDER



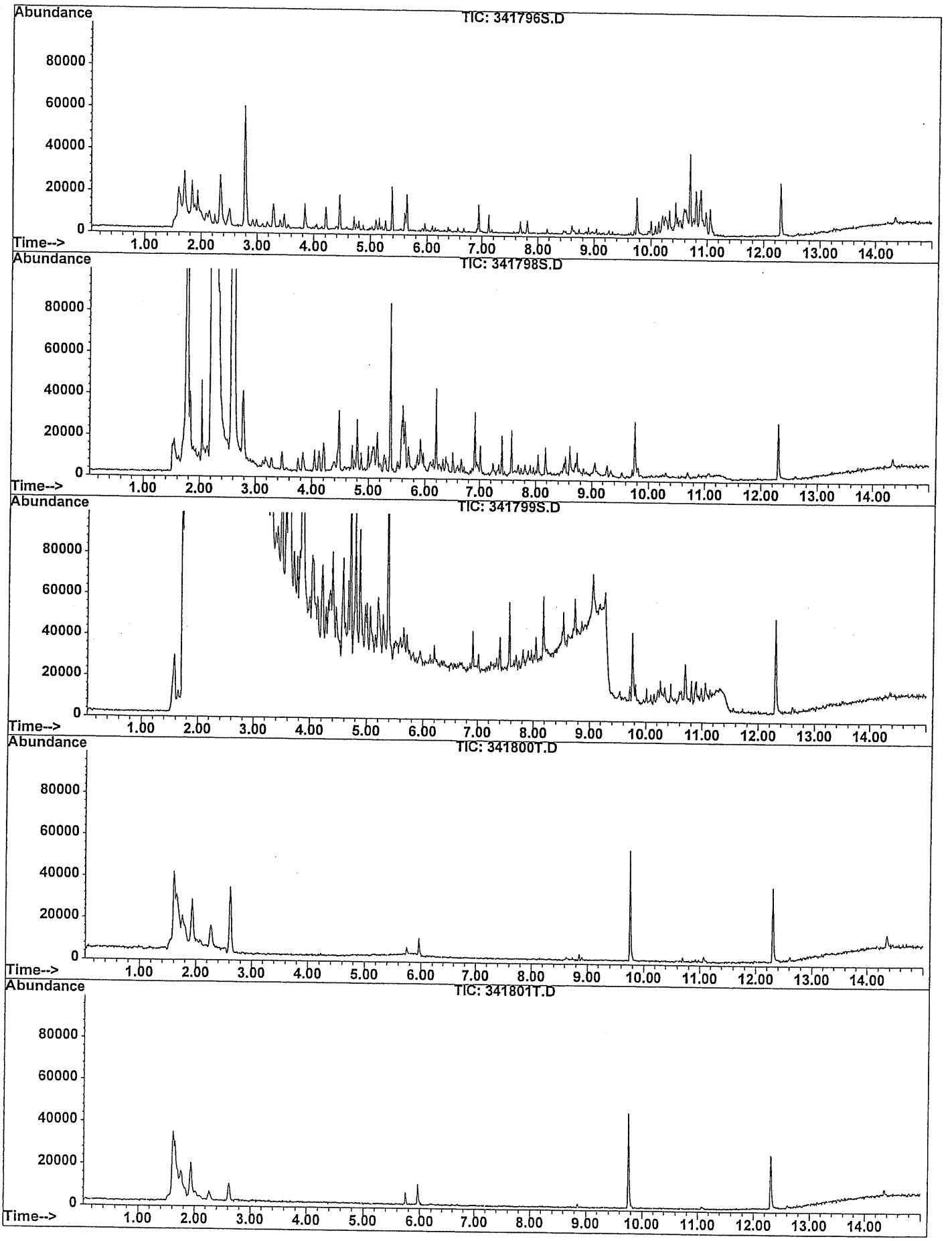
TIC - SITE BVY - PRODCUTION ORDER #10744169
IN NUMERICAL ORDER



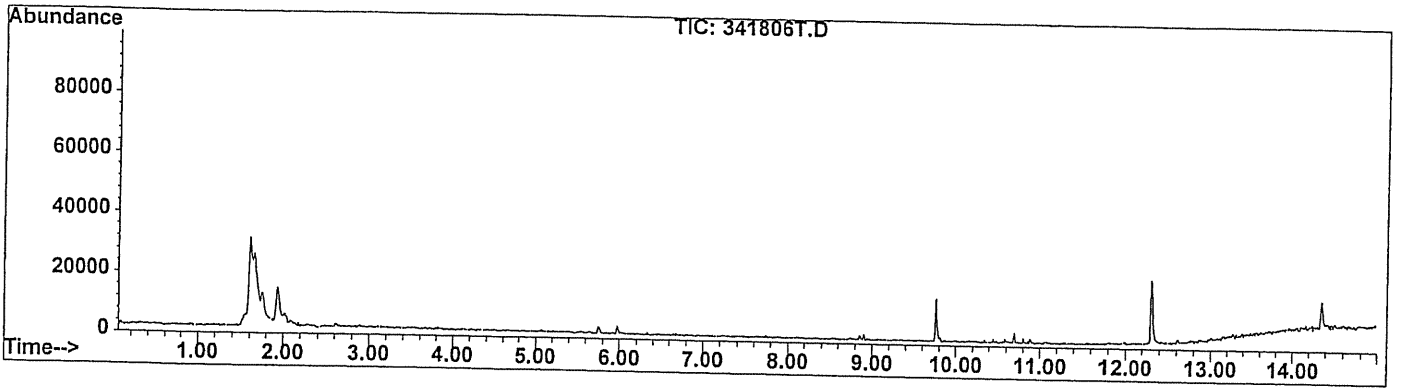
TIC - SITE BVY - PRODCUTION ORDER #10744169
IN NUMERICAL ORDER



TIC - SITE BVY - PRODCUTION ORDER #10744169
IN NUMERICAL ORDER



TIC - SITE BVY - PRODCUTION ORDER #10744169
IN NUMERICAL ORDER



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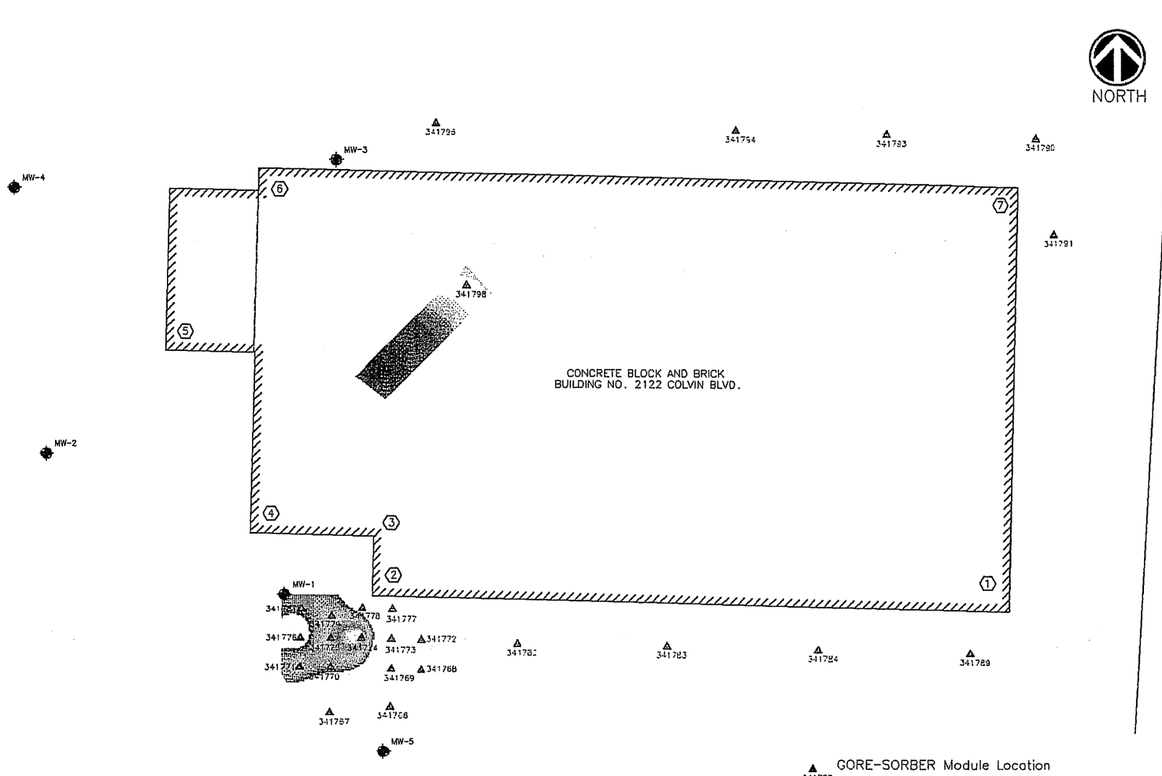

▲ 341789 GORE-SORBER Module Location

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398.061
283.727
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144.145
102.742
73.232
52.198
37.205
26.519
18.902
13.473
9.603
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4.879
3.477
2.479
1.767
1.259
0.898
0.640

TCE
[µg]

Scale 1:1200

50 0 50 100 150 200 250
feet

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ELKTON, MD, USA 21921
USA
(410) 392-7600

ERM Northeast, Inc., De Witt, NY
Former Sonoco Products Company, Tonawanda, NY
Trichloroethene

DATE DRAWN: 30 Aug 2001	DRAWN BY: JH	ORIG. CAD: F01-A.dwg	SITE CODE: BVY
REV. DATE:	REV. #:	PROJECT NUMBER: 10744169	

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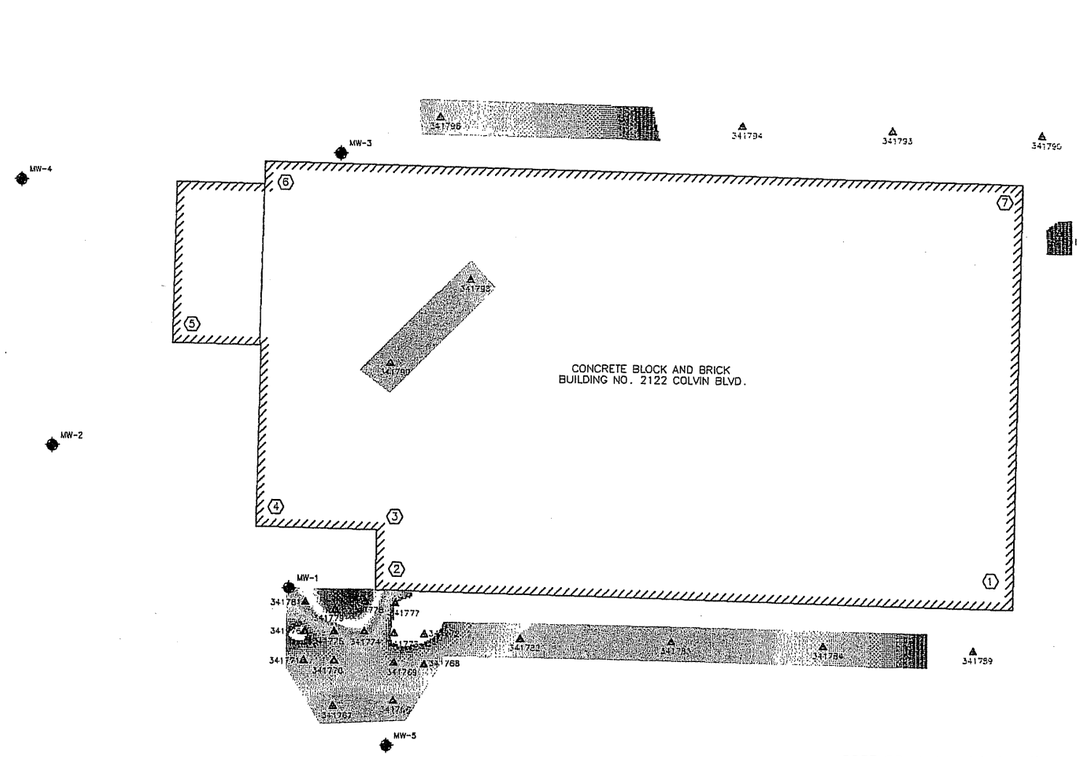

▲ 341789 GORE-SORBER Module Location

1188.502
685.962
395.913
228.507
131.886
76.120
43.934
25.357
14.635
8.447
4.875
2.814
1.624
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0.312
0.180
0.104
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Scale 1:1200

50 0 50 100 150 200 250
feet

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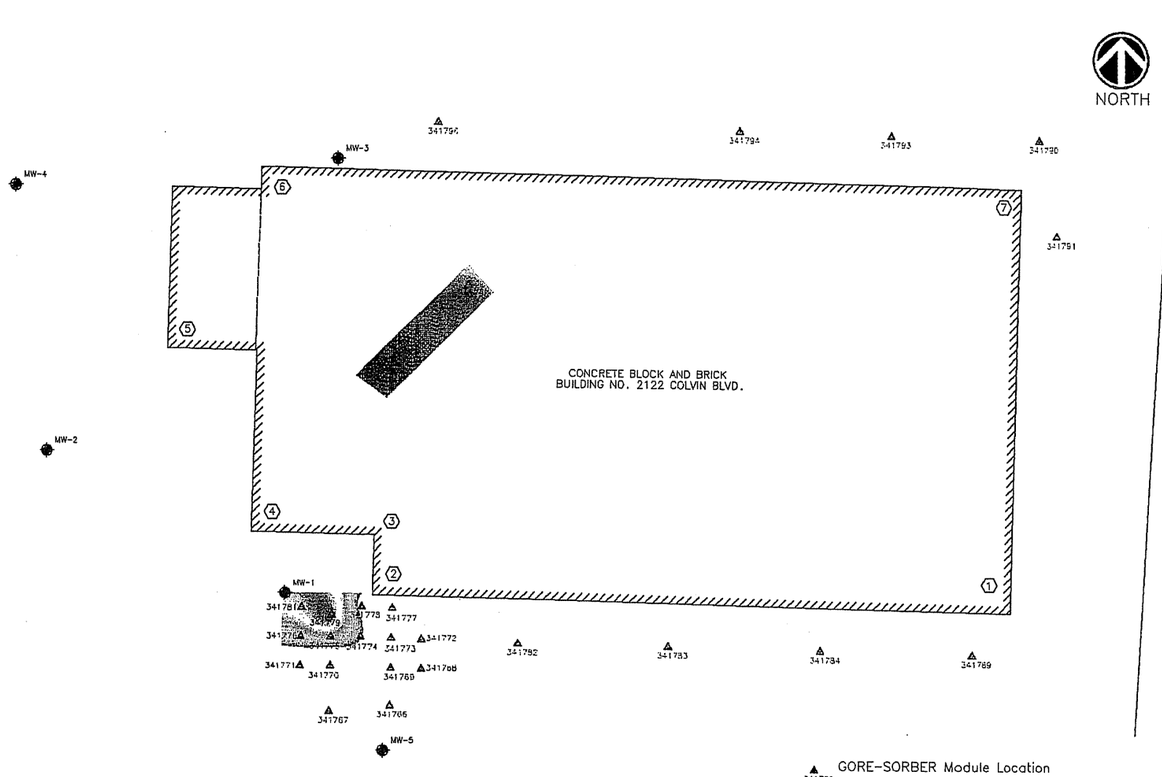

▲ GORE-SORBER Module Location
341789

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22.576
15.304
10.374
7.032
4.767
3.231
2.191
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1.007
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1,1,1-TCA
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Scale 1:1200

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1,1,1-Trichloroethane

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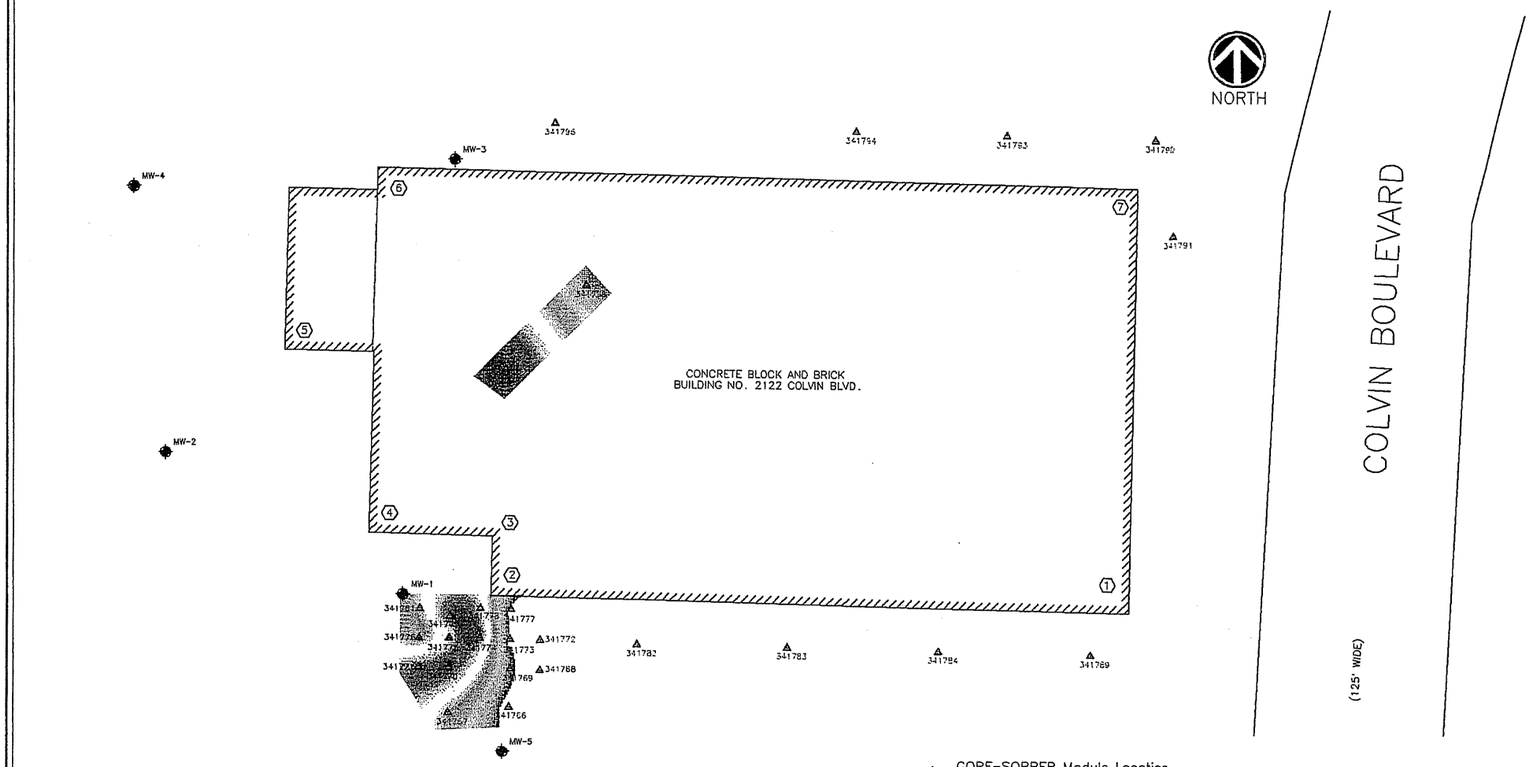

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cis- & trans-1,2-Dichloroethene

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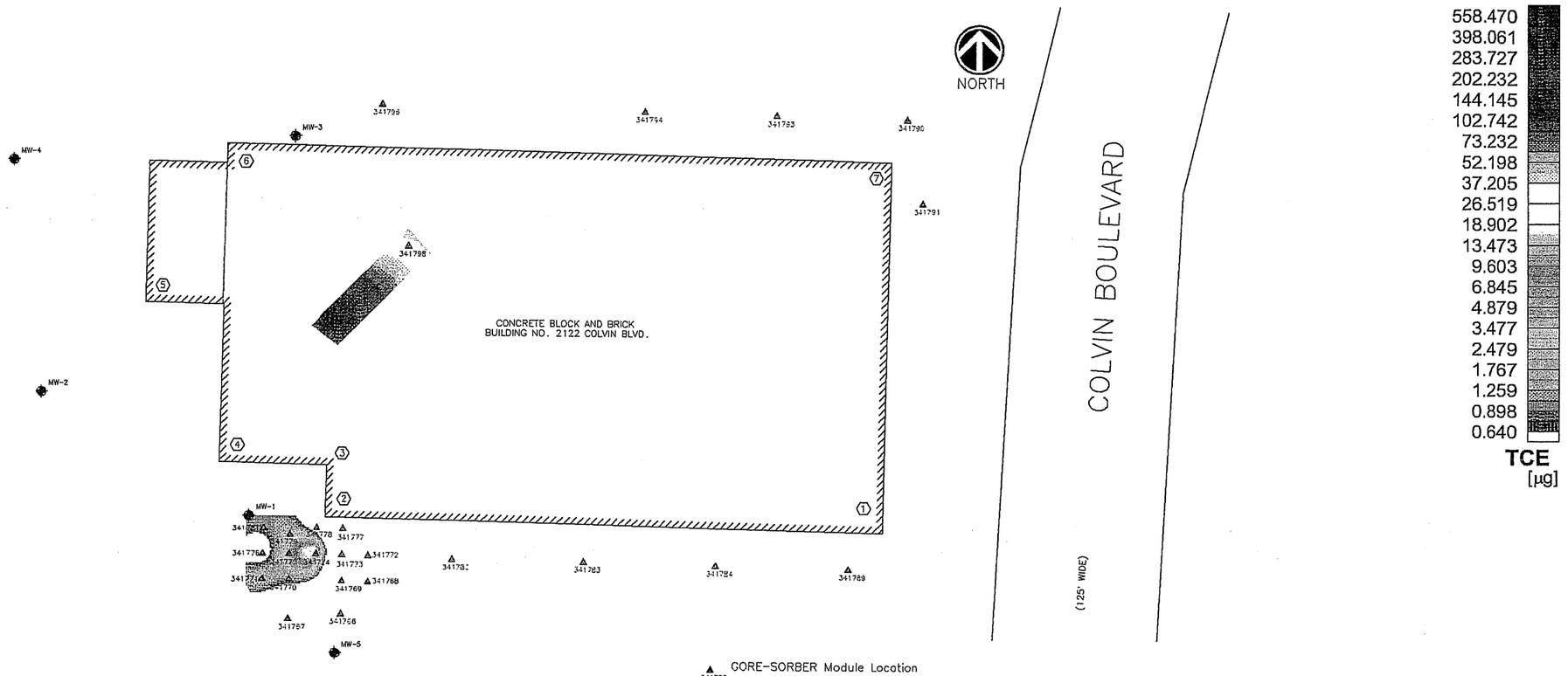

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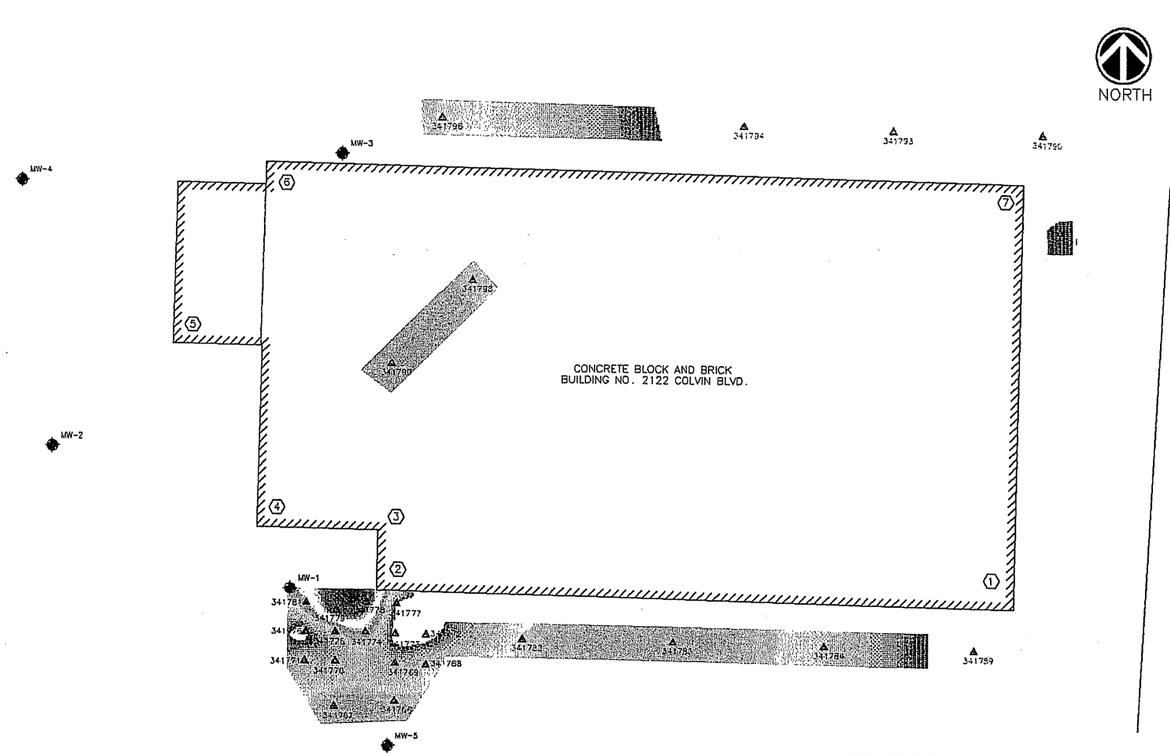

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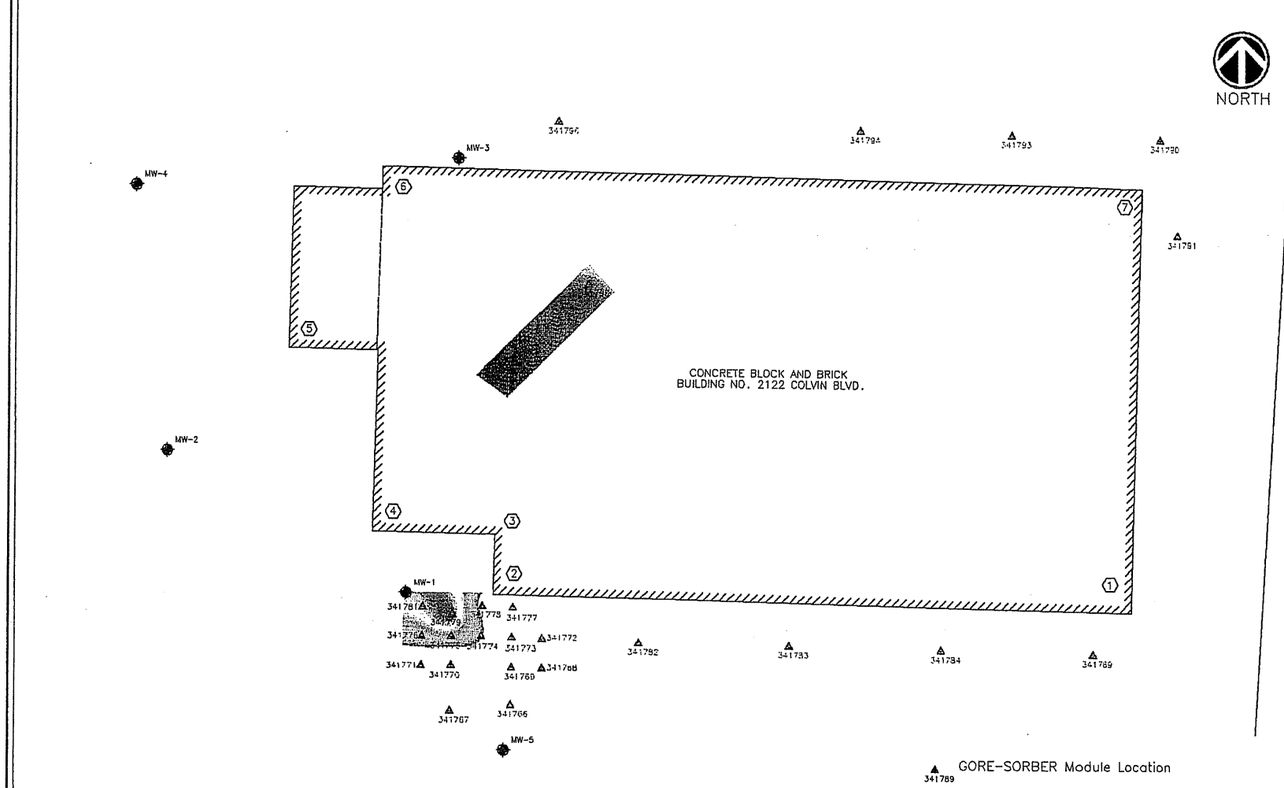

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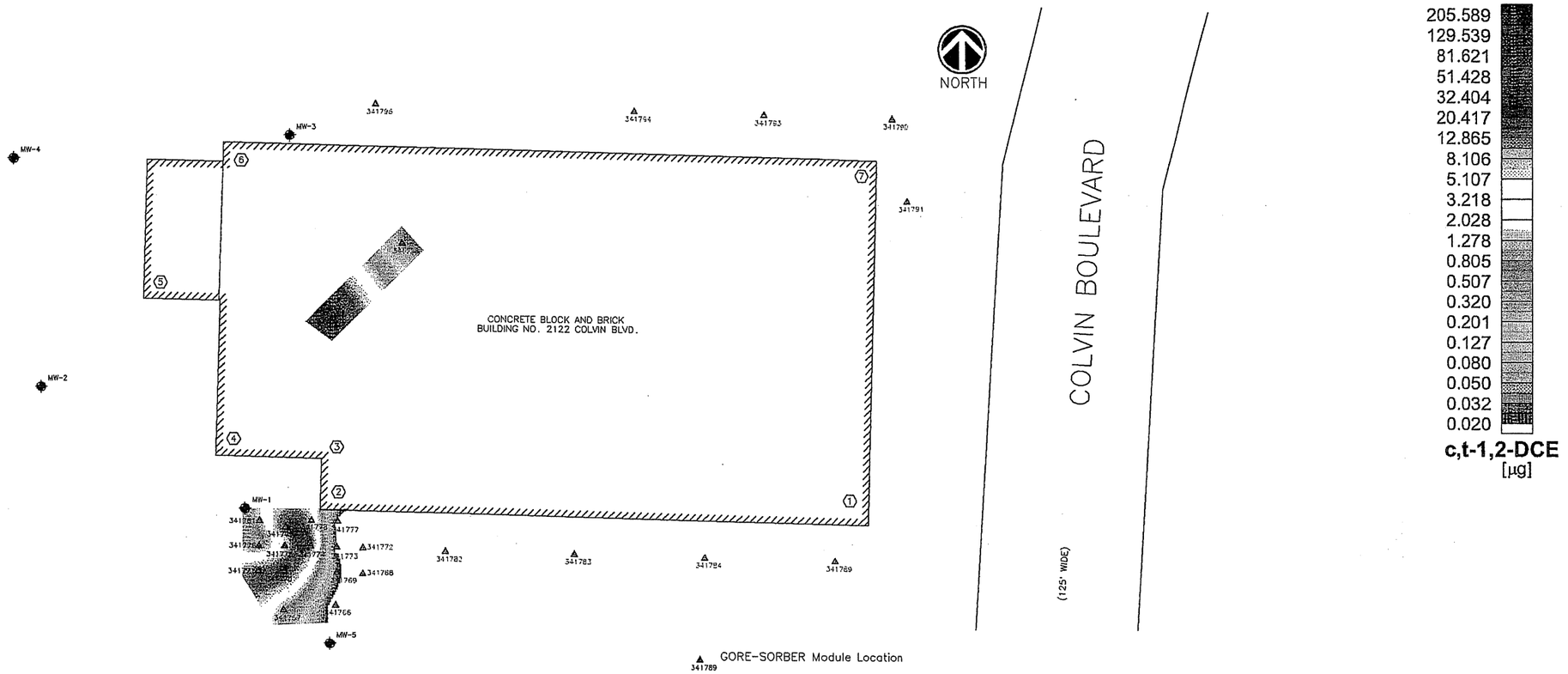

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Appendix E
Soil Boring Logs

ERM

5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number GB-23

BORING LOG

Project Name & Location: Sono Tonawanda	Project Number: 06714	Date & Time Started: 8/27/01 1130 Date & Time Completed: 8/27/01 1255	
Drilling Company: STB	Foreman: Tony	Sampler(s): Scott	Sampler Hammer / Drop
Drilling Equipment: HSA Skid rig	Method: Geoprobe	Elevation & Datum	Completion Depth: 15 / Rock Depth
Bit Size(s): 6 1/4	Core Barrel(s)	Geologist(s): J. Paetz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		0%	NA		0-8" Concrete	
1					8"-2' Gravel + sand (cinders?) black coarse moist (Augered).	
2					2-5' Gravel silty white - Lt grey, hard dry (Augered)	
3						
4						
5		90%		0.2	5-6' Silty clay, mod brn - mod olive grn, mottled, some yell grey. hard, dry, no odor	
6				2.6	6-7' AA becoming dominately lt olive brn to mod brn	
7		90%		2.2	7-8' AA dom mod brn	
8				3.8	8-9' AA mottled some silt seams light - pale yellow (SP) orange, hard, dry, no odor	
9				1.6	9-10' AA Clay increasing, dry no odor, hard - stiff	
10						

Page 1 of 2 Signature: [signature] Date: 8/27/01

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ERM

5788 Widewaters Parkway, Dewitt, New York 13214

BORING LOG

Boring Number GB-23

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10			2.8		10-11' Clay, med grey brn, stiff, slty moist, no odor	
11			2.4		11-12' Clay, med grey brn, soft, sticky, moist	
12			1.0		12-13' AA & thin silt seams < 1" thick of dry med yell brn stiff	
13			2.4		13'-14' AA	
14			1.5		14-15' Clay, med brn grey, soft, sticky, no odor	
15			2.9		End of boring @ 15' bgs Collected soil sample from interval 15' for VOC	
16						
17						
18						
19						
20						

Page 2 of 2 Signature: _____ Date: 8/23/07

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5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number GB-24

BORING LOG

Project Name & Location: Conoco	Project Number: D6714	Date & Time Started: 8/22/01	
Drilling Company: SJB	Foreman: Regan	Date & Time Completed: 8/22/01	Sampler(s): Scott
Drilling Equipment: HSA	Method: Geoprobe	Sampler Hammer	Drop
Bit Size(s): 2"	Core Barrel(s)	Elevation & Datum	Completion Depth: 16'
		Geologist(s): S. Pretz	Rock Depth

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		0%	NA		0-8" Concrete,	
1					0-5'2" Gravel (glass chg). White - light grey, hard, dry, strong solvent odor	
2						
3						
4						
5			90%	3.8	5-7' Silty clay, ~~med yell. brown~~ mod yell brn, hard, sm mottled light grey yell brn, trace f-m sand, dry, no odor	FD
6				3.7		
7			90%	0.0	7-8' Clay, trace silt, med brn to mod yell brn, firm, slty moist	
8				0.9	8-9' AA, dom mod brn, no odor, firm	
9				3.4	9-10' AA, firm, slty moist, no odor	
10						

Page 2 of 2

Signature: [signature]

Date: 8/22/01

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5788 Widewaters Parkway, Dewitt, New York 13214

BORING LOG

Boring Number GB-24

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10				2.7	10-11 Clay, med brn, clean, no odor,	
			↓		moist, soft - firm	
11			20%	0.2	11-12 Clay, med brn, soft, moist	
					no odor	
12				2.2	12-13 Clay, med brn - lt brn fine sand,	
					v soft, v moist	
13				1.5	13-14 Silt	
			↓			
14				1.0	Clay, silt seamsby v soft moist - very moist	
15				0.7	15-16 Silt seamsby, wet very soft	
					med brn - lt brn, v clean	
16				3.3		
17					End of Boring @ 16' bgs	
					@ 1635	
18					Collected soil from 16' interval	
					for VOC	
19						
20						

Page 2 of 2 Signature: [signature] Date: 8/22/01

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ERM

5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number GB-25

BORING LOG

Name & Location: Smoco	Project Number: D6714
Date & Time Started: 8/21/01	Date & Time Completed: 8/23/01
Drilling Company: SJB	Foreman: Matt
Sampler(s): Scott	Sampler Hammer:	Drop:
Drilling Equipment: PPSA Sonic Rig	Method: Geoprobe
Elevation & Datum:	Completion Depth: 10'	Rock Depth:
Bit Size(s): 7"	Core Barrel(s):
Geologist(s): J. Peetz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	~~PID~~ ~~FID~~ ~~PID~~ (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0					0-8" Concrete	
1		90%			8"-2' Gravel silty white, ltgrey, sha	
				6.2	loose, dry	
2						
		~~70%~~ 70%		4.2	2-3 Sand, (fill?), pale yellow brn, loose, dry	
3					Some gravel (possible from uphole	
				3.9	3-4 Gravel silty, white-ltgrey, loose	
4					med-fine, trace pale yellow brn sand, dry	
		NR			trace metal inclusions	
5		Shelby tube			4-7' Collected shelby tube &	
					1½ foot gravel thick	
6						
7						
		90%		29.6	7-8 Silty clay med brn-med red	
8					brn, dry, mottled, strong odor, hard	
				29.1	8-9 AA clay increasing	
9					9-10 AA & clay & sand, dry, mottled	
				29.6	red brn, hard, odors stay most	
10					Refusal @ 20' 5'5 Collected brn sample 9-10' see	

Page 1 of 1 Signature: Date:

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ERM

5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number: BB-26

BORING LOG

Name & Location: Sunoco Tonawanda	Project Number: 0167.14	Date & Time Started: 8/24/01 820	
Drilling Company: STS	Foreman: Matt	Date & Time Completed: 8/24/01 900	Sampler(s): Scott / Sampler Hammer / Drop
Drilling Equipment: HSA	Method: Split HSA	Elevation & Datum / Completion Depth / Rock Depth	
Bit Size(s): 4"	Core Barrel(s)	Geologist(s): J. Pietz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		60%	14.3		0-6" Concrete, cored 6"-1' Sand + gravel, black,	
1					moist-sly wet, odors, last 3" of interval silty clay	
			7.5		1-2' Gravel + sand, light grey-white, ghost of clay	
2					dry, fine-med grain, loose, no odor	
			4.9		2-3' silty clay, mod brn-mod yell brn, interbedded c fine sand seams <1" thick, dk	
3			13.7		yellowish orange, loose, dry, no odor, firm	
4					3-4 AA	
		70%	13.2		4-5' silty clay, mod yell brn-mod brn,	
5					hard, dry, no odor, sly mottled c light	
			12.2		grey interbeds	
6					5-6' AA	
			12.2		6-7 AA c clay increasing	
7						
			9.8		7-8 AA	
8						
		90%			8-9 Clay some silty clay mod brn-	
9					mod yell brn, firm-hard dry	
					9-10 silty clay, mod brn-mod yell	
10					brn, hard, dry, no odor	

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BORING LOG

Boring Number GB-26

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10					10-11 AA	
11					11-12 AA with last 6" being a gravel fine	
12		0%	NA		sand lens on top of fine yellow sand lens, moist	
13					12-16 - No Recovery, 2' of up hole cuttings in tube but not material from this interval. Cuttings were	
14					rolled and a hollow ⊕ center revealed the samples	
15						
16					End of boring @ 16' bgs	
17					Collected sample from boring @ 2' bgs for	
18					VOC + Metals	
19						
20						

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Boring Number GB-27

BORING LOG

Project Name & Location	Project Number: D6714	Date & Time Started: 8/17/01 1000	Date & Time Completed:
Drilling Company: JTB	Foreman: Matt	Sampler(s): Scott	Sampler Hammer / Drop
Drilling Equipment: HSA	Method: Split spoon Geoprobe	Elevation & Datum / Completion Depth / Rock Depth	
Bit Size(s): 2"	Core Barrel(s)	Geologist(s): D. Peetz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Depth Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		90%	45.3	0-.9	Sand + gravel (med-fine), brown, dry, loose, glass/plastic	
1			38.1	.5-1	Silty clay & sand + gravel (AA) dry, loose, glass/plastic	
			10.2	1-1.5	Gravel, white-pale blue-V. light grey loose dry no odor, glass	
2			11.2	1.5-2	AA	
			11.0	2-2.5	Silty Clay, trace fine sand (light-med brn), loose	
3			17.1	2.5-3	AA, dry, firm	
			17.7	3-3.5	AA, stiff	
4			10.6	3.5-4	AA, hard	
		100%	7.0	4-4.5	Silty clay, med brn-med red dry, trace, silt seams	
5			7.8	4.5-5	AA, hard, dry, well sorted	
			5.4	5-5.5	Silty clay, clay more silty, hard-very hard, dry no odor	
6			9.8	5.5-6	AA	
			7.1	6-8	AA Silty clay, dom med brn-med red	
7			4.1		brn, hard becoming v hard @ bottom,	
			4.3		trace thin yellow brn silt seams, dry,	
8			4.8		no odor	
		90%	20.9	8-10.5	8-10.5 Silty clay, med brn to med	
9			7.8		olive brn, SAA - very hard @ bottom	
			4.3		of interval, dry - slightly moist, well	
10			3.6		sorted, no odor	

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BORING LOG

Boring Number GB-27

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Depth Blow Counts	SOIL DESCRIPTION	REMARKS
10		90%	6.4	10-10.5	10-10.5 AA, Clay increasing	
			8.3	10.5-11/11.5-12	Clay, Mod yell brn - mod brn -	
11			3.6		mod red brn, stiff - Mn @ depth,	
		↓	2.8	↓	slty moist, very well sorted, no odor	
12		50%	1.5	12-14	Clay, pale brn - dk yell brn, soft, moist,	
			—		sticky, trace dusky yellow stiff, very	
13			7.3	↓	well sorted, no odor	
			—	14-16	AA, becoming v. moist, no odor	
14			2.3			
			—			
15			4.0			
		↓	—	↓		
16						
					End of boring @ 16' bgs	
17					@ 1130 Collected sample from	
					0-1' interval for VOC,	
18					SVOC + Metals @ 1140 am	
19						

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Boring Number GB-28

BORING LOG

Project Name & Location	Project Number	Date & Time Started: / Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		80%			0-6" Concrete dry, light grey-white	
1					6"-1 FM Sand + gravel, loose, med-fine, black no	
			4.7		1-2' Concrete & sand and gravel (AA)	
2					moist.	
			6.9		2-3' Silty clay, med brn-med orange	
3					brn, dry, no odor	
			8.5		3-4' Silty clay med brn-med orange brn,	
4		↓			mottled c/ grey + white @ depth, hard	
		90%	9.0		4-5' AA less mottled	
5		↓				
			6.4		5-6' AA dom med orange brn - red brn	
6					hard, dry, no odor	
			6.4		6-7 AA	
7						
			6.6		7-8 AA	
8		↓				
			7.0		8-9 AA	
9						
			9.3		9-10 Silty clay, Med brn orange, hard	
10						

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BORING LOG

Boring Number GB-28

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10			9.7		10-11 SiMty clay, med brn-med brn red mottled, dry (increasing), hard dry, no odor	
11			11.4		11-12 Clay, some siMty clay, med reddish brn, ~~brown~~ (TP) stiff, dry-slty moist, no odor	
12		60%	11.4		12-13 AA	
13			14.2		13-14 Clay, med reddish brn, soft, slty moist, no odor, (Atterberg, v. well sorted	
14			10.0		14-16 AA, no odor	
15			12.3		End of boring @ 16' bgs	
16		✓			Collected sample from 16' bgs for ~~VOA~~ (TP) ~~COD~~ VOC and metals @ 350 pm	
17						
18						
19						
20						

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Boring Number GB-27 GB-29

BORING LOG

Project Name & Location: Conoco	Project Number: D6714	Date & Time Started:	
Drilling Company: STS	Foreman	Date & Time Completed:	
Drilling Equipment: Skid rig	Method: HSA	Sampler(s): Scott / Sampler Hammer / Drop	
Bit Size(s): 2"	Core Barrel(s)	Elevation & Datum / Completion Depth: 16' / Rock Depth	
		Geologist(s): T. Pietz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		100%	—		0-6" Concrete, cored	
1		80%	~~9.4~~	3.1	6"-1' Sand + gravel (med-fine), loose, black	
			~~7.4~~	2.2	1'-1.5 Concrete, 2nd floor, cored	
2			~~46~~		1.5-2' Dom Sand, med grey, loose, moist, no odor	
				9.5	2-2.5 Sand + gravel, med grey, angular gravel	
3					2.5-3 4" of grey green silty clay, slight odor, moist	
				11.8	3-4' Clay* interbedded lenses of fine sand (yellow brown) *Clay orange brn, moist, firm	
4		100%		11.2	4-5' Silty clay, med brn, mottled, light grey clay inclusions, hard, dry, no odor	
5				7.2	5-6' AA Clay increasing, dom red orange brn, hard, dry no odor	
6		60%		8.3	6-7 Silty clay - clay, med brn orange hard dry, no odor, poor recovery	
7				12.3	7-8 AA	
8				12.7	8-10 AA	
9				8.7		
10						

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BORING LOG

Boring Number GB-27 (JP) / GB-29

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10		1	2.1		10-12' AA	
11		↓	2.0 (JP)			
12		30%	8.2 (JP)		12-16' Dom. cavings, bottom interval clay, med brn - med reddish brn, firm, moist, sticky	
13						
14						
15		↓	8.2			
16						
17					End of boring @ 16' bgs Collected sample from 8-9' section for VOC + metals @ 1200	
18						
19						
20						

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Boring Number GB-7D

BORING LOG

Project Name & Location	Project Number	Date & Time Started: / Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		90%	70.2		0-6" Concrete	
1					6"-1' Gravel (fine-coarse) dk grey, loose, no stn/odor	
			38.8		1'-2' (GT) Sand + gravel, lt grey-white, dry	
					abundant clay material / AA / odor	
2			36.1		2'-3' AA	
3						
			1551		3-4' Clay, olive greenish grey - dk greenish	
					grey, firm, dry-moist, strong odor,	
4			1491		4-5' AA, becoming dk greenish grey dom, strong	
					odors, hard, dry-moist	
5			670		5-6' Silty clay, med brn - lt brn, banded,	
					hard, dry, strong odors, silt + sand lenses	
6			1230		6-7' AA, silt + sand lenses more dry	
7						
			1660		7-8' AA becoming, hard-very hard, dry	
8						
			1866		8-9' Silty clay, med brn - lt brn, mottled,	
					hard, strong odors, dry - dry moist	
9			72000		9-10' AA becoming (GT) dk red, dry, clay	
					increasingly hard	
10						

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BORING LOG

Boring Number GD-30

DEPTH (ft below grade)	SAMPLES: Sample Number	SAMPLES: Recovery (feet)	SAMPLES: FID/PID (ppm)	SAMPLES: Blow Counts	SOIL DESCRIPTION	REMARKS
10			7000		10-11 AA dom dk red brn, odor decreasing hard dry - dry moist	
11			1914		11-12 AA (FD) Clay, ~~dk red brn~~ brn gray, hard dry - dry moist, less odors	
12		60%	1132		12-13' AA	
13			707		13-14 Sand (2" seam, fine, loose, moist, strong odors) Clay, (W) hard, brn gray, stiff, strong odors	
14					14-15 Clay, AA	
15			703		15-16 Sand @ top 1½", fine, loose strong odor, dusky yellow, clay, sticky, firm, moist,	
16						
17					End of boring @ 16' BGS Collected sample from 8-9' interval	
18						
19						
20						

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Boring Number GB-31

BORING LOG

Project Name & Location: Sonoco	Project Number: 06714	Date & Time Started: 8/21/01 1105	
		Date & Time Completed: 8/21/01 1205	
Drilling Company: STS	Foreman: Kerry	Sampler(s): Scott	Sampler Hammer / Drop
Drilling Equipment: HSA	Method: Geoprobe	Elevation & Datum	Completion Depth: 16 / Rock Depth
Bit Size(s): 2"	Core Barrel(s)	Geologist(s): J. Paetz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0			186 SP		0-6" Concrete Cored	
1					6"-1 Gravel + Sand (Cinders?) blackish, loose, wet	Soil Auger
			354 SP / 186		1-2' Gravel (flyash slag), white-Ltgrey, v hard	
2					Strong solvent odor, dry, Augered through	
				359	2-2½ Clay, md grey brn, olive gray	
3			0%		2½-5' Auger, gravel slag, white,	
				NR	dry, v hard, No sample	
4					⊕ Drillers augered to 5' and then	
				NR	pushed macrocore 5 rods to depth	
5						
			95% / 789		5-6' Silty clay med brn-med orange brn	
6					hard, mottled, abundant sand @ depth	
				>2000	6-7' Sand fine, med brn-med orange brn, loose fine moist wet, v strong odors	*See p. 2
7						
			60%	274	7-10' Silty clay light brn-med yell brn, hard, dry, slightly mottled,	
8						
				165	trace grey orange, slight odor	
9				363		
10						

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BORING LOG

Boring Number GB-71

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10		90%	198		10-11 SP Clay, mod olive brn, hard, dry	
11			42		11-12 AA	
12			7.3		12-13 Clay, sticky, firm, sly moist, no odor	
13		90%	6.0		13-14 AA becoming v moist	
14			8.5		14-15 AA	
15			6.2		15-16 Clay, med olive brn - light olive brn in part, ~~soft~~ SP soft, moist-sly wet, v. sticky	
16			5.5			
17					End of boring @ 16' BGS	
18					Collected sample from 6-7' interval for VOC ~~& SVOC~~ (S)	
19					* Sand lenses at 2-3" thickness interbedded	
0					& sticky, med grey brn	

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Boring Number GB-32

BORING LOG

Project Name & Location: Sunoco	Project Number:	Date & Time Started: 8/27/01 1000 Date & Time Completed:	
Drilling Company: STB	Foreman: Matt	Sampler(s): Scott	Sampler Hammer: Drop:
Drilling Equipment: HSA	Method: Geoprobe	Elevation & Datum:	Completion Depth: Rock Depth:
Bit Size(s): 2"	Core Barrel(s):	Geologist(s): J. Paetz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		100%	4.1		0-4" Topsoil, silty clay, roots, dk brn, loose, dry	
1					4"-1' Silty clay (AA) w/ fine gravel, dry, loose	
			8.0		1-2' Silty clay, mottled dk brn, dk orange brn, dk gray, hard, dry, slight odor	
2			7.9		2-3' AA	
3			6.5		3-4' AA w/ mottled pale gray clay inclusions	
4		80%	4.9		4-5' Silty clay, mottled, dk orange yell, pale yell brn, v pale orange, dry, hard no odor	
5			4.7		5-6' AA w/ light gray, streaky, dry, hard	
6			7.0		6-7' AA w/ pale red brn clay, increasing dry, hard	
7			4.9		7-8' Clay, pale red brn, v dusky red, hard, dry moist	
8		75%	--		8-9' Sluff	
9			--		9-10' Silty clay, mottled, red brn - dusky red, dk brn, hard dry	
10						

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BORING LOG

Boring Number GB-32

DEPTH (ft below grade)	SAMPLES: Sample Number	SAMPLES: Recovery (feet)	SAMPLES: FID/PID (ppm)	SAMPLES: Blow Counts	SOIL DESCRIPTION	REMARKS
10			5.1		10-11' Clay, pale brn-pale yell brn, tr light gray slty, sticky silt seams ≤1cm thick, firm, soft	
11			7.5		11-12' Clay, AA & light olive gray V. slty, sticky	
12		50%			seams ≤ 1½ cm thick, soft, moist no odor 12-13' Slough	
13			—		13-14' Slough	
14			8.3		14-15' Clay, pale brn, pale yell brn, trace slty clay	
15			8.8		slt seams, soft, moist, v. sticky 15-16' AA no odor	
16					Finished GB-32 @ 1100	
17					Collected soil from 16' depth	
18						
19						
20						

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5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number: GB-33

BORING LOG

Project Name & Location: Sunoco	Project Number:	Date & Time Started: 8/15/01 0940 am Date & Time Completed:	
Drilling Company: SJB	Foreman: Matt	Sampler(s): Scott	Sampler Hammer: Drop:
Drilling Equipment: Geoprobe	Method: Geoprobe	Elevation & Datum:	Completion Depth: 16' Rock Depth:
Bit Size(s): 2"	Core Barrel(s):	Geologist(s): J. Dietz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		100%	0.2		0-5" Silty clay & red sand, moist, light brown-red brn, stiff	
1						
			1.6		5"-1' as above & coarse gravel LS,	
2					Coarse, wet hydrocarbon odor, mod grey @ depth	
			1.8		1-3' Mod brn - pale brown, silty clay	
3					stiff. hard, dry	
			3.9		3-4' As above & sand seen @ 3.5'	
4		↓			fine sand < 1 cm thick (SITE) mercury	
		60%	0.0		4-5 SM+ - silty clay pale brown -	
5					dk orange brn - mod brn. thinly laminated	
					dry, stiff - hard, no odor	
6					5-6' AA	
					6-7 AA fine clay increasing	
7			↓		7-8 Clay dom, dk yellow brown - dk red brn	
			0.1		mod brn, stiff, dry moist, no odor	
8		↓				
		90%	0.0		8-9 As above & 1" of med - fine	
9					sand and ~~fine~~ gravel @ upper 6"	
					dark, slight odor, dry	
10		↓	↓		9-10' Clay med brn - mod red brn stiff	

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BORING LOG

Boring Number GB-73

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10					moist brown-red brn 10-12 Clay interbedded & thinly laminated	
11					yellowish brn silt, slightly moist,	
					no odor	
12						
		100%	0.0		12-13 AA clay red brn - dk reddish brn,	
13					secondary setter	
					13-14 AA & thinly laminated silt	
14					yellowish brn interspersing, no odor	
					very moist	
15					TD @ 16' BGS	
					Collected Sample from 3' depth	
16						
17						
18						
19						
20						

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Boring Number GB-34

BORING LOG

Project Name & Location	Project Number	Date & Time Started: 1210 8/28/01 Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		75%	3.1		0-3" Topsoil, mod brn-orange brn, roots, trace f sand	
1					3"-1' Gravel, fine, lt gray, loose, some black, tarry	
			47.3		1'-2' Sandy silt, light olive gray, moist, odor*	
2					trace fine gravel, firm * septic? some hydrocarbon odor	
			56.1		2-3' Sandy silt, light grey, some fine gravel, soft-firm	
3			34		3-4 Sandy clay, lt brt grey, (sp) septic odor, soft	
4			>2000		4-4.5 AA & staining, light yellow brn stl, strong odor	
5						
6					Refusal @ 4.5'	
7						
8						
9						
10						

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Boring Number GB-34

BORING LOG

Project Name & Location	Project Number	Date & Time Started: / Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		80%	5.0		0-1' Gravel, abundant silty clay, pale brn,	
1					loose, odors	
			457	457	1-2' Silty clay, trace gravel, pale gray-	
2					lt brn, hard, strong odors, moist	
			457	411	2-3' Silty sand clay, trace fine gravel,	
3					mottled, lt gray-~~light~~ mod brn, hard, strong odors	
			480		3-4' AA mod brn, dk red brn, light gray	
4		↓			strong odors slt moist	
		90%	761		4-5' AA & increasing sand & lt gray	
5					clay thin sand-silt seams	
			191		5-6' AA clay increasing	
6						
			422		6-7' AA	
7						
			179		7-8' Silty clay, mod brn-dk red brn,	
8		↓			mottled, pale gray, hard, dry	
		80%	63		8-9' AA, hard, dry	
9						
			136		9-10' Silty clay, dom mod brn, trace lt gray	
10		↓			clay, hard, dry	

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5788 Widewaters Parkway, Dewitt, New York 13214

BORING LOG

Boring Number: 17-B-34

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10			91		10-11 Clay, mod brn - dk red brn, hard, dry, less odors, staining on surface (cuttings)	
11			66		11-12' AA, becoming moist, firm	
12		50%			12-13' Sloughed clay interbedded & dry sand inside center visible on staining on outside of core	
13						
14			485	30.4	13-14 AA	
15			485		15-16 Clay, mod brn - dk red brn, soft, moist	
16		✓	485			
17						
18						
19						
20						

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ERM

5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number GB-35

BORING LOG

Project Name & Location: Broco	Project Number	Date & Time Started: 8/12/01 1140 Date & Time Completed: 8/15/01 1227	
Drilling Company: SJB	Foreman: Matt	Sampler(s): Scott	Sampler Hammer / Drop
Drilling Equipment: GP	Method: Geoprobe	Elevation & Datum	Completion Depth: 16 / Rock Depth
Bit Size(s): 2" Split Spoon	Core Barrel(s)	Geologist(s): J. Pretz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		1.0	0.0		0-1' Silty clay dk yell brn - dk brn gray, roots, dry no odor	
1					1-2' As above, white mottlings	
2					2-3' As above + lt gy fine sand seam (very thin) Loose dry no odor	
3					3-4' AA	
4					4-5' Silty clay, mod brn - lt brn/gray SAND, dry, mottled no odors	
5					5-6' AA reddish brn clay more dry	
6					6-7' AA	
7					7-8' Clay, mod brn - med red brn, SAND, slightly moist, no odor	
8						
9					8-9 AA, some silt seams, dry	
10						

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BORING LOG

Boring Number GB-35

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10		100%			10-11 AA, no odor	
11					11-12 AA	
12			0.0		12-13' AA becoming softer, moist	
13					13-14 Med brn - grey sh red, trace light blush grey, moist, no odor	
14					14-15 AA	
15					15-16 AA very moist - moist, ~~wet~~	
16					light blush grey heterogeny, no odor	
17					End of boring @ 16' bgs	
18					Collected sample from 16' section and MS/MSDs from 16' bgs	
19						
20						

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5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number GB-36

BORING LOG

Project Name & Location: Sunoco	Project Number: D6714	Date & Time Started: 8/28/01 1515	Date & Time Completed: 1145
Drilling Company: SJB	Foreman: Matt	Sampler(s): Scott	Sampler Hammer:	Drop:
Drilling Equipment: HSA	Method: Geoprobe	Elevation & Datum:	Completion Depth: 16'	Rock Depth:
Bit Size(s): 2"	Core Barrel(s):	Geologist(s): T. Poetz		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION: SM+-	
0		90%	3.1		Silty clay, mod olive brn, some root, dry	
1					loose	
			3.4		1-2' Silty clay, trace mottled	
2			8.2		2-3 Silty clay, mottled, mod olive brn,	
					grey mh olive brn, lt olive brn, dry hard	
3			13.2		3-4 AA & trace mod olive brn	
					sand hard	
4		90%	484		4-5' Silty clay mod brn, pale olive, dk	
					olive brn, dry, strong odors, hard, tr Silt seams	
5			401		5-6' AA & dk red brn clay, trace, thin	
					light grey olive Silt seam.	
6			84		6-7' AA	
7			29.0		7-8' AA	
8		90%	12.5		8-9' Silty clay, mod brn - pale olive, mottled	
					dk red brn w/ Silt, hard, dry no odor	
9			37.9		9-10 AA clay (dk red brn increasing)	
10						

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BORING LOG

Boring Number GB-36

DEPTH (ft below grade)	SAMPLES: Sample Number	SAMPLES: Recovery (feet)	SAMPLES: FID/PID (ppm)	SAMPLES: Blow Counts	SOIL DESCRIPTION	REMARKS
10			15.3		10-11 AA, dom mod olive brn, dk red brn clay increasing, slty moist, hard modor	
11			16.1		11-12 Clay, mod olive brn - dk red brn, firm, moist, slty sticky modor	
12		50%	2.0		12-13 Slough	
13			—		13-14 Slough	
14			2.0		14-15' Interbedded layers of silt and clay, mod brn - red brn - olive brn, firm, stiff	
15			5.0		15-16 Clay, mod brn - dk red brn, soft, sticky, moist, no odor	
16						
17					End of boring @ 16' bgs @ 11:40 Collected soil from 5' bgs	
18						
19						
20						

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5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number GB-37

BORING LOG

Project Name & Location: Seneca Rd	Project Number	Date & Time Started: 8/15/01 850am Date & Time Completed:	
Drilling Company: SJB	Foreman: Matt	Sampler(s): Scott	Sampler Hammer / Drop
Drilling Equipment: Geoprobe	Method: Geoprobe	Elevation & Datum	Completion Depth: 16 / Rock Depth
Bit Size(s): 2"	Core Barrel(s)	Geologist(s): J. Pretz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		100%	0.0		0-5" Topsoil, roots, olive gray, dry, hard - V hard, no odor, silty clay	
1					5"-1' As above ~ roots	
2					1-2' Becoming light brown - reddish brown	
					2'-3' As above ~ clay increasing	
3					some white inclusions possibly	
			4.8		Calcareous	
4			5.0		3-4 As above becoming silty moist	
			0.0		4-5' As above	
5					5-6' As above ~ white inclusions increasing	
6					very hard becoming dark olive gray and	
					6-7' Silty clay light brown mottled	
7					some white inclusions very hard, dry	
					no odor	
8					7-8' As above ~ silt seam red yellow orange @ last 4"	
					8-9' As above ~ trace fine sand	
9					~~Becoming~~ (JP) dominately med brn - light red brn	
					9-10 As above	
10						

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Boring Number GB-37

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10		100%	0.0		10-11' As above & clay mercaptan	
11		↓	↓		very humid, @ Clay, Stiff Sedum running	
					vertically through core (med-light	
12					gray) 11-12 Clay, some silty clay, roots	
					12-13 Clay, light red brn, stiff, slty moist,	
13					fine sand stringers in upper 5" greenish gray	
					13-14 As above & sand, @ clean clay	
14					dominately clay becoming slightly moist	
					14-15 As above	
15					15-16' Clay, light red brn, firm to	
					stiff, v, moist	
16						
					End of boring @ 16' bgs	
17					plugged & bentonite &	
					Cuttings soils & PPE	
18					Collected VOC SVOC metals	
					from 3-4' interval	
19						
20						

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number: MW-6

BORING LOG

Project Name & Location: Sonoco / Grief Bros	Project Number: D6714.00	Date & Time Started: 8/28/01 10:45	
Drilling Company: SJB	Foreman: Tony Jakubczak	Date & Time Completed: 8/28/01 12:35	
Drilling Equipment: CME 75	Method: HSA	Sampler(s): 2' Stainless split Spoon	Sampler Hammer / Drop
Bit Size(s): 4 1/4 HSA	Core Barrel(s)	Elevation & Datum / Completion Depth / Rock Depth	
		Geologist(s): Jeremy Wolf	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0	1	1.8	12.2	22	Asphalt & gravel road fill	2.5 Background PID
1	1		12.7	19		
	1		15.9	21	Dark Brn silty sand (SM)	Dry
2	1		15.7	7		
	2	0.5	13.1	3		
3	2		12.9	4	Olive Brn (2.5Y 4/3) clayey gravel (GC) fine gravel size	Dry
	2		11.1	4		
4	2		12.7	4		
	3	1.5	15.3	7	Dark grayish Brn 10YR 4/2 clay (CL) silty clay 30/70 with olive gray lenses medium plasticity	2.0 PPM background
5	3		16.1	6		
	3		12.1	8		Dry
6	3		16.7	8		
	4	2.0	17.9	11	As above (CL) stiff	5.0 ppm background
7	4		18.2	17		Damp
	4		18.5	19		sampled @ 7' for VOC's
8	4		18.5	11		wet @ 8'
	5	2.0	3.1	3	As above (CL) soft	wet
9	5		0.1	2		
	5		0.0	2		
10	5		0.1	2		

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BORING LOG

DEPTH (ft below grade)	Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10	6	2.0	0.1	3		
	6		0.0	2		
11	6		0.0	2		
	6		0.1	3		
12	7	2.0	0.0	4	As above (cl) 30/70 soft	wet
	7		0.0	3		
13	7		0.0	4		
	7		0.1	3		
14	8	2.0	0.0	WH	Weak red 2.5YR 4/2	
	8		0.0	WH	very soft clay (cl)	
15	8		0.0	WH	medium plasticity	
	8		0.0	WH	little silt, clean clay	wet
16	9	2.0	0.0	1		
	9		0.1	1	As above (cl)	
17	9		0.0	3		
	9		0.0	3		
18	10	1.8	0.1	1	As above (cl)	
	10		0.0	2	Dark reddish gray 5YR 4/2	wet
19	10		0.0	3	silty very fine sand (mL)	
	10		0.1	4	soft	
20						

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Boring Number MW-6

BORING LOG

DEPTH (ft below grade)	SAMPLES Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
20	11		0.0	1		
	11		0.0	3		
21	11	1.0	0.0	4	As above (ML)	wet
	11		0.0	7		
22	12		0.1	9		
	12		0.0	11		
23	12	2.0	0.0	15	As above (ML)	
	12		0.0	17		
24	13		0.0	1		
	13		0.1	2		
25	13	1.8	0.0	2	As above (ML)	
	13		0.0	3		
26	14		0.2	3		
	14		0.0	3	As above (ML)	
27	14	1.6	0.0	3	Dark reddish gray 5YR 4/2	
	14		0.0	4	soft silty clay (CL) 50/50	
28	15		0.1	3		
	15	2.0	0.0	4	As above (CL) 50/50	
29	15		0.0	4		
	15		0.0	4		
30					End of boring @ 30'	

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number: MW-8

BORING LOG

Project Name & Location: Greif Bros.	Project Number:
Date & Time Started: 8/13/01 12:00	Date & Time Completed: 8/15/01 10:15
Drilling Company: SJB	Foreman: Tony Jakubczak
Sampler(s): 2' Stainless steel Split spoons	Sampler Hammer: Pneumatic Sample hammer	Drop:
Drilling Equipment:	Method:
Elevation & Datum:	Completion Depth: 80' BGS	Rock Depth:
Bit Size(s): 4 1/4 Hollow Stem Auger	Core Barrel(s):
Geologist(s): Jeremy Wolf	

DEPTH (ft below grade)	Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0	1		0.0		Grass & Topsoil	
1	1		0.0			
	1	1'	0.0		Dark yellowish Brn 10YR 4/2	Dry
2	1		0.0		silty fine sand, trace coarse (SM)	
	2		0.0			
	2		2.4		Dark yellowish Brn 10YR 4/2	Dry
3	2	1.5	2.5		dense silty fine sand	
	2		3.0		no gravel (SM)	
4	3		0.0			
	3		0.0		Moderate yellowish BRN 10YR5/4	Dry
5	3	2.0	0.0		dense silty fine sand	
	3		0.0		no gravel (SM)	
6	4		0.0			
	4		0.0		Dark yellowish orange 10YR 6/6	Dry
7	4		0.0		dense silty sand (SC)	
	4		0.0			
8	5		10.7	7	Moderate yellowish BRN	No noticable
	5	2.0	12	8	10YR5/4 & 5/2 clay (OH)	Dry odor
9	5		14	10	medium plasticity	detected
	5		12.7	12	Some lenses of organics	from clay.
10						

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Silty fine sand

Clay

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Boring Number MW-8

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10	6	2	14.5	7		PID - Due to organics Some background in air likely due to diesel 5 ppm
	6		13.7	9	Same as above	
11	6		12.7	14	Lt medium stiff to stiff (OH)	Dry
	6		13.9	17		
12	7	2	12.1	3	Moderate yellowish Brn 10YR ~~5/4~~	
	7		8.9	~~6~~	Clay (OH) trace organics med ~~Fto~~	wet at 13'
13	7		0.0	8	Stiff.	Softer 13' → 14'
	7	↓	0.0	6		
14	8	2	0.0	4	Moderate yellowish Brn 10YR ~~5/4~~	
	8		0.0	4	clay (CL) Soft/medium stiff.	wet
15	8		0.0	3		
	8		0.0	4		
16	9	2				Collected Shelby
	9					tube at 16'-18'
17	9					Full Recovery in tube.
	9					
18	10	1.0	0.0	2	Dark yellowish Brn 10YR 4/2	
	10		0.0	6	clay (CL) soft/medium stiff	wet
19	10		0.0	6		
	10		0.0	7		
20						

1.0' clay

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Boring Number MW-8

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
20	11		0.0	S	Dark yellowish Brn 10YR 4/2	
	11	2.0	0.0	4	clay (cl) Soft	very wet
21	11		0.0	3		
	11		0.0	3		
22	12		0.0	↑	Dark yellowish Brn 10YR 4/2	
	12	1.0	0.0	weight of Hammer	clay (cl) very soft	very wet
23	12		0.0			
	12		0.0	↓		
24	13		0.0	WH		
	13	2.0	0.0	1	Same as above. Very wet	very wet
25	13		0.0	WH	(CL)	
	13		0.0	2		
26	14		0.0	WH		
	14	2.0	0.0	1	Same as above (CL)	
27	14		0.0	WH		very wet
	14		0.0	1		
28	15		0.0	1	same as above (CL)	
	15	2.0	0.0	1		wet
29	15		0.0	2		
	15		0.0	3		
30						

clay

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Boring Number MW-8

BORING LOG

14-01

DEPTH (ft below grade)	SAMPLES Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
30	16		0.0	12	Same as above (CH)	
	16		0.0	28		wet
31	16	2.0	0.0	17	Dark yellowish BRN 10YR 4/2	
	16		0.0	21	very stiff silty clay (CH)	
32	17		0.0	10	DK yellowish BRN 10YR 4/2 clay (CL) medium/stiff silty	wet
	17		0.0	28	DK yellowish BRN 10YR 4/2 silty clay (ML)	
33	17	2.0	0.0	21	DK yellowish BRN 10YR 4/2 silty fine sand	
	17		0.0	23	Trace organics	
34	18		0.0	37		
	18		0.0	50	Same as above	wet
35	18	2.6	0.0	50/3	very dense	
	18		0.0			
36	19		0.0	19		
	19	1.0	0.0	52	same as above	wet
37	19		0.0	50/3		
	19		0.0			
38	20		0.2	19		
	20	1.5	0.5	26	Same as above	wet
39	20		0.5	47	very dense	
	20		0.3	49		
40						

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Boring Number MW-8

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
40	21	2.0	1.1	21	Dk yellowish BRN 10YR 5/2 silty fine sand (sm)	
	21		1.5	41	Trace organics & gravel frags. (fine→med)	wet
41	21		1.5	38	Dense	
	21		1.2	39		
42	22	1.5	4.6	4	Grayish BRN 5YR 3/2	
	22		4.7	12	silty fine sand (sm)	wet
43	22		7.1	19	trace organics & gravel frags (med to coarse)	Some iron staining
	22		7.4	21		
44	23	1.0	4.3	19		
	23		4.5	23	Same as above (sm)	wet
45	23		4.5	27	more dense towards lower	no iron staining
	23		4.4	36	portion of sample	observed
46	24	1.0	3.8	1		
	24		3.7	3	Same as above (sm)	
47	24		3.7	5	entire sample less dense	very wet
	24		3.8	7		
48	25	0.6	1.1	1		
	25		1.2	8	Same as above (sm)	very wet
49	25		1.0	16		
	25		1.1	17		
50						

Sand

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Boring Number MW-8

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
50	26	2.0	0.3	23	Dark yellowish Brn 10YR 4/2 silty dense clay (CL)	
51	26		0.6	28	Medium gravel frags	wet
	26		0.6	30		
52	26		0.2	36		
	27	1.5	0.6	9		
53	27		0.8	15	Same as above (CL)	wet
	27		0.3	17	less dense	
54	27		0.3	20		
	28	2.0	0.0	19		
55	28		0.0	27		
	28		0.0	26	Same as above (CL)	wet
56	28		0.0	29		
	29	1.5	0.0	15	Dark yellowish Brn 10YR 4/2	
57	29		0.0	20	silty dense clay (CL)	wet
	29		0.0	22	Coarse gravel frags	
58	29		0.0	23		
	30	1.0	0.0	1		
59	30		0.0	1	Same (CL)	wet
	30		0.0	12		
60	30		0.0	14		

Clay

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ERM-INC.

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BORING LOG

Boring Number: MW-8

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
60	31		0.0	7	Same (CL)	wet
61	31	1.0	0.0	9		
	31		0.0	11		
62	31		0.0	15		
	32		0.0	WH	Dark Yellowish BRN 10YR 4/2	
63	32	2.0	0.0	WH	Soft clay, clean (CL)	wet
	32		0.0	WH		
64	32		0.0	2		
	33		0.0	2		
65	33	2.0	0.0	3	Same (CL)	wet
	33		0.0	6		
66	33		0.0	6		
5-01	~~34~~		0.0	WH	Same (CL)	
67	34	1.0	0.0	2		
	34		0.0	5	Dark yellowish BRN 10YR 4/2 silty clay, medium to coarse gravel	wet
68	34		0.0	17	~~Cobbles deposit 2 ooze~~ fragments. (CL)	
	35			15	Very dark grayish brn 10YR 3/2	
69	35	2.0		20	Silty ~~Sand~~ w/ coarse Sand & fine	wet
	35			27	gravel frags (sm)	
70	35			31		

clay

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number: MW-8

BORING LOG

Project Name & Location	Project Number	Date & Time Started: / Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
70	LOCATION:				SURFACE DESCRIPTION:	
	36	2.0	0.0	17	same as above	
71	36		0.0	23		
	36		0.0	30		
	36		0.0	38		
72	37	1.5	0.0	4	same as above	
	37		0.0	4	Sand lense - medium sand w abundant Biotite & mica.	1' sand lens
73	37		0.0	23	Rose colored qtz	72.5 → 73.5'
	37		0.0	28	very dark grayish brn 10YR 3/2 silt w/ trace fine & medium sand.	
74	38	1.5	0.0	10	very dark grayish brn 10YR 3/2	
	38		0.0	45	silt (sm) 25% coarse sand	
75	38		0.0	50	25% med/coarse gravel	
	38		0.0	63		
76	39	1.5	0.0	45	same (Sm)	
	39		0.0	76		
77	39		0.0	50/2	Fragmented bedrock, weathered	
	39		0.0		mixed w intermitant medium sand (Sm)	
78	40	1.5	0.0		dark grayish brn snd.	
	40		0.0			
79	40		0.0			
	40		0.0			
80						

Silt

Sand

Silty Sand

Fragmented/weathered bedrock

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Date: 4-15-01

Bedrock @ 80'

Bedrock core 80 - 85'

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number MW-9

BORING LOG

Project Name & Location: Greif Bros.	Project Number: D6714.00
Date & Time Started: 8/16/01 10:30	Date & Time Completed: 8/20/01 09:35
Drilling Company: SJB	Foreman: Tony Jakubczak
Sampler(s): 2' SS split spoon	Sampler Hammer: Drop:
Drilling Equipment: CME 75	Method: HSA
Elevation & Datum: Completion Depth:	Rock Depth: 78' BGS
Bit Size(s): 4 1/4" HSA's	Core Barrel(s):
Geologist(s): Jeremy Wolf	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0	1		0.0	2	Brown 10YR 4/3 Fine medium sand (gm) grass topsoil	
1	1		0.0	3	trace coarse sand & medium	
	1	1.8	0.0	5	gravel	Dry
2	1		0.0	6		
	2		0.0	3	Same (gm)	
3	2	1.5	0.0	6		
	2		0.0	5	Dk yellowish brn 10YR 4/4	Dry
4	2		0.0	8	Silty sand (sm) trace gravel (fine)	
	3		0.5	4		
5	3	1.0	0.3	6	Same (sm) as above	
	3		4.1	5		Dry
6	3		4.2	3	Brick & wood frags (sm)	(Burnt wood)
	4		10.8	4	Dk yellowish brn 10YR 4/4	
7	4	1.8	15.3	7	Silty sand w/brick frags	Damp (SW)
	4		6.2	7	Dark staining on soil @ 7.5' BGS	Staining looks like coal chips or dust. Black staining
8	4		3.0	6		
	5		3.5	6	Dark grayish Brn 10YR 4/2	
9	5		3.2	7	Silty clay (OH)	
	5	1.8	1.5	9	Some reddish Brn lenses	Damp
10	5		1.6	8	of clay, organics	

Sand

Silty sand

Silty clay

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Boring Number MW-9

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10	6	2.0	6.4	1	Dark grayish Brn 10YR 4/2 silty clay (SC) medium stiffness	damp
	6		0.6	2		
11	6		0.1	2	Greenish gray lenses	
	6		0.1	2	Brick fragments	
12	7	1.8	0.1	2	Same as above (SC)	damp
	7		2.1	3		
13	7		1.6	3		
	7		0.8	4		
14	8	2.0	0.0	WH	Dark gray 5Y 4/1 very soft clay (CL)	wet/damp
	8		0.0	24/3		
15	8		0.0	|	Reddish Brn 5YR 4/3	
	8		0.0	↓	soft clay (CL)	
16	9	2.0	0.0	WH	Same reddish Brn (CL) w/ dark gray clay lenses (CL)	wet/damp
	9		0.0	1		
17	9		0.0	WH		
	9		0.0	1		
18	10	1.0	0.0	WH	Dark brn. 7.5YR 3/3 silty fine sand (SM) well sorted clean sand	wet
	10		0.0	1		
19	10		0.0	1		
	10		0.0	1		

silty clay

clay

silty sand

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Boring Number MW-9

BORING LOG

DEPTH (ft below grade)	Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
6.0						
20	11		0.0	1		
	11		0.0	1		
21	11	1.0	0.0	4		
	11		0.0	1		
22	12		0.0	WH	Same as above (SM)	wet
	12		0.0	1		
23	12	1.3	0.0	WH		
	12		0.0	1		
24	13		0.0	WR/24		
7.0						
	13	2.0	0.0	SW	Same as above (SM)	wet
25	13		0.0	SW		
	13		0.0	SW		
26	14		0.0	SW/1	Dark grayish BRN 7.5YR 3/3	
	14		0.0	SW/3	silty clay (CL) very soft	
27	14	2.0	0.0	4	Dark grayish BRN 7.5YR 3/3	wet
	14		0.0	4	soft clay (CL) silty	
28	15		0.0	2	Same as above (CL)	
	15	2.0	0.0	25		wet
29	15		0.0	15	Brn 7.5YR 4/2 medium/fine sand w/silt (SW) JW	
	15		0.0	30		
30						

Silty sand

clay

Sand

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Boring Number: MW-9

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
30	16		0.1	1		
	16		0.2	3	same as above (SW)	
31	16	1.5	0.0	7		wet
	16		0.0	10		
32	17		0.0	7		
	17	2.0	0.0	11	same as above (SW)	
33	17		0.0	15		wet
	17		0.0	19		
34	18		3.5	1		
	18	2.0	4.7	3	same as above (SW)	
35	18		4.4	5		wet
	18		4.5	8		
36	19		3.1	7	same as above (SW)	
	19	2.0	2.9	14		
37	19		6.4	19	Dark Brn 7.5YR 3/2	wet
	19		6.9	20	Silty clay (CL) stiff/very stiff	
38	20		3.2	2		
	20			4		
39	20	0.2		6	same clay (CL) less stiff	
	20			9		

Sand

Clay

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BORING LOG

Boring Number: MW-9

Project Name & Location	Project Number	Date & Time Started: / Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
40	21	1.5	1.0	7	Drk Grn 7.5YR 3/3 Silty clay / silty fine sand (CL)	wet
41	21		1.0	3		
	21		0.9	4	Same as above but w/ trace	
42	21		1.1	9	Blw gravel coarse snd.	
	22	1.8	1.8	1	Same as above (CL)	very wet
43	22		1.7	1		
	22		0.5	4	Same as above (CL)	
44	22		0.6	6		
	23	0.2	0.3	6	Same as above (CL)	wet
45	23			22		
	23			21		
46	23		↓	22		
	24	2.0	2.9	7	Brown 7.5YR 4/2 silty fine sand & medium to coarse gravel mixture ~25% (SM)	wet
47	24		3.4	18		
	24		3.6	19		
48	24		3.7	23		
	25	1.5	4.1	2	Same as above (SM)	wet
49	25		4.2	2		
	25		7.3	3		
50	25		10.8	6	Brown 7.5YR 4/2 silty clay (ML/CL) med stiff	

clay

silty sand

clay

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Boring Number mw-9

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
7.0						
50	26		20.3	3		
	26		19.7	3		
51	26	1.5	15.1	3	Same as above (ml) (SW)	wet
	26		15.1	3		
52	27		4.8	3	Same as above (ml) (SW)	
	27		3.7	3		wet
53	27	2.0	3.4	6	Brown 7.5 YR 4/2 silty fine	
54	27		3.3	8	silty clay (ML) (SW)	
	28		8.0	3		
	28		8.4	7	Same silty clay (ML)	
55	28	2.0	2.2	9	Gray 5Y 5/1 silty clay (CL)	wet
56	28		2.1	8	medium stiff, medium plasticity	
	29		3.2	4		
	29		3.1	5	Same gray clay (CL) as above	wet
57	29	2.0	1.3	8	Brown 7.5 YR 4/2 silty, clayey	
58	29		1.1	9	fine sand (ml)	
	30		0.0	2	Gray 5Y 5/1 silty sand (SM)	
	30		0.0	2	fine/med/coarse snd & trace	
59	30	1.5	0.0	4	fine gravel	wet
60	30		0.0	5	Poorly (SW) graded (SP) Coarse Sand & fine gravel	

Rock flour 0-11

Clay 11-11.5

Sand 11-11

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Boring Number MW-9

BORING LOG

Project Name & Location	Project Number	Date & Time Started: / Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
7-0	LOCATION:				SURFACE DESCRIPTION:	
60	31	2.0	0.0	4	Dark grayish Brn 2.5Y 4/2 fine & medium Sand (SP) Loose	
61	31		0.0	5		
	31		0.0	7	Medium & coarse gravel (GP)	wet till
	31		0.0	6	gray silty sand (SM)	
62	32	2.0	0.0	28	gray silty Sand (dense) (SM)	
63	32		0.0	24	medium & coarse gravel (GP)	
	32		0.0	22	Dark grayish Brn 2.5Y4/2	wet till
64	32		0.0	27	fine/med/coarse Sand (SP) Dense	w/fine/med gravel
	33	1.5	0.0	20	Dark gray 2.5Y 4/1	
65	33		0.0	17	Poorly graded fine sand (SP)	~~very Dense~~
	33		0.0	30	w/med/coarse Sand (10%)	wet till
66	33		0.0	36	medium/coarse gravel frags (25%)	Dense
	34	2.0	0.0	31		
67	34		0.0	37	same as above	wet till
	34		0.0	48	dense to very dense (GP)	Dense/very dense
68	34		0.0	50/3		
	35	1.8	0.0	12	Dark gray 2.5Y 4/1	
69	35		0.0	45	Silty fine Sand (SM)	very dense
	35		0.0	55	well graded no coarses	
70	35		0.0	50/3		

till

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Boring Number MW-9

BORING LOG

Project Name & Location	Project Number	Date & Time Started: / Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
70	36		0.0	39		
71	36		0.0	50		very dense wet
	36	1.5	0.0	50/3	Same as above (SM)	
	36		0.0			
72	37		0.0	50/3		
	37	0.5	0.0			
73	37		0.0		Same as above (SM)	very dense
	37		0.0			
74	38		0.0	17	Gray 2.5Y5/1	coarse
	38		0.0	29	Poorly graded med/coarse Sand (SP)	till
75	38	1.5	0.0	28	Abundant coarse gravel &	Dense
	38		0.0	26	Cobble chips	
76	39		0.0	21	Dark gray silty fine sand (SM)	
	39		0.0	30	Trace coarse sand	Dense sand
77	39	2.0	0.0	50/2	& fine gravel	
	39		0.0		Refusal at 78' BGS	
78						
79						
80						

till

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number MW-10

BORING LOG

Project Name & Location: Sonoco / Grief Bros.	Project Number: D6714.00
Drilling Company: SJB	Foreman: Tony Jakubczak
Drilling Equipment: CME 75	Method:
Bit Size(s): 10 1/4 to 14' BGS for outer	Core Barrel(s): 4 1/4 for inner
Date & Time Started: 8/16/01 10:30	Date & Time Completed: 8/23/01 16:20
Sampler(s): 2' SS split spoons	Sampler Hammer: Drop:
Elevation & Datum:	Completion Depth: Rock Depth: 77' BGS
Geologist(s): Jeremy Wolf	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0	1	0	N/A	1	N/A	No recovery gravel fill from drive
1	1			1		
	1			2		
2	1			2		
	2	1.5	2.5	4	DK yellowish Brn silty fine snd 10YR 3/4. Trace medium gravel (SM)	Dry
3	2		2.5	2		
	2		28.5	6		
4	2		36.5	7	DK yellowish Brn Silty Clay (SC) 10YR 4/4. medium stiff	
	3	1.5	154.5	12	Same	Dry strong odor at 5'-6'
5	3		94.6	4		
	3		1951	6	DK grayish Brn 10YR 4/2 (SC)	
6	3		1603	4	Silty clay. medium stiff.	
	4	2.0	1800	9		Dry
7	4		140.5	12		
	4		86.5	19	Same as above. stiff clay (SC)	
8	4		90.5	20		
	5	1.5	343	2	DK grayish Brn 10YR 4/2 Silty clay (SC) medium stiffness	odor at 8' Damp
9	5		16.1	6		
	5		6.0	8	Reddish BRN 5YR 4/3	
10	5		3.5	9	Silty clay (SC) medium to stiff	

Sand

Silty clay

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Boring Number MW-10

BORING LOG

DEPTH (ft below grade)	Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10	6	2.0	0.2	2	Dark grayish BRN 10YR 4/2 Silty clay (SC) medium stiffness greenish gray lenses of clay	Damp
	6		0.1	4		
11	6		0.2	5		
	6		13.8	6		
12	7	2.0	0.1	4		
	7		0.0	5		
13	7		0.0	8		
	7		0.0	8		
14	8	2.0	0.0	WH	Reddish gray 5YR 5/2 very soft clay (CL) low plasticity	wet / damp
	8		0.0	WH		
15	8		0.0	WH		
	9	1.8	0.0	1	Same as above (CL) very soft	Damp
16	9		0.1	2		
	9		0.2	1		
17	9		0.1	1		
	10	2.0	0.0	WH	Same as above (CL) w/ greenish gray lenses	Damp
18	10		0.0	WH		
	10		0.0	WH		
19	10		0.0	WH		

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Boring Number MW-10

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
20	11		0.0	1	Same as above (CL)	
	11	2.0	0.0	2		wet
21	11		0.0	5	Dk reddish Brn 5YR 3/3	
	11		0.0	7	Clayey silt (mL)	
22	12		0.0	5		
	12	2.0	0.0	5	Same as above (mL)	Dump
23	12		0.0	7	Dk reddish BRN 5YR 3/3	
	12		0.0	10	silty sand (SM) clean well Sorted	
24	13		0.0	WR/24	Same as above (SM)	very wet
	13	2.0	0.0			
25	13		0.0		Dk reddish BRN 5YR 3/3	
	13		0.0	↓	silty clay (CL) 50/50	
26	14		0.0	WH/24		
	14	2.0	0.0		Dk reddish BRN 5YR 3/3	very wet
27	14		0.0		silty sand (SM)	
	14		0.0	↓		
28	15		0.0	WH		
	15	1.5	0.0	WH	As above (SM)	wet
29	15		0.0	3		
	15		0.0	6		
30						

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Boring Number MW-10

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
30	16	1.5	0.0	WH	Dk reddish BRN 5YR 3/3 Silty clay (cl) 50/50 very soft, low plasticity	Damp
	16		0.0	1		
31	16		0.0	2		
	16		0.0	3		
32	17	2.0	0.0	WH	As above (cl) 50/50	Damp
	17		0.0	3		
33	17		0.0	3		
	17		0.0	4		
34	18	2.0	0.0	WH/18	As above (cl) 50/50	Damp
	18		0.0	↓		
35	18		0.0	4		
	19	2.0	0.0	1	As above (cl) 50/50	Damp
36	19		0.0	1		
	19		0.0	2		
37	19		0.0	4		
	20	0.0	N/A	WH/12	No Recovery	
38	20		↓	1		
	20		↓	1		
39						
40						

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Boring Number MW-10

BORING LOG

Project Name & Location	Project Number	Date & Time Started: / Date & Time Completed:		
Drilling Company	Foreman	Sampler(s)	Sampler Hammer	Drop
Drilling Equipment	Method	Elevation & Datum	Completion Depth	Rock Depth
Bit Size(s)	Core Barrel(s)	Geologist(s)		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
40	21	2.0	0.0	WH/12	Dk reddish BRN 5YR 3/3 silty clay (CL) 50/50 very soft low/medium plasticity	Damp
41	21		0.1			
	21		0.0	1		
42	21		0.0	2		
	22	2.0	0.0	1	As above (CL) but denser less silty clay trace fine gravel	Damp
43	22		0.0	1		
	22		0.0	4		
44	22		0.1	6		
	23	1.8	0.0	1	As above (CL) w/more fine/med gravel	Damp
45	23		0.1	1		
	23		0.0	3		
46	23		0.2	6		
	24	2.0	0.0	1	As above (CL) but medium stiff	Damp
47	24		0.0	2		
	24		0.1	4		
48	24		0.0	10		
	25	1.2	0.0	3	As above (CL) medium stiff	Damp
49	25		0.0	4		
	25		0.0	7		
50	25		0.1	10		

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Boring Number MW-10

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
50	26		0.0	5	Gray (SW) Dk reddish ~~BRN~~ 5YR 3/3 4/2	
51	26		0.0	7	Silty clay w/ very fine Sand	
	26	2.0	0.0	6	Clayey silt with slight	Damp
52	26		0.0	8	Plasticity med stiff	
	27		0.0	9	15% fine / med	
53	27		0.1	17	gravel fragments	Damp
	27	2.0	0.0	22	Rounded	
54	27		0.1	11	50' – 54' (mL)	
	28		0.1	5		
55	28		0.0	7		
	28	1.8	0.2	7	As above (mL)	Damp
56	28		0.3	9	Clayey silt / very fine snd.	
	29		0.2	7		
57	29		0.2	5	As above (mL)	
	29	2.0	0.2	11	Dk Gray 10YR 4/1	Damp
58	29		0.1	14	Silty clay (cl) stiff / very stiff	Hard drilling
	30		0.0	1		
59	30		0.2	1	As above but very soft (cl)	
	30	2.0	0.1	1		Damp
60	30		0.0	1		

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Boring Number MW-10

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
60	~~2~~631		0.2	~~8~~2		
(SW)	~~2~~631		0.2	~~7~~3		
61	~~2~~631	2.0	0.3	~~6~~4	As above silty clay (CL)	Damp
	~~2~~631		0.1	~~8~~3	50/50	
62	32		0.1	13	As above (SC)	
	32	2.0	0.0	10	Stiffer more gravelly	
63	32		0.0	10	Dk ~~BRN~~ Grayish BRN 10YR 4/2 silty fine sand (SM)	Damp
	32		0.2	11	Greenish gray ~~CLAY I~~ ~~GY~~ 5GY6/1 silty fine sand (SM) & fine/med gravel	
64	33		0.1	26	Dk Grayish BRN	
	33		0.0	30	2.5 Y 4/2	
65	33	1.5	0.0	41	fine sand (SP) w fine &	wet / till
	33		0.0	50	med gravel 25%	very dense
66	34		0.0	50/1		
	34					
67	34	3.11			As above (w/ large cobble fragment) (SP)	
	34		↓	↓		
68	35		0.0	8		wet / till
	35		0.7	27	As above (SP)	
69	35	1.8	0.8	25	medium & course gravel & sand mix	
70	35		0.8	30	Subrounded / rounded (GP)	

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ERM-INC.

1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number MW-10

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
70	36	1.8	0.0	19	Dark gray 2.5 Y 4/1	
	36		0.0	26	Silty fine Sand (sm)	
71	36		0.0	40	well graded no courses	Very dense
	36		0.1	51		
72	37	2.0	0.0	31		
	37		0.3	45		
73	37		0.4	50/3	As above (SM)	Very dense
	37		0.0			
74	38	2.0	0.0	16	Gray 2.5Y 5/1	
	38		0.1	20	Poorly graded fine/med	
75	38		0.0	31	Sand w/ course gravel	Dense
	38		0.0	50	& cobble chips 30% (SP)	
76	39	1.8	0.0	38		
	39		0.0	50	As above (SP)	
77	39		0.0	50/1	weathered bedrock | top of bedrock	wet
	39		0.0		Bedrock fragmented & broken	Augered into Bedrock
78					Refusal @ 78'	Bedrock @ 77.0'
79						
80						

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ERM-INC.

1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number MW-11

BORING LOG

Project Name & Location: Sonoco / Crief Bros.	Project Number: D6714.00
Drilling Company: SJB	Foreman: Tony Jakubczak
Drilling Equipment: CME 75	Method: HSA
Bit Size(s): 4 1/4 HSA's	Core Barrel(s):
Date & Time Started: 8/21/01 10:00	Date & Time Completed: 8/27/01 14:30
Sampler(s): 2' SS split spoons	Sampler Hammer:	Drop:
Elevation & Datum:	Completion Depth:	Rock Depth: 73.5' BGS
Geologist(s): Jeremy Wolf	

DEPTH (ft below grade)	Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0					Asphalt	
1					gravel fill & railroad ties (Railroad bed)	
2					PID readings of 1500 ppm + down inside borehole. All breathing zone reading < 10 ppm.	
3						
4	1	1.0	72000	34	Coarse gravel & wood chips from RR Ties	Could not collect 1st split spoon sample until 3.5' BGS
	1			9		
5	1			12	Yellowish BRN silty Sand 10YR5/4	
	1		↓	12		
6	2	1.5	67.9	2	Continued wood chips as above	5 ppm background
	2		62.6	4	Dark grayish BRN	
7	2		57.8	5	10YR 4/2 clayey sand (SC)	Damp
	2		51.4	7		
8	3	2.0	64.3	5	Very dark grayish brn	
	3		68.9	5	10YR 4/2 medium stiff clay (CL)	6 ppm background
9	3		45.2	7	Silty clay (SC)	Damp
	3		39.3	10		
10	4		54.7	1	(see pg 2)	

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number MW-11

BORING LOG

DEPTH (ft below grade)	Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10	4	2.0	30.2	2	Reddish Brn 5YR 4/3 silty clay (SC) soft to medium stiffness	5ppm background; Dump
	4		18.9	3		
11	4		2.4	3		
	5	2.0	7.9	3	Reddish Brn 5YR 4/3	Dump
12	5		6.1	2		
	5		3.1	1	Silty clay (SC) greenish gray lenses of SC	
13	5		2.6	1		
	6	2.0	2.4	1	Reddish gray 5YR 5/2 very soft clay (CL) medium plasticity	wet/damp
14	6		2.3	1		
15	6		2.3	1		
	6		2.5	1		
16			1.0	WH		0.1 ppm background
	8	2.0	0.5	1	As above (CL)	wet
17	8		0.0	1		
	8		0.0	1		
18	8		0.0	1		
	9	2.0	0.1	WH	Dark Brn 7.5YR 3/3 silty fine sand (SM) clean well sorted	0.1 ppm background; wet
19	9		0.0	1		
	9		0.1	3		
20	9		0.1	3		

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number: MW-11

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
20	10	1.5	0.0	1	As above (sm)	0.1 ppm background; wet
	10		0.2	2		
21	10		0.3	2		
	10		0.1	2		
22	11	1.5	0.3	2	As above (sm)	wet
	11		0.2	5		
23	11		0.1	3		
	11		0.1	5		
24	12	2.0	0.3	1	As above (sm)	wet
	12		0.4	2		
25	12		0.3	WH	Dk reddish BRN 5YR 3/3 Silty clay (cl) 50/50 very soft low plasticity	
	12		0.0	1		
26	13	2.0	0.2	1		
	13		0.3	2		
27	13		0.1	1		
	13		0.3	1		
28	14	2.0	0.2	2	As above (cl) soft/medium stiffness	wet
	14		0.2	3		
29	14		0.1	3		
	14		0.1	6		
30						

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number MW-11

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
35	15	2.0	0.7	1	Dk reddish gray 5YR 4/2 silty clay 50/50 (cl) medium stiff, medium plasticity	5-10 ppm wet background
36	15		0.5	1		
	15		2.1	3		15 ppm peak.
37	15		2.3	5		(Note: wind is
	X	X	X	X		not carrying
	X	X	X	X		truck exhaust
40	16	1.5	2.3	2	As above more silt 70/30 (cl)	from drill rig)
	16		2.2	2		Instructed drillers
41	16		2.3	4		to idle down
42	16		2.5	7		when 10ppm was
	X	X	X	X		sustained until
45	X	X	X	X		wind carried
	17	0.5	2.8	3	As above (cl)	fumes away.
46	17			5		wet
	17			5		
47	17		↓	7		
	X	X	X	X		
49	X	X	X	X		
50						

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ERM-INC.

1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number MW-11

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
50	18	0.2	10.3	1		Backyard
51	18	↓		4		Damp as above
	18			7	As above (cl)	
52	18	↓		7		
	X	X	X	X		
56	X	X	X	X		
	19		13.7	WH		
56	19		14.1	WH	As above (cl)	
	19	1.8	12.6	4	Softer 50/50	wet
58	19		15.2	3	trace fine/med gravel	
	X	X	X	X		
	X	X	X	X		
60	20			1		
	20	No		3		
61	20	Recovery		6	No recovery	
	20			7		
62	X	X	X	X		
	X	X	X	X		
65						

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1159 Pittsford-Victor Road, Suite 200, Pittsford, New York 14534

Boring Number MW-11

BORING LOG

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
66	21	1.8	3.2	11	Gray 10YR 5/1 (SM)	Background
	21		3.3	27	Silty very fine Sand (medium dense)	As above
66	21		3.3	33	~~fr~~ 5% medium/fine	Dry
67	21		3.1	31	gravel · sub rounded	
	X	X	X	X		
70	X	X	X	X		
	22	1.5	2.2	35	As above (SM) very dense	Dry
71	22		2.3	37		
	22		2.3	34		
72	22		2.3	50		
	X	X	X	X	Bedrock encountered @ 73.5' BGS	
75	X	X	X	X	End of boring @ 74.5'	
76						
77						
38	X	X	X	X		
	X	X	X	X		
39						
40						

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ERM

5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number MW-12

BORING LOG

Project Name & Location: Conoco Tonawanda	Project Number: D6714
Drilling Company: SJB	Foreman: Tony
Drilling Equipment: CME	Method: HSA
Bit Size(s): 2 ¼	Core Barrel(s):
Date & Time Started: 8/14/01 10:20 am	
Date & Time Completed: 8/14/01 11:50 am	
Sampler(s): Scott	Sampler Hammer: Drop:
Elevation & Datum:	Completion Depth: 16' Rock Depth:
Geologist(s): Jeff Poetz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		25%	0.0		0-6" Concrete, some med-coarse gravel, moist	
1			0.9		6"-1' Clay, med brn, ftrm, dry, no odor	
					1-2' As above	
2		50%	1.7		2-4' Clay, med brn-med grey inclusions of silty clay, pris. cleyed, hard, dry, no odor	
3						
4		80%	6.6		4-5' Silty clay, med brn, hard, dry no odor, clay inclusions med-light grey common	
5			1.6			
6		50%	2.0		5-6" As above	
					6-7' Silty clay, med brn-light orange brn, hard, dry, no odor	
7			0.0		7-8 as above	
8		75%	0.0		8-9' Silty clay - med brn - reddish brown hard-v hard, mottled, no odor	
9			0.0		9-10' As above	
10						

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5788 Widewaters Parkway, Dewitt, New York 13214

BORING LOG

Boring Number MW-12

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10		75%	0.0	NC	10-12' silty clay to clay, med gray to	
11					reddish brown, stiff, no odor, mottled/dry	
12		40%	0.0	5	12-13' Clay, med brn-reddish brn, becomes	
13				5	silty, dry	
14				4	13-14' As above & interbedded light	
15		90%	0.0	7	brn gray silt, dry, no odor, sand	
16				NC	14-16' Clay, soft, moist, - very moist	
17					@ depth, possible odor, med brn-	
18					reddish brown, mottled	
19					End of boring @ 16' BGS	
20					Set 2" PVC monitoring	
					well w/ 20' screen	

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5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number MW-13

BORING LOG

Name & Location: Brent Tonawanda	Project Number
Date & Time Started: 8/15/01 0515	Date & Time Completed: 8/15/01 1620
Drilling Company: JJA	Foreman: Matt
Sampler(s): Scott	Sampler Hammer / Drop
Drilling Equipment: HSA	Method: HSA
Elevation & Datum	Completion Depth: 16
Rock Depth	
Bit Size(s): 2" Auger (8")	Core Barrel(s): split spoon
Geologist(s): J. Pretz	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	Readings from borehole
0		50%	253	NC	0-1' Sand, black, hydrocarbon odor	
1			177		Sly moist, loose, med-f gr, trace f gr	
			1166		1-2' AA	
		↓	1780			
2		85%	7200c		2-2.5 Clay (AA) dry, SLT common, light	
			1984		green/ch gray, SLT dry, strong odor	
3			844		2.5-3 AA c moist seam, strong odors, dry	
		↓	840	↓	3-3.5 Sand c some clay (AA), f-m gr, gravel	
4		90%	616	2	3.5-4 Med brn-(light orange) Snd clay	
		4	1744	4	Slty clay c slty (light brn) seams & clay seams (bluish gray)	
5		8	1170	8	4-5 AA Sand (fine) increasing, f-m gr seams	
		↓	415	11	5-6 - AA Sand decreasing, bluish clay increasing, dry	
6		75%	14.4	12	6-6.5 AA	
			742	14	6.5-7 Med brn-yellowish orange slty clay dry odor	
7			2000	15	7-7.5 Slty clay c light brown sand seams f-m-v.f gr	
		↓	669	17	7.5-8 AA Sand decreasing, hard, dry	
8			123	7	8.0-8.5 AA clay increasing, interbedded silt seams, mottled	
			592	8	8.5-9 AA becoming med reddish brn, clay increasing	
9			128	5	9-9.5 AA, hard, dry	
		↓	58	7	9.5-10 AA	
10						

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5788 Widewaters Parkway, Dewitt, New York 13214

BORING LOG

Boring Number MW-13

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10		0%	NA	4	No Recovery	*Exceed 500 ppm
				4		Readings from (SB) breathing zone 0.0 ppm
11				7		
				6		
12				4		
				5		
13				6		
				5		
14		1.0		W/H	Clay, dk yellowish brn - reddish brn, soft	
		0.2		W/H	moist - very moist, slight odor, very	
15		0.0		W/H	well sorted	
		20		1		
16						
					End of boring @ 16'	
17						
18						
19						
20						

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5788 Widewaters Parkway, Dewitt, New York 13214

Boring Number MW-14

BORING LOG

Project Name & Location: Tonawanda	Project Number: 06714	Date & Time Started: 8/16/01 1415	Date & Time Completed: 8/16/01 1600
Drilling Company: NJB	Foreman: Matt Scott (SJ)	Sampler(s): Matt Scott	Sampler Hammer:	Drop:
Drilling Equipment: CME	Method: HSA / Split Spoon	Elevation & Datum:	Completion Depth: 16'	Rock Depth:
Bit Size(s):	Core Barrel(s):	Geologist(s): J. Paetz		

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
	LOCATION:				SURFACE DESCRIPTION:	
0		50%	336	22	0-0.5 Sand + gravel (med-fine), loose, black	
1			379	27	dry, strong hydrocarbon odor	
			7.2	30	0.5-1 AA + light gray-black glass/plastic	
		↓	2.9	—	1-2' White-Slight gray LS gravel, glass/plastic AA	
2		60%	5.3	4	2-2.5 Silty clay, trace fine gravel, greenish gray-lt brn	
			29.5	4	2.5-3 AA dom light brn, (SP) dry, stiff, mottled	
3			13.4	7	3-3.5 AA, hard, no odor	
		↓	41.7	10	3.5-4 AA, mottled, lt blue clay stringers	
4		70%	9.2	6	4-5.0 Silty clay - clay silt interbedded layers of	
			27.2	4	fine sand, slt (yellow brn) hard, dry no odor	
5			54.5	7	5-5.5 AA, silty clay - clay silt med brn - lt brn - light gray	
		↓	51.5	10	5.5-6 AA, sand (med-fine grain, light yellow orange mix ash	
6		90%	21.5	13	6-6.5 Silty clay, med brn - yellowish brn, sand decreasing, hard, dr	
			9.0	15	6.5-7 AA mottled, dry, hard	
7			4.7	18	7-8' Silty clay, med brn - yellowish brn - olive gray, hard	
		↓	18.8	16	dry no odor, interbedded seams of slt to v fine yellow brn sand.	
8		80%	10.2	4	8-8.5 Clay, med brn - med red brn, firm, dry moist no odor	
			97	5	8.5-9.5 AA, soft, very well sorted (clean)	
9			184	5	9-10 AA becoming softer	
		↓	393	4		
10						

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ERM

5788 Widewaters Parkway, Dewitt, New York 13214

BORING LOG

Boring Number MW-14

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/PID (ppm)	Blow Counts	SOIL DESCRIPTION	REMARKS
10		60%	93.4	6	10-10.5 AA, less moist, firm, no odor	
			2.1	2	10.5-11 Clay, med brn - med red brn, firm - stiff, sl moist	
11			2.9	2	11-12 AA, stiff, sl moist - dry, no odor	
		↓	2.2	3	1	
12		80%	1.4	3	12-12.5 Clay, med gray - med brn, soft, moist, no odor	
			99.1	3	12.5-13 AA	
13			93.6	2	13-14 AA, Clay, med gray - med gray brn,	
			1.9	3	soft, moist, no odor, well sorted (clean)	
14			2.8	W/H	14-16 Clay, med gray - med brn gray, v soft,	
			1.8		moist - v moist, sticky, no odor, v well	
15			1.6		sorted (clean),	
		↓	2.0	↓		
16					End of boring @ 16'bgs	
17						
18						
19						
20						

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Appendix F
Laboratory Analytical Report – Soil Samples

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

September 15, 2001

Mr. Jon Fox
ERM
5788 Widewaters Parkway
Dewitt, NY 13214

RE: Analytical Results (A01-7923)

Dear Mr. Fox:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #:	NY01-179
Site Name:	ERM - Greif Bros. Site
Project Name:	Greif Bros. Site
Matrix:	Soil, Water
Samples Received:	08/16,17,22,24,29/01
Sample Dates:	08/14,15,17,20,21,22,23,28/01

If you have any questions concerning these data, please contact the Program Manager at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide ERM with environmental testing services. We look forward to serving you in the future.

Sincerely,

STL Buffalo

Brian J. Fischer
Program Manager

BJF/sth
Enclosure

I.D.# (A01-7923)
#NY1A8821

This report contains 197 pages which are individually numbered.

SEVERN TRENT SERVICES

STL Buffalo

METHODOLOGY

The specific methodology employed in obtaining the enclosed analytical results are indicated on the specific data table. The method number presented refers to the following U.S. Environmental Protection Agency reference:

- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), Third Edition, Update III, December 1996, U.S. Environmental Protection Agency Office of Solid Waste.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

The following STL Buffalo jobs were included in this report: A01-7923, A01-7933, A01-7963, A01-8132, A01-8133, A01-8218, A01-8219, and A01-8365.

Sample dilutions were performed for Method 8270 and Metals as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

The coolers were received at temperatures of 3°, 4°, and 10°C

Total Organic Carbon analyses were performed by STL Burlington. All data is included in this report as Appendix A. Geotechnical analysis will provided at a later date under separate cover.

No deviations from protocol were encountered for Wet Chemistry analysis.

Deviations from protocol were encountered for the following procedures:

METHOD 8260

The Method Blanks, VBLK10 (A1792305 and A1792307) exhibited results below or at the reporting limit for Methylene chloride. All affected samples will be indicated with a "B" qualifier.

The Method Blanks, VBLK13 (A1813209), VBLK13 (A1821804), VBLK14, and VBLK22 exhibited results for Acetone and Methylene chloride. All affected samples will be indicated with a "B" qualifier.

The Method Blanks, VBLK17, VBLK19 (A1821808), and VBLK19 (A1836509) exhibited results below the reporting limit for Acetone. All affected samples will be indicated with a "B" qualifier.

SEVERN TRENT SERVICES

STL Buffalo

METHOD 8260 CONT'D

All acetone and methylene chloride detections in the samples, with the exception of sample GB-30-8-9 (acetone) should be considered a product of laboratory contamination.

Samples GB-25-9-10, GB-34-3, and GB-36-5 contained one or more target compounds in amounts exceeding the instrument calibration range ("E" qualifiers) and were reanalyzed at a medium level. All sets of data are reported.

Sample GB-27-0-1 contained one or more target compounds in amounts exceeding the instrument calibration range ("E" qualifiers) and was reanalyzed at a medium level. The sample also exhibited internal standard recovery results below quality control limits for 1,4-Dichlorobenzene. However, reanalyzation of the sample, at a medium level, exhibited internal standard recovery results that were compliant with quality control limits. Both sets of data are reported.

Sample GB-30-8-9 contained one or more target compounds in amounts exceeding the instrument calibration range ("E" qualifiers) and was reanalyzed at a medium level. The sample also exhibited high concentrations of 1,1-Dichloroethane and 1,1-Dichloroethene. However, these compounds were not detected upon reanalysis at a medium level. This discrepancy may be due to the poor extraction by methanol in the medium level soil extraction. Both sets of data are reported.

Sample GB-24-16 exhibited internal standard recovery results below quality control limits for 1,4-Dichlorobenzene. The sample was reanalyzed to confirm the original results for 1,4-Dichlorobenzene due to matrix effects. However, the sample was compliant for all other internal standards.

Sample GB-31-6-7 was initially analyzed at a medium level due to high levels of target compounds.

The Matrix Spike Blank (A1836514) exhibited surrogate recovery results above quality control limits for p-Bromofluorobenzene. However, the sample was compliant for all other surrogates.

METHOD 8270

The Method Blank, S BLANK (A1B0761502) exhibited positive results below the reporting limit for Di-n-butyl phthalate. All affected samples will be indicated with a "B" qualifier.

Sample GB-27-0-1 exhibited surrogate recovery results below quality control limits for 2,4,6-Tribromophenol due to sample matrix. However, the sample was compliant for all other surrogates.

Sample GB-34-3 exhibited internal standard recovery results below quality control limits for Perylene-D12. The sample was reanalyzed at a dilution factor of 5 and exhibited compliant internal standard recovery results. Both sets of data are reported

SEVERN TRENT SERVICES

STL Buffalo

METALS

Samples GB-35-16 MS and GB-35-16 SD exhibited spike recovery results above quality control limits for Aluminum and Barium, and below quality control limits for Mercury and Potassium. Sample GB-35-16 MS also exhibited spike recovery results above quality control limits for Magnesium. Sample GB-35-16 SD exhibited spike recovery results above quality control limits for Antimony, Calcium, Iron, and Manganese. The relative percent difference (RPD) for spike recovery between the samples was outside quality control limits for Barium, Calcium, Iron, and Manganese. However, the Laboratory Fortified Blank was compliant.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Dilution Log w/Code Information
For Project NY1A8821, Task 1, SDG 7923

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
GB-33-3	A1792302	8270	5.00	012
GB-27-0-1	A1796301	Calcium - Total	10.00	008
GB-34-3 RI	A1836504RI	8270	5.00	002

000004

ilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - non-target compounds (TICS) exceeded 5X the total response of one of the Internal Standards
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 09/15/2
Time: 11:15:45

ERM - GRE OS. SITE
GREIF B. . SITE
METHOD 8260 - TCL VOLATILE ORGANICS

ept: AN0326

Client ID		GB-25-9-10 DL		GB-26-2		GB-27-0-1		GB-27-0-1 DL	
Job No	Lab ID	A01-8218	A1821802DL	A01-8132	A1813202	A01-7963	A1796301	A01-7963	A1796301DL
Sample Date		08/23/2001		08/21/2001		08/17/2001		08/17/2001	

Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	4000	26 BJ	28	ND	30	ND	3700
Benzene	UG/KG	ND	810	2 J	6	ND	6	ND	740
Bromodichloromethane	UG/KG	ND	810	ND	6	ND	6	ND	740
Bromoform	UG/KG	ND	810	ND	6	ND	6	ND	740
Bromomethane	UG/KG	ND	1600	ND	11	ND	12	ND	1500
2-Butanone	UG/KG	ND	4000	ND	28	ND	30	ND	3700
Carbon Disulfide	UG/KG	ND	810	ND	6	4 J	6	ND	740
Carbon Tetrachloride	UG/KG	ND	810	ND	6	ND	6	ND	740
Chlorobenzene	UG/KG	ND	810	ND	6	ND	6	ND	740
Chloroethane	UG/KG	ND	1600	ND	11	ND	12	ND	1500
Chloroform	UG/KG	ND	810	ND	6	2 J	6	ND	740
Chloromethane	UG/KG	ND	1600	ND	11	ND	12	ND	1500
Dibromochloromethane	UG/KG	ND	810	ND	6	ND	6	ND	740
1,1-Dichloroethane	UG/KG	ND	810	ND	6	160	6	310 DJ	740
1,2-Dichloroethane	UG/KG	ND	810	ND	6	ND	6	ND	740
1,1-Dichloroethene	UG/KG	ND	810	ND	6	320 E	6	820 D	740
1,2-Dichloroethene (Total)	UG/KG	260 DJ	1600	ND	11	6 J	12	ND	1500
1,2-Dichloropropane	UG/KG	ND	810	ND	6	ND	6	ND	740
cis-1,3-Dichloropropene	UG/KG	ND	810	ND	6	ND	6	ND	740
trans-1,3-Dichloropropene	UG/KG	ND	810	ND	6	ND	6	ND	740
Ethylbenzene	UG/KG	ND	810	2 J	6	ND	6	ND	740
2-Hexanone	UG/KG	ND	1600	ND	11	ND	12	ND	1500
Methylene chloride	UG/KG	ND	810	9 B	6	7 B	6	170 DJ	740
4-Methyl-2-pentanone	UG/KG	ND	4000	ND	28	ND	30	ND	3700
Styrene	UG/KG	ND	810	1 J	6	ND	6	ND	740
1,1,2,2-Tetrachloroethane	UG/KG	ND	810	ND	6	ND	6	ND	740
Tetrachloroethene	UG/KG	ND	810	ND	6	ND	6	ND	740
Toluene	UG/KG	ND	810	9	6	ND	6	ND	740
1,1,1-Trichloroethane	UG/KG	ND	810	ND	6	2000 E	6	5100 D	740
1,1,2-Trichloroethane	UG/KG	ND	810	ND	6	ND	6	ND	740
Trichloroethene	UG/KG	590 DJ	810	2 J	6	5100 E	6	19000 D	740
Vinyl acetate	UG/KG	ND	1600	ND	11	ND	12	ND	1500
Vinyl chloride	UG/KG	ND	1600	ND	11	ND	12	ND	1500
Total Xylenes	UG/KG	ND	2400	6 J	17	ND	18	ND	2200
IS/SURROGATE(S)									
Chlorobenzene-D5	%	84	50-200	86	50-200	60	50-200	84	50-200
1,4-Difluorobenzene	%	87	50-200	68	50-200	60	50-200	86	50-200
1,4-Dichlorobenzene-D4	%	82	50-200	99	50-200	44 *	50-200	79	50-200
Toluene-D8	%	106	77-117	77	77-117	100	77-117	107	77-117
p-Bromofluorobenzene	%	101	62-126	118	62-126	70	62-126	105	62-126
1,2-Dichloroethane-D4	%	115	69-130	95	69-130	102	69-130	104	69-130

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/15/2
Time: 11:15:4

ERM - GRE OS. SITE
GREIF L . SITE
METHOD 8260 - TCL VOLATILE ORGANICS

ept: AN0326

Client ID		GB-23-15		GB-24-16		GB-24-16 RI		GB-25-9-10	
Job No	Lab ID	A01-8218	A1821803	A01-8218	A1821801	A01-8218	A1821801RI	A01-8218	A1821802
Sample Date		08/23/2001		08/22/2001		08/22/2001		08/23/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	42 B	34	67 B	34	29 BJ	35	25 BJ	32
Benzene	UG/KG	ND	7	ND	7	ND	7	2 J	6
Bromodichloromethane	UG/KG	ND	7	ND	7	ND	7	ND	6
Bromoform	UG/KG	ND	7	ND	7	ND	7	ND	6
Bromomethane	UG/KG	ND	13	ND	14	ND	14	ND	13
2-Butanone	UG/KG	ND	34	ND	34	ND	35	ND	32
Carbon Disulfide	UG/KG	ND	7	ND	7	2 J	7	ND	6
Carbon Tetrachloride	UG/KG	ND	7	ND	7	ND	7	ND	6
Chlorobenzene	UG/KG	ND	7	ND	7	ND	7	ND	6
Chloroethane	UG/KG	ND	13	ND	14	ND	14	ND	13
Chloroform	UG/KG	ND	7	ND	7	ND	7	ND	6
Chloromethane	UG/KG	ND	13	ND	14	ND	14	ND	13
Dibromochloromethane	UG/KG	ND	7	ND	7	ND	7	ND	6
1,1-Dichloroethane	UG/KG	ND	7	ND	7	ND	7	95	6
1,2-Dichloroethane	UG/KG	ND	7	ND	7	ND	7	1 J	6
1,1-Dichloroethene	UG/KG	ND	7	ND	7	ND	7	12	6
1,2-Dichloroethene (Total)	UG/KG	ND	13	ND	14	ND	14	970 E	13
1,2-Dichloropropane	UG/KG	ND	7	ND	7	ND	7	ND	6
cis-1,3-Dichloropropene	UG/KG	ND	7	ND	7	ND	7	ND	6
trans-1,3-Dichloropropene	UG/KG	ND	7	ND	7	ND	7	ND	6
Ethylbenzene	UG/KG	ND	7	ND	7	ND	7	ND	6
2-Hexanone	UG/KG	ND	13	ND	14	ND	14	ND	13
Methylene chloride	UG/KG	8 B	7	13 B	7	7	7	14 B	6
4-Methyl-2-pentanone	UG/KG	ND	34	ND	34	ND	35	ND	32
Styrene	UG/KG	ND	7	ND	7	ND	7	ND	6
1,1,2,2-Tetrachloroethane	UG/KG	ND	7	ND	7	ND	7	ND	6
Tetrachloroethene	UG/KG	ND	7	ND	7	ND	7	ND	6
Toluene	UG/KG	ND	7	2 J	7	ND	7	3 J	6
1,1,1-Trichloroethane	UG/KG	ND	7	ND	7	ND	7	3 J	6
1,1,2-Trichloroethane	UG/KG	ND	7	ND	7	ND	7	ND	6
Trichloroethene	UG/KG	2 J	7	ND	7	ND	7	1400 E	6
Vinyl acetate	UG/KG	ND	13	ND	14	ND	14	ND	13
Vinyl chloride	UG/KG	ND	13	ND	14	ND	14	61	13
Total Xylenes	UG/KG	ND	20	ND	20	ND	21	ND	19
IS/SURROGATE(S)									
Chlorobenzene-D5	%	72	50-200	53	50-200	71	50-200	76	50-200
1,4-Difluorobenzene	%	72	50-200	55	50-200	71	50-200	80	50-200
1,4-Dichlorobenzene-D4	%	54	50-200	39 *	50-200	44 *	50-200	60	50-200
Toluene-D8	%	90	77-117	90	77-117	91	77-117	95	77-117
p-Bromofluorobenzene	%	80	62-126	76	62-126	74	62-126	83	62-126
1,2-Dichloroethane-D4	%	104	69-130	111	69-130	114	69-130	104	69-130

800008

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		GB-28-16		GB-29-8-9		GB-30-8-9		GB-30-8-9 DL	
Job No	Lab ID	A01-8132	A1813203	A01-8132	A1813204	A01-8132	A1813201	A01-8132	A1813201DL
Sample Date		08/20/2001		08/20/2001		08/21/2001		08/21/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	39 B	32	18 BJ	30	1900 BE	30	4300 D	3800
Benzene	UG/KG	7	6	2 J	6	ND	6	ND	760
Bromodichloromethane	UG/KG	ND	6	ND	6	ND	6	ND	760
Bromoform	UG/KG	ND	6	ND	6	ND	6	ND	760
Bromomethane	UG/KG	ND	13	ND	12	ND	12	ND	1500
2-Butanone	UG/KG	9 J	32	ND	30	2400 E	30	1800 DJ	3800
Carbon Disulfide	UG/KG	ND	6	ND	6	ND	6	ND	760
Carbon Tetrachloride	UG/KG	ND	6	ND	6	ND	6	ND	760
Chlorobenzene	UG/KG	ND	6	ND	6	ND	6	ND	760
Chloroethane	UG/KG	ND	13	ND	12	ND	12	ND	1500
Chloroform	UG/KG	ND	6	ND	6	ND	6	ND	760
Chloromethane	UG/KG	ND	13	ND	12	ND	12	ND	1500
Dibromochloromethane	UG/KG	ND	6	ND	6	ND	6	ND	760
1,1-Dichloroethane	UG/KG	ND	6	4 J	6	590 E	6	ND	760
1,2-Dichloroethane	UG/KG	ND	6	ND	6	240	6	180 DJ	760
1,1-Dichloroethene	UG/KG	2 J	6	6	6	5800 E	6	ND	760
1,2-Dichloroethene (Total)	UG/KG	ND	13	ND	12	750 E	12	ND	1500
1,2-Dichloropropane	UG/KG	ND	6	ND	6	ND	6	ND	760
cis-1,3-Dichloropropene	UG/KG	ND	6	ND	6	ND	6	ND	760
trans-1,3-Dichloropropene	UG/KG	ND	6	ND	6	ND	6	ND	760
Ethylbenzene	UG/KG	2 J	6	ND	6	20	6	ND	760
2-Hexanone	UG/KG	ND	13	ND	12	ND	12	ND	1500
Methylene chloride	UG/KG	9 B	6	8 B	6	12 B	6	ND	760
4-Methyl-2-pentanone	UG/KG	ND	32	ND	30	83	30	ND	3800
Styrene	UG/KG	ND	6	ND	6	ND	6	ND	760
1,1,2,2-Tetrachloroethane	UG/KG	ND	6	ND	6	ND	6	ND	760
Tetrachloroethene	UG/KG	ND	6	ND	6	26	6	ND	760
Toluene	UG/KG	7	6	2 J	6	25	6	ND	760
1,1,1-Trichloroethane	UG/KG	9	6	5 J	6	6300 E	6	1400 D	760
1,1,2-Trichloroethane	UG/KG	ND	6	ND	6	74	6	ND	760
Trichloroethene	UG/KG	8	6	6	6	7000 E	6	6400 D	760
Vinyl acetate	UG/KG	ND	13	ND	12	ND	12	ND	1500
Vinyl chloride	UG/KG	ND	13	ND	12	ND	12	ND	1500
Total Xylenes	UG/KG	6 J	19	1 J	18	81	18	160 DJ	2300
IS/SURROGATE(S)									
Chlorobenzene-D5	%	124	50-200	118	50-200	157	50-200	104	50-200
1,4-Difluorobenzene	%	128	50-200	131	50-200	175	50-200	106	50-200
1,4-Dichlorobenzene-D4	%	94	50-200	99	50-200	118	50-200	104	50-200
Toluene-D8	%	85	77-117	87	77-117	87	77-117	106	77-117
p-Bromofluorobenzene	%	88	62-126	92	62-126	88	62-126	108	62-126
1,2-Dichloroethane-D4	%	71	69-130	77	69-130	72	69-130	102	69-130

600009

NA = Not Applicable ND = Not Detected

Date: 09/15/2
Time: 11:15:45

ERM - GRE .OS. SITE
GREIF BROS. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

ept: AN0326

Client ID	GB-31-6-7		GB-32-16		GB-33-3		GB-34-3	
Job No / Lab ID	A01-8132	A1813205	A01-8365	A1836501	A01-7923	A1792302	A01-8365	A1836504
Sample Date	08/22/2001		08/28/2001		08/15/2001		08/28/2001	

Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	3700	25 BJ	34	18 J	29	160 B	29
Benzene	UG/KG	ND	740	ND	7	2 J	6	ND	6
Bromodichloromethane	UG/KG	ND	740	ND	7	ND	6	ND	6
Bromoform	UG/KG	ND	740	ND	7	ND	6	ND	6
Bromomethane	UG/KG	ND	1500	ND	14	ND	12	ND	12
2-Butanone	UG/KG	ND	3700	ND	34	ND	29	35	29
Carbon Disulfide	UG/KG	ND	740	ND	7	ND	6	ND	6
Carbon Tetrachloride	UG/KG	ND	740	ND	7	ND	6	ND	6
Chlorobenzene	UG/KG	ND	740	ND	7	ND	6	ND	6
Chloroethane	UG/KG	ND	1500	ND	14	ND	12	78	12
Chloroform	UG/KG	ND	740	ND	7	ND	6	ND	6
Chloromethane	UG/KG	ND	1500	ND	14	ND	12	ND	12
Dibromochloromethane	UG/KG	ND	740	ND	7	ND	6	ND	6
1,1-Dichloroethane	UG/KG	ND	740	ND	7	ND	6	2500 E	6
1,2-Dichloroethane	UG/KG	ND	740	ND	7	ND	6	6	6
1,1-Dichloroethene	UG/KG	ND	740	ND	7	ND	6	250 E	6
1,2-Dichloroethene (Total)	UG/KG	ND	1500	ND	14	ND	12	360	12
1,2-Dichloropropane	UG/KG	ND	740	ND	7	ND	6	ND	6
cis-1,3-Dichloropropene	UG/KG	ND	740	ND	7	ND	6	ND	6
trans-1,3-Dichloropropene	UG/KG	ND	740	ND	7	ND	6	ND	6
Ethylbenzene	UG/KG	200 J	740	ND	7	1 J	6	2300 E	6
2-Hexanone	UG/KG	ND	1500	ND	14	ND	12	ND	12
Methylene chloride	UG/KG	ND	740	4 J	7	6 B	6	5 J	6
4-Methyl-2-pentanone	UG/KG	ND	3700	ND	34	ND	29	ND	29
Styrene	UG/KG	ND	740	ND	7	ND	6	ND	6
1,1,2,2-Tetrachloroethane	UG/KG	ND	740	ND	7	ND	6	ND	6
Tetrachloroethene	UG/KG	ND	740	ND	7	ND	6	14	6
Toluene	UG/KG	ND	740	ND	7	4 J	6	54	6
1,1,1-Trichloroethane	UG/KG	8600	740	ND	7	ND	6	6300 E	6
1,1,2-Trichloroethane	UG/KG	ND	740	ND	7	ND	6	12	6
Trichloroethene	UG/KG	18000	740	ND	7	ND	6	.61	6
Vinyl acetate	UG/KG	ND	1500	ND	14	ND	12	ND	12
Vinyl chloride	UG/KG	ND	1500	ND	14	ND	12	14	12
Total Xylenes	UG/KG	790 J	2200	ND	20	2 J	18	10000 E	18
IS/SURROGATE(S)									
Chlorobenzene-D5	%	111	50-200	78	50-200	132	50-200	111	50-200
1,4-Difluorobenzene	%	113	50-200	82	50-200	140	50-200	90	50-200
1,4-Dichlorobenzene-D4	%	111	50-200	52	50-200	170	50-200	104	50-200
Toluene-D8	%	104	77-117	93	77-117	89	77-117	94	77-117
p-Bromofluorobenzene	%	109	62-126	75	62-126	90	62-126	107	62-126
1,2-Dichloroethane-D4	%	101	69-130	106	69-130	78	69-130	100	69-130

000040

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		GB-34-3 DL		GB-35-16		GB-36-5		GB-36-5 DL	
Job No	Lab ID	A01-8365	A1836504DL	A01-7923	A1792303	A01-8365	A1836506	A01-8365	A1836506DL
Sample Date		08/28/2001		08/15/2001		08/28/2001		08/28/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	3500	21 J	33	72 B	30	ND	3800
Benzene	UG/KG	ND	710	ND	7	ND	6	ND	760
Bromodichloromethane	UG/KG	ND	710	ND	7	ND	6	ND	760
Bromoform	UG/KG	ND	710	ND	7	ND	6	ND	760
Bromomethane	UG/KG	ND	1400	ND	13	ND	12	ND	1500
2-Butanone	UG/KG	ND	3500	ND	33	11 J	30	ND	3800
Carbon Disulfide	UG/KG	ND	710	ND	7	ND	6	ND	760
Carbon Tetrachloride	UG/KG	ND	710	ND	7	ND	6	ND	760
Chlorobenzene	UG/KG	ND	710	ND	7	ND	6	ND	760
Chloroethane	UG/KG	ND	1400	ND	13	49	12	ND	1500
Chloroform	UG/KG	ND	710	ND	7	ND	6	ND	760
Chloromethane	UG/KG	ND	1400	ND	13	ND	12	ND	1500
Dibromochloromethane	UG/KG	ND	710	ND	7	ND	6	ND	760
1,1-Dichloroethane	UG/KG	400 DJ	710	ND	7	760 E	6	ND	760
1,2-Dichloroethane	UG/KG	ND	710	ND	7	3 J	6	ND	760
1,1-Dichloroethene	UG/KG	ND	710	ND	7	260 E	6	ND	760
1,2-Dichloroethene (Total)	UG/KG	ND	1400	ND	13	ND	12	ND	1500
1,2-Dichloropropane	UG/KG	ND	710	ND	7	ND	6	ND	760
cis-1,3-Dichloropropene	UG/KG	ND	710	ND	7	ND	6	ND	760
trans-1,3-Dichloropropene	UG/KG	ND	710	ND	7	ND	6	ND	760
Ethylbenzene	UG/KG	5700 D	710	ND	7	710 E	6	1200 D	760
2-Hexanone	UG/KG	ND	1400	ND	13	ND	12	ND	1500
Methylene chloride	UG/KG	ND	710	5 BJ	7	6	6	ND	760
4-Methyl-2-pentanone	UG/KG	ND	3500	ND	33	ND	30	ND	3800
Styrene	UG/KG	ND	710	ND	7	ND	6	ND	760
1,1,2,2-Tetrachloroethane	UG/KG	ND	710	ND	7	ND	6	ND	760
Tetrachloroethene	UG/KG	ND	710	ND	7	3 J	6	ND	760
Toluene	UG/KG	ND	710	3 J	7	7	6	ND	760
1,1,1-Trichloroethane	UG/KG	2100 D	710	ND	7	5200 E	6	300 DJ	760
1,1,2-Trichloroethane	UG/KG	ND	710	ND	7	6	6	ND	760
Trichloroethene	UG/KG	ND	710	ND	7	12	6	ND	760
Vinyl acetate	UG/KG	ND	1400	ND	13	ND	12	ND	1500
Vinyl chloride	UG/KG	ND	1400	ND	13	ND	12	ND	1500
Total Xylenes	UG/KG	46000 D	2100	2 J	20	9100 E	18	18000 D	2300
IS/SURROGATE(S)									
Chlorobenzene-D5	%	97	50-200	112	50-200	130	50-200	94	50-200
1,4-Difluorobenzene	%	97	50-200	121	50-200	119	50-200	95	50-200
1,4-Dichlorobenzene-D4	%	99	50-200	141	50-200	112	50-200	95	50-200
Toluene-D8	%	106	77-117	91	77-117	82	77-117	106	77-117
p-Bromofluorobenzene	%	109	62-126	87	62-126	99	62-126	109	62-126
1,2-Dichloroethane-D4	%	98	69-130	80	69-130	89	69-130	99	69-130

NA = Not Applicable ND = Not Detected

Date: 09/15/2
Time: 11:15:49

ERM - GRE OS. SITE
GREIF B... SITE
METHOD 8260 - TCL VOLATILE ORGANICS

ept: AN0326

Client ID		GB-37-3-4		MW-6-7					
Job No	Lab ID	A01-7923	A1792301	A01-8365	A1836503				
Sample Date		08/15/2001		08/28/2001					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	29	34 B	32	NA		NA	
Benzene	UG/KG	6	6	ND	6	NA		NA	
Bromodichloromethane	UG/KG	ND	6	ND	6	NA		NA	
Bromoform	UG/KG	ND	6	ND	6	NA		NA	
Bromomethane	UG/KG	ND	12	ND	13	NA		NA	
2-Butanone	UG/KG	ND	29	ND	32	NA		NA	
Carbon Disulfide	UG/KG	ND	6	ND	6	NA		NA	
Carbon Tetrachloride	UG/KG	ND	6	ND	6	NA		NA	
Chlorobenzene	UG/KG	ND	6	ND	6	NA		NA	
Chloroethane	UG/KG	ND	12	ND	13	NA		NA	
Chloroform	UG/KG	ND	6	ND	6	NA		NA	
Chloromethane	UG/KG	ND	12	ND	13	NA		NA	
Dibromochloromethane	UG/KG	ND	6	ND	6	NA		NA	
1,1-Dichloroethane	UG/KG	ND	6	ND	6	NA		NA	
1,2-Dichloroethane	UG/KG	ND	6	ND	6	NA		NA	
1,1-Dichloroethene	UG/KG	ND	6	ND	6	NA		NA	
1,2-Dichloroethene (Total)	UG/KG	ND	12	ND	13	NA		NA	
1,2-Dichloropropane	UG/KG	ND	6	ND	6	NA		NA	
cis-1,3-Dichloropropene	UG/KG	ND	6	ND	6	NA		NA	
trans-1,3-Dichloropropene	UG/KG	ND	6	ND	6	NA		NA	
Ethylbenzene	UG/KG	2 J	6	ND	6	NA		NA	
2-Hexanone	UG/KG	ND	12	ND	13	NA		NA	
Methylene chloride	UG/KG	6 B	6	15	6	NA		NA	
4-Methyl-2-pentanone	UG/KG	ND	29	ND	32	NA		NA	
Styrene	UG/KG	ND	6	ND	6	NA		NA	
1,1,2,2-Tetrachloroethane	UG/KG	ND	6	ND	6	NA		NA	
Tetrachloroethene	UG/KG	ND	6	ND	6	NA		NA	
Toluene	UG/KG	5 J	6	ND	6	NA		NA	
1,1,1-Trichloroethane	UG/KG	ND	6	ND	6	NA		NA	
1,1,2-Trichloroethane	UG/KG	ND	6	ND	6	NA		NA	
Trichloroethene	UG/KG	ND	6	2 J	6	NA		NA	
Vinyl acetate	UG/KG	ND	12	ND	13	NA		NA	
Vinyl chloride	UG/KG	ND	12	ND	13	NA		NA	
Total Xylenes	UG/KG	3 J	18	ND	20	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	156	50-200	80	50-200	NA		NA	
1,4-Difluorobenzene	%	162	50-200	74	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	191	50-200	60	50-200	NA		NA	
Toluene-D8	%	87	77-117	86	77-117	NA		NA	
p-Bromofluorobenzene	%	88	62-126	85	62-126	NA		NA	
1,2-Dichloroethane-D4	%	72	69-130	105	69-130	NA		NA	

000012

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/15/2
Time: 11:15:49

ERM - GRE[illegible]OS. SITE
GREIF B[illegible]. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

ept: AN0326

Client ID		GB-32-R							
Job No	Lab ID	A01-8365	A1836502						
Sample Date		08/28/2001							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	NA		NA		NA	
Benzene	UG/L	ND	5.0	NA		NA		NA	
Bromodichloromethane	UG/L	ND	5.0	NA		NA		NA	
Bromoform	UG/L	ND	5.0	NA		NA		NA	
Bromomethane	UG/L	ND	10	NA		NA		NA	
2-Butanone	UG/L	ND	10	NA		NA		NA	
Carbon Disulfide	UG/L	ND	5.0	NA		NA		NA	
Carbon Tetrachloride	UG/L	ND	5.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	5.0	NA		NA		NA	
Chloroethane	UG/L	ND	10	NA		NA		NA	
Chloroform	UG/L	ND	5.0	NA		NA		NA	
Chloromethane	UG/L	ND	10	NA		NA		NA	
Dibromochloromethane	UG/L	ND	5.0	NA		NA		NA	
1,1-Dichloroethane	UG/L	ND	5.0	NA		NA		NA	
1,2-Dichloroethane	UG/L	ND	5.0	NA		NA		NA	
1,1-Dichloroethene	UG/L	ND	5.0	NA		NA		NA	
1,2-Dichloroethene (Total)	UG/L	ND	5.0	NA		NA		NA	
1,2-Dichloropropane	UG/L	ND	5.0	NA		NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	5.0	NA		NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	5.0	NA		NA		NA	
Ethylbenzene	UG/L	ND	5.0	NA		NA		NA	
2-Hexanone	UG/L	ND	10	NA		NA		NA	
Methylene chloride	UG/L	ND	5.0	NA		NA		NA	
4-Methyl-2-pentanone	UG/L	ND	10	NA		NA		NA	
Styrene	UG/L	ND	5.0	NA		NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	NA		NA		NA	
Tetrachloroethene	UG/L	ND	5.0	NA		NA		NA	
Toluene	UG/L	ND	5.0	NA		NA		NA	
1,1,1-Trichloroethane	UG/L	ND	5.0	NA		NA		NA	
1,1,2-Trichloroethane	UG/L	ND	5.0	NA		NA		NA	
Trichloroethene	UG/L	ND	5.0	NA		NA		NA	
Vinyl acetate	UG/L	ND	10	NA		NA		NA	
Vinyl chloride	UG/L	ND	5.0	NA		NA		NA	
Total Xylenes	UG/L	ND	15	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	104	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	105	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	98	50-200	NA		NA		NA	
Toluene-D8	%	104	77-115	NA		NA		NA	
p-Bromofluorobenzene	%	104	77-112	NA		NA		NA	
1,2-Dichloroethane-D4	%	101	84-126	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

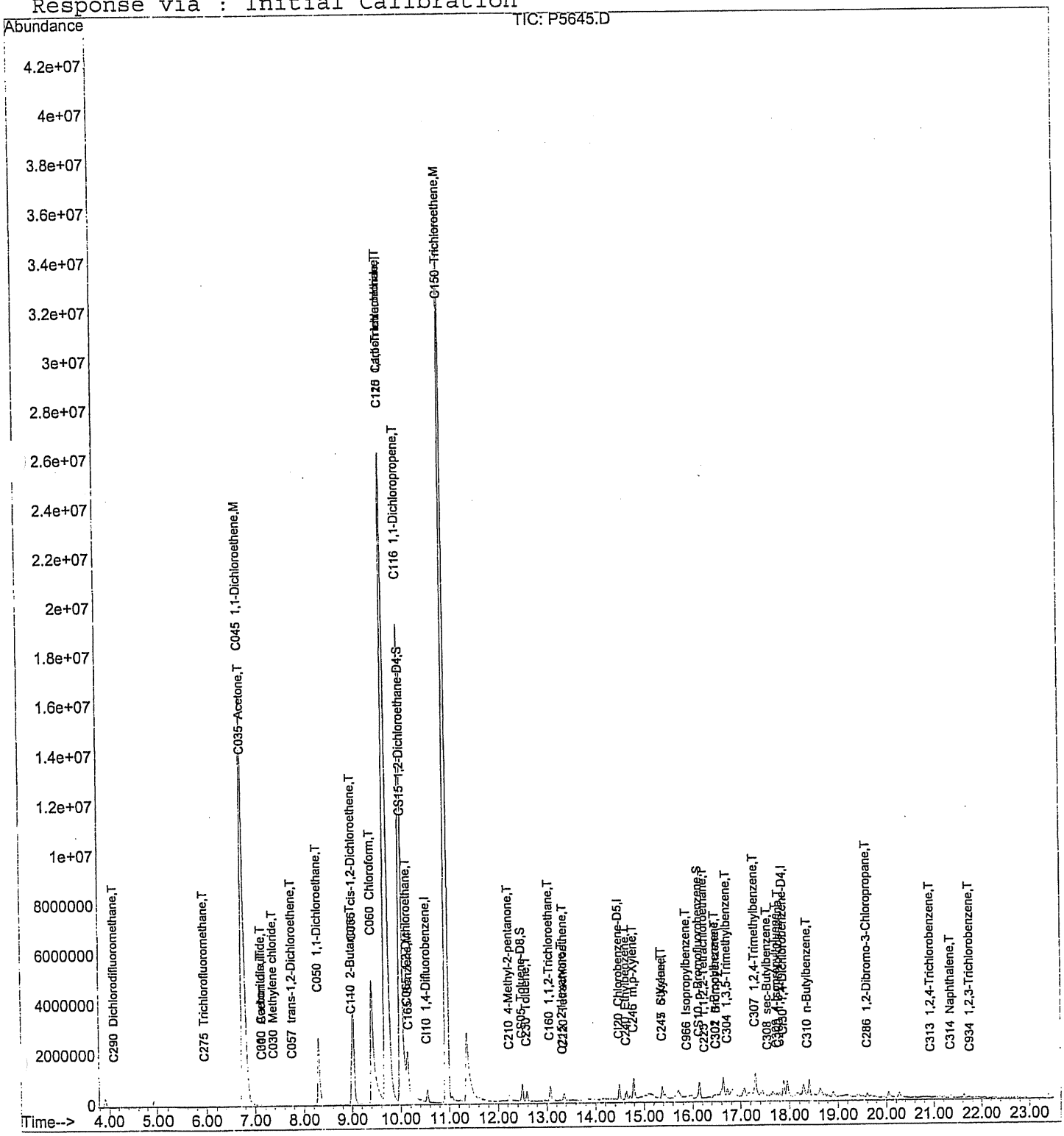
000013

Data File : C:\MSDCHEM\1\DATA\082801\P5645.D
Acq On : 29 Aug 2001 2:55
Sample : A1813201
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 29 8:53 2001

Vial: 000014
Operator: JRS
Inst : HP5973 P
Multiplr: 1.00

Quant Results File: P8260S.RES

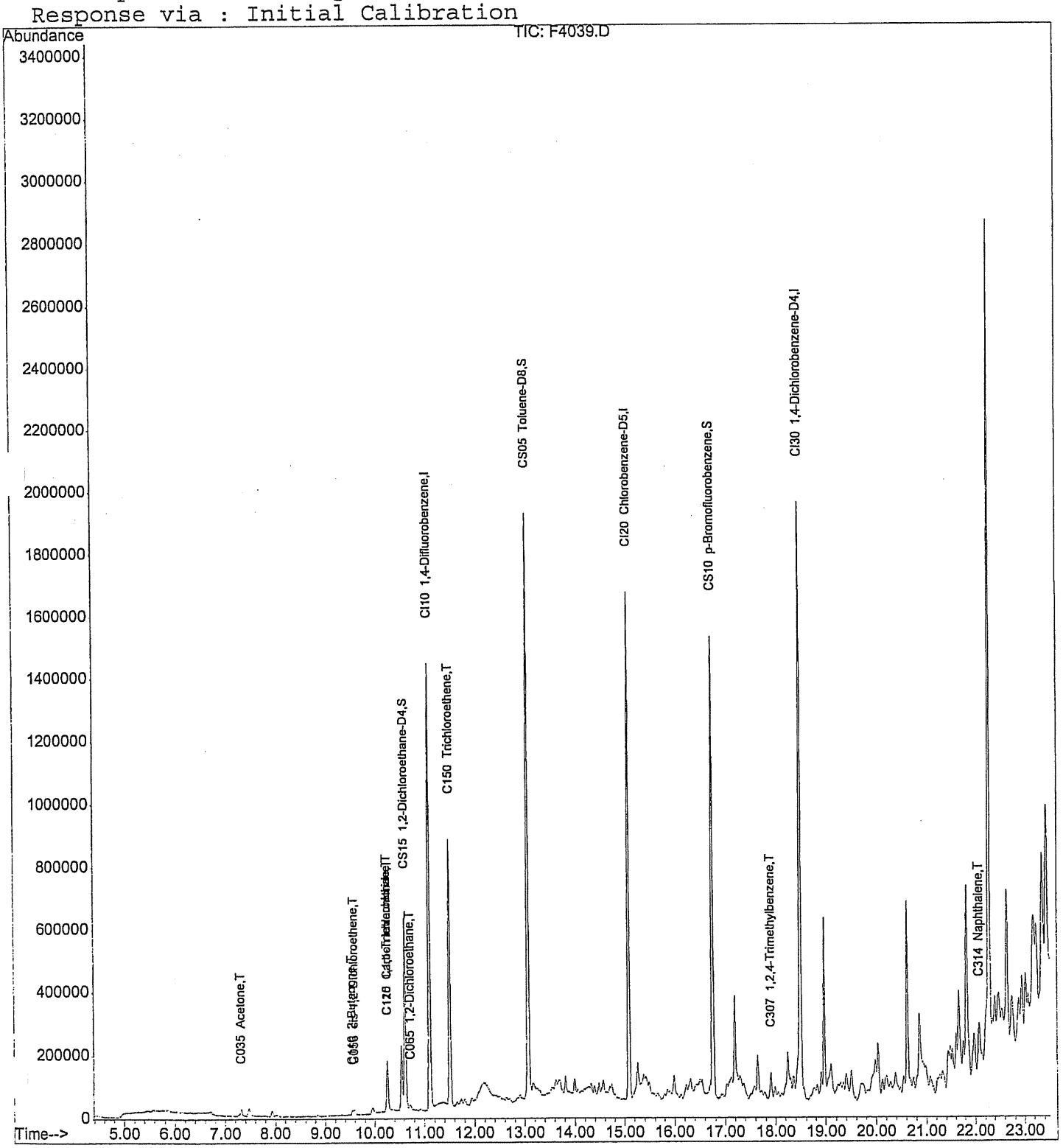
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082901\F4039.D
Acq On : 29 Aug 2001 21:26
Sample : A1813201 DL MT 9/14/2001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 30 18:34 2001

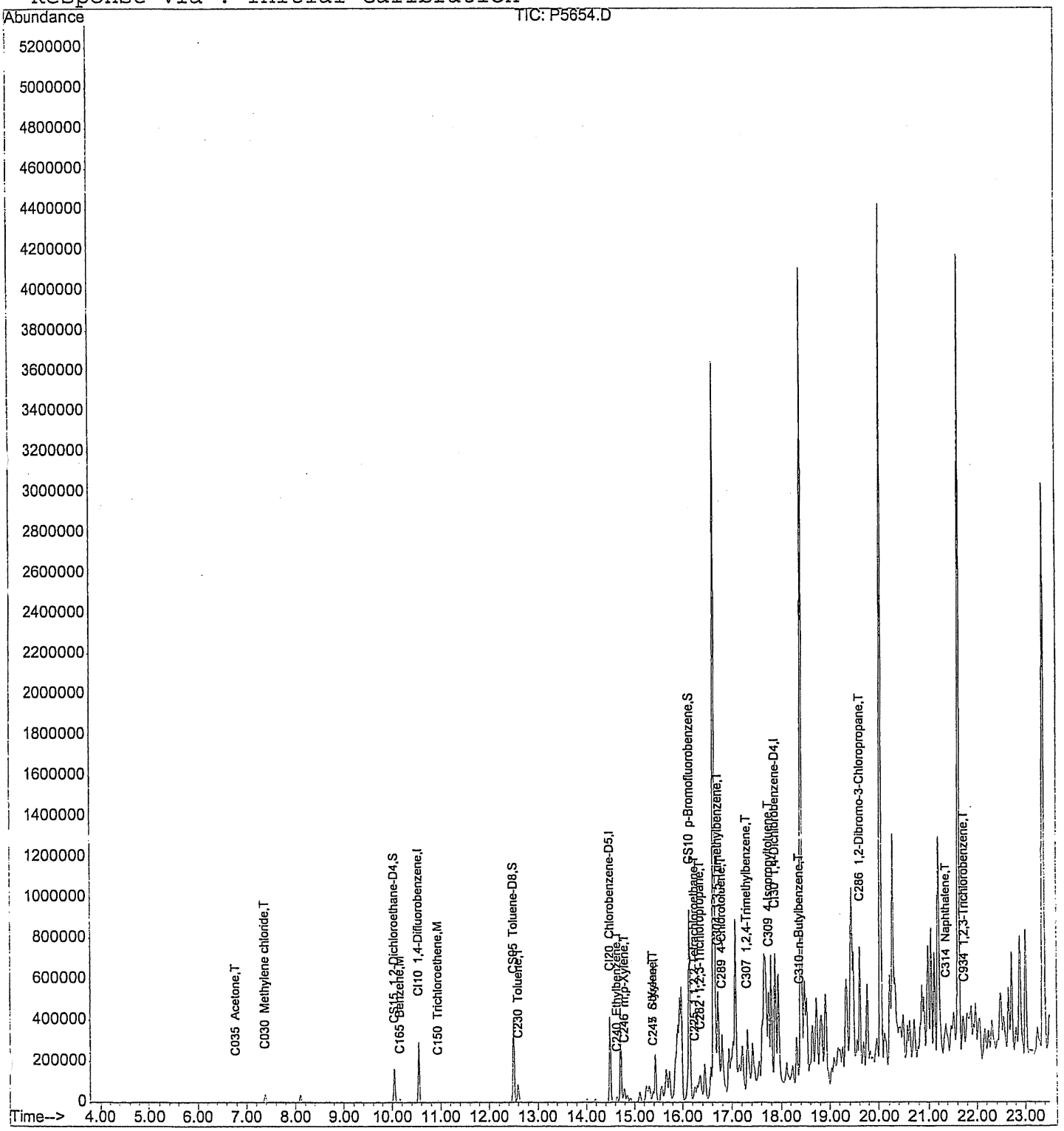
Vial: 1 000015
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Aug 30 18:34:37 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082901\P5654.D Vial: 5
Acq On : 29 Aug 2001 13:55 Operator: CAS
Sample : A1813202 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 29 20:31 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Wed Aug 29 20:27:17 2001
Response via : Initial Calibration



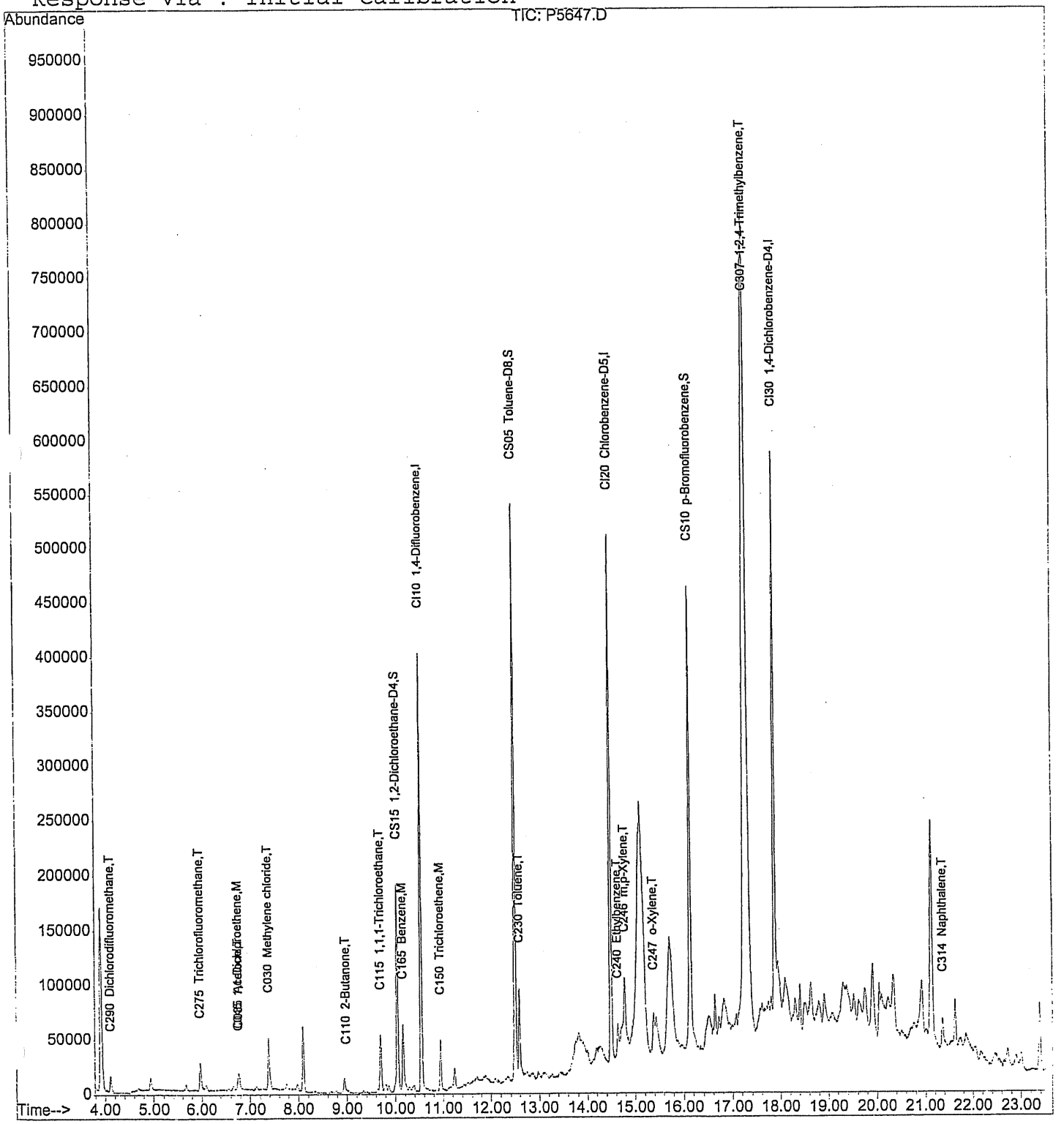
000017

Data File : C:\MSDCHEM\1\DATA\082801\P5647.D
Acq On : 29 Aug 2001 3:58
Sample : A1813203
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 29 8:53 2001

Vial: 21
Operator: JRS
Inst : HP5973 P
Multiplr: 1.00

Quant Results File: P8260S.RES

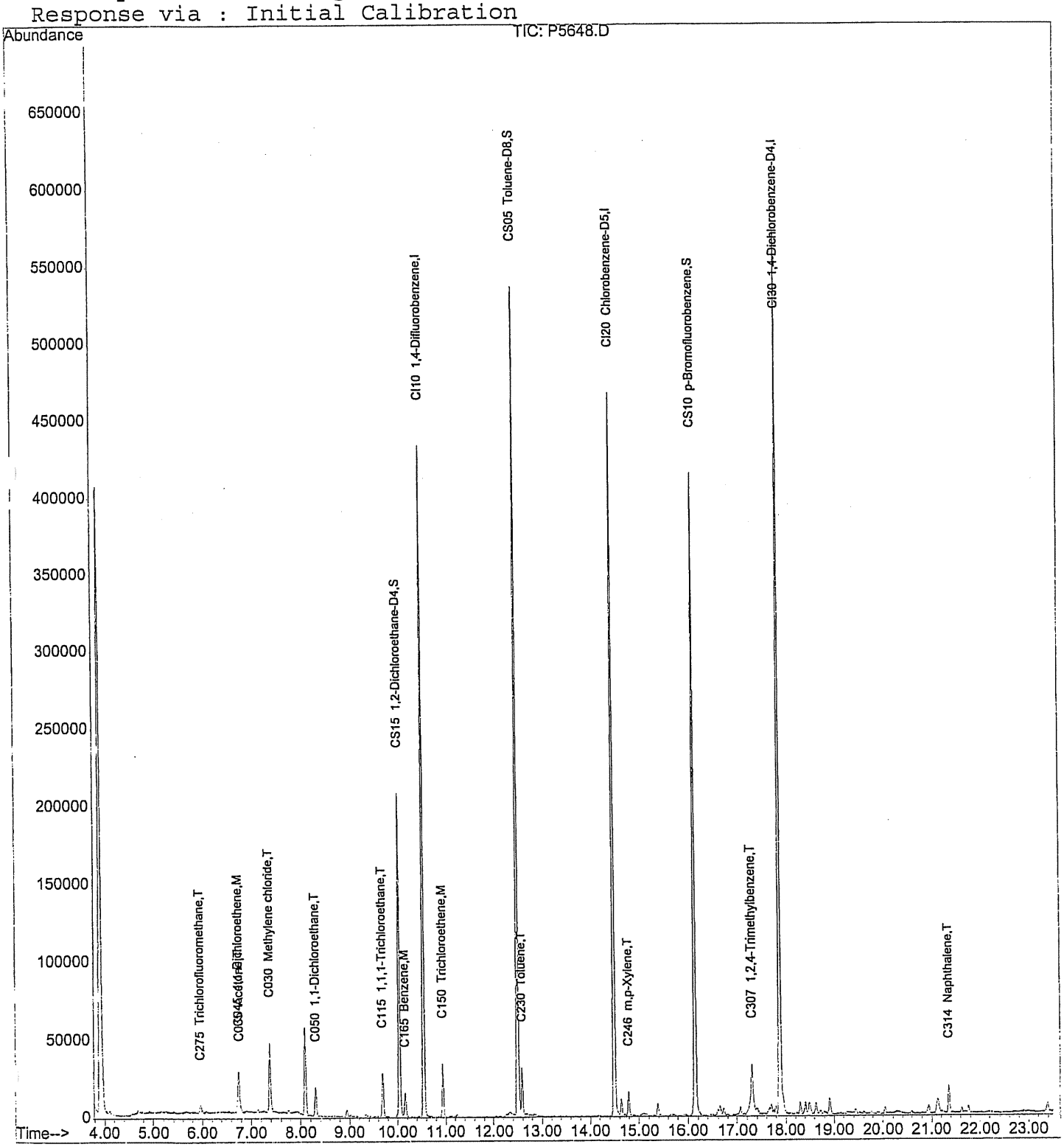
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082801\P5648.D
Acq On : 29 Aug 2001 4:29
Sample : A1813204
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 29 8:54 2001

Vial: 22 000018
Operator: JRS
Inst : HP5973 P
Multiplr: 1.00
Quant Results File: P8260S.RES

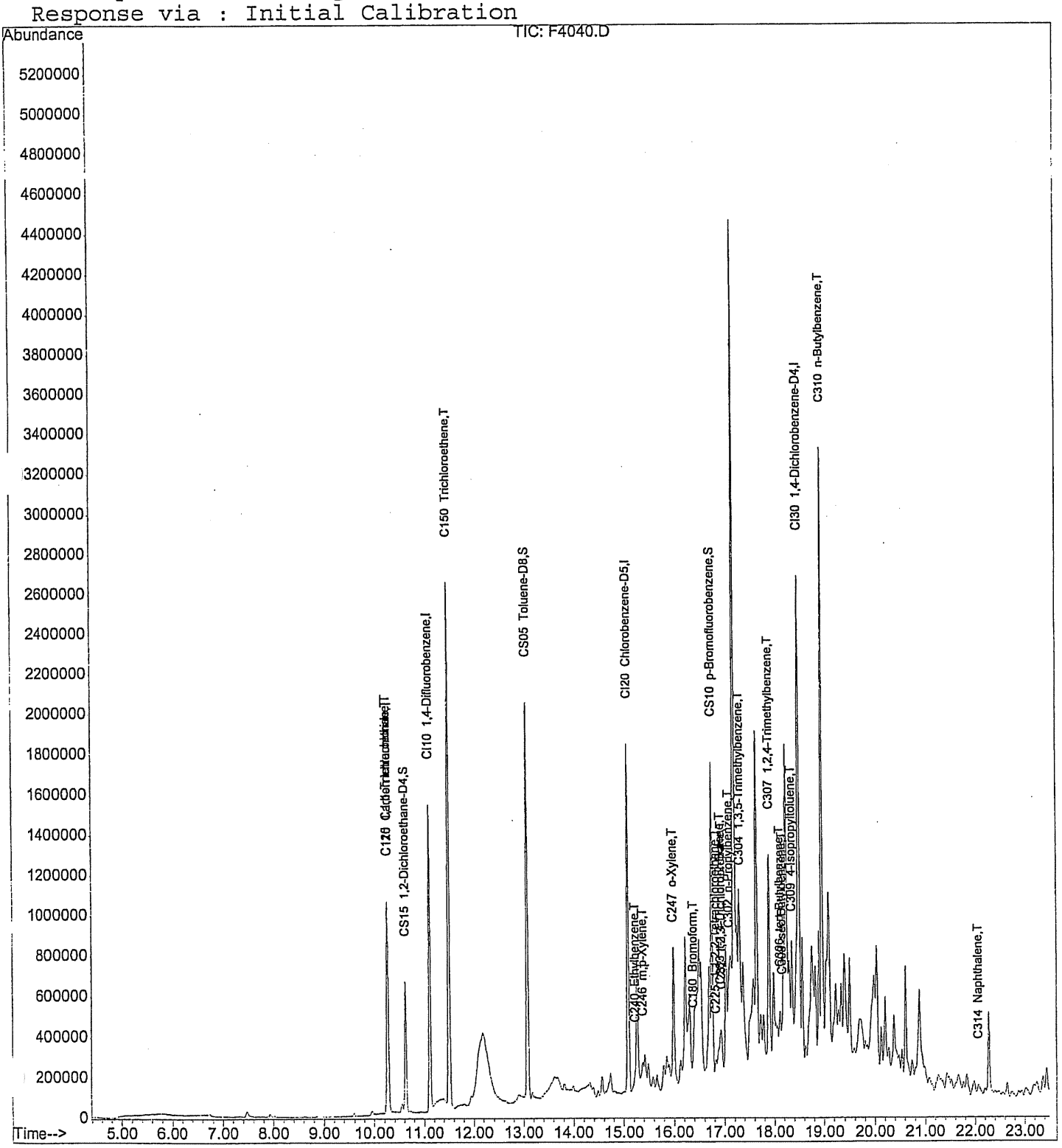
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082901\F4040.D
Acq On : 29 Aug 2001 21:56
Sample : A1813205
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 30 18:35 2001

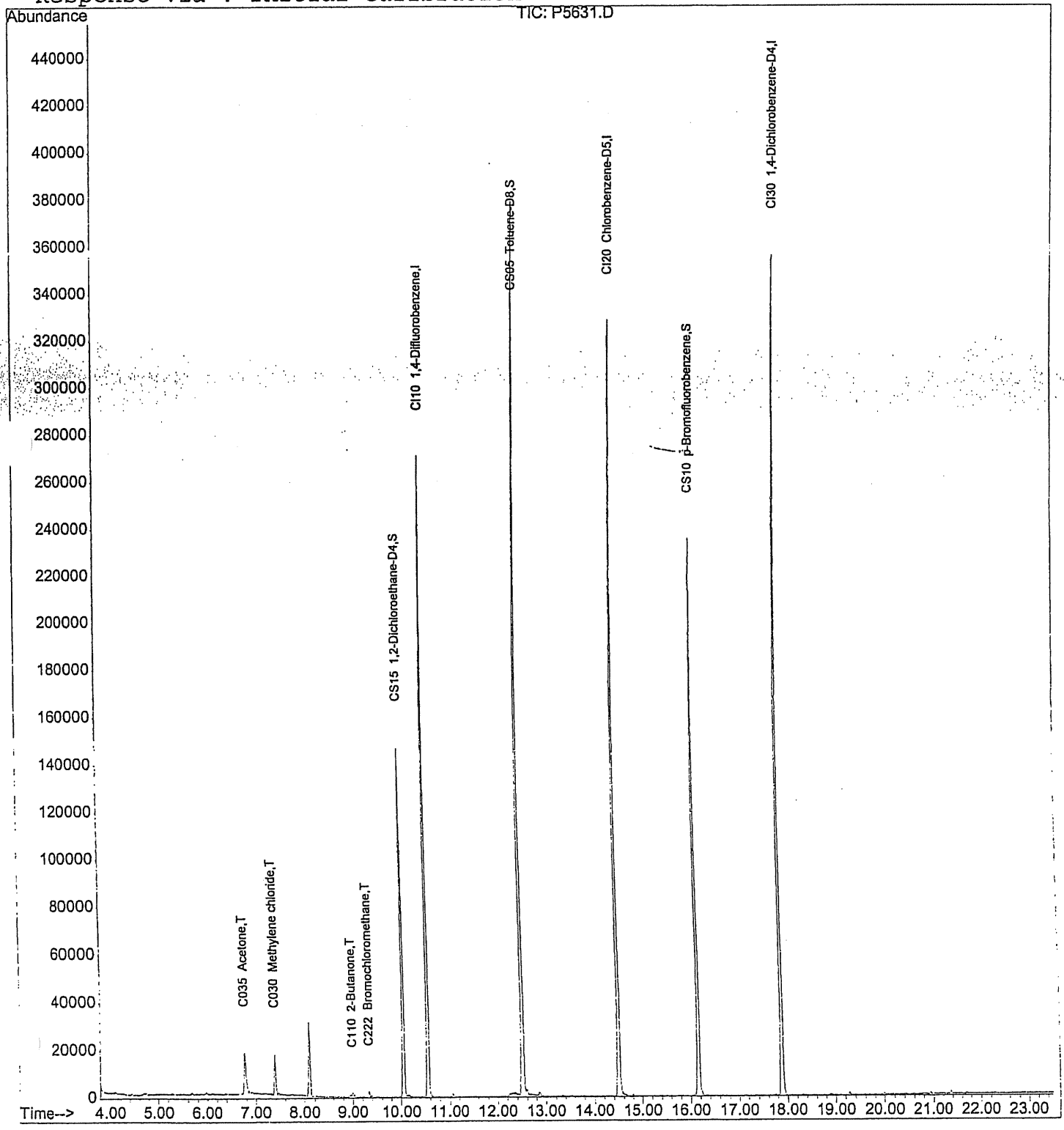
Vial: 12
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Aug 30 18:34:37 2001
Response via : Initial Calibration



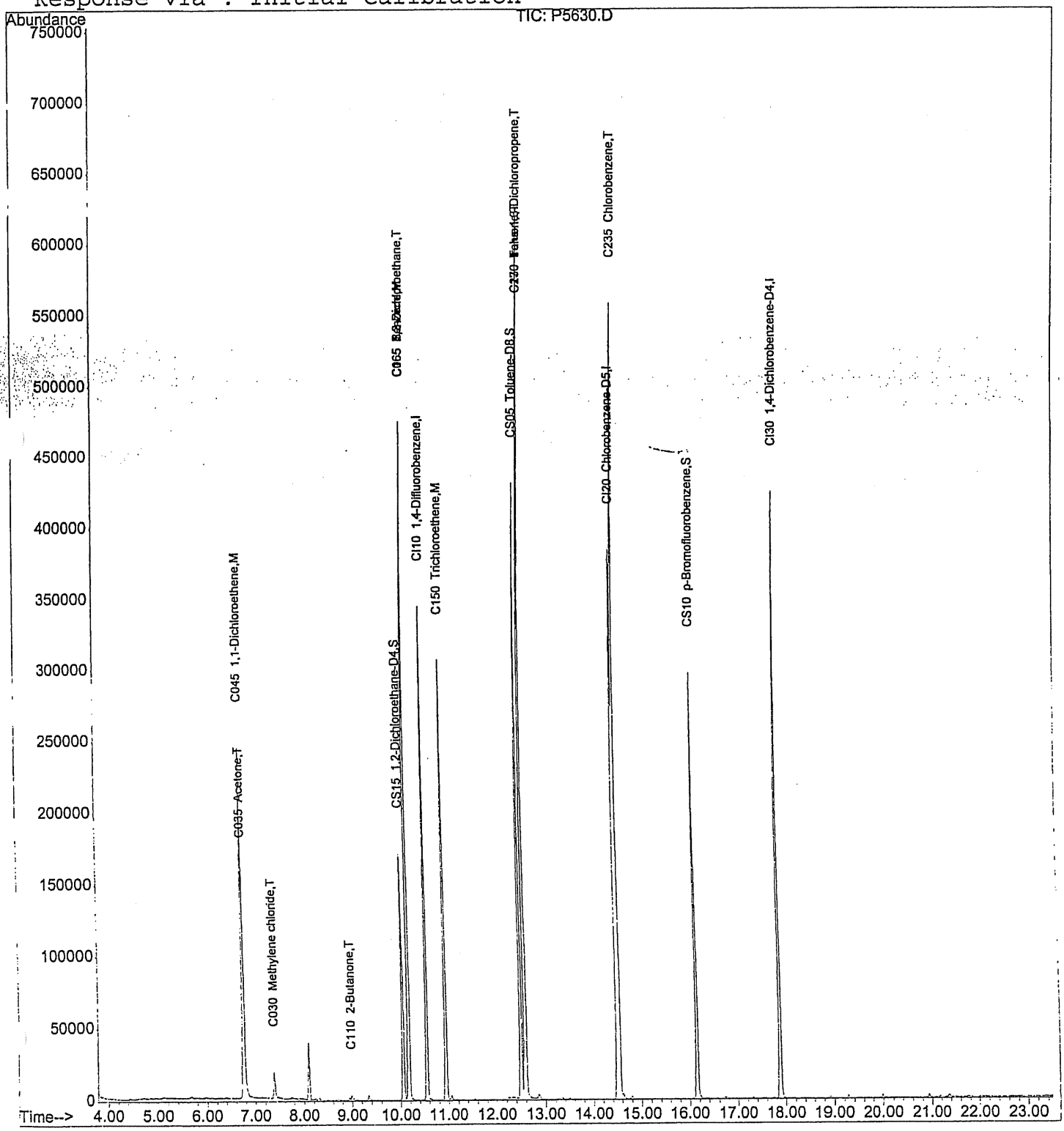
Data File : C:\MSDCHEM\1\DATA\082801\P5631.D Vial: 5 000020
Acq On : 28 Aug 2001 19:07 Operator: JRS
Sample : VBLK13 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 28 19:51 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082801\P5630.D Vial: 4
Acq On : 28 Aug 2001 18:36 Operator: JRS
Sample : MSB Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 28 19:16 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration

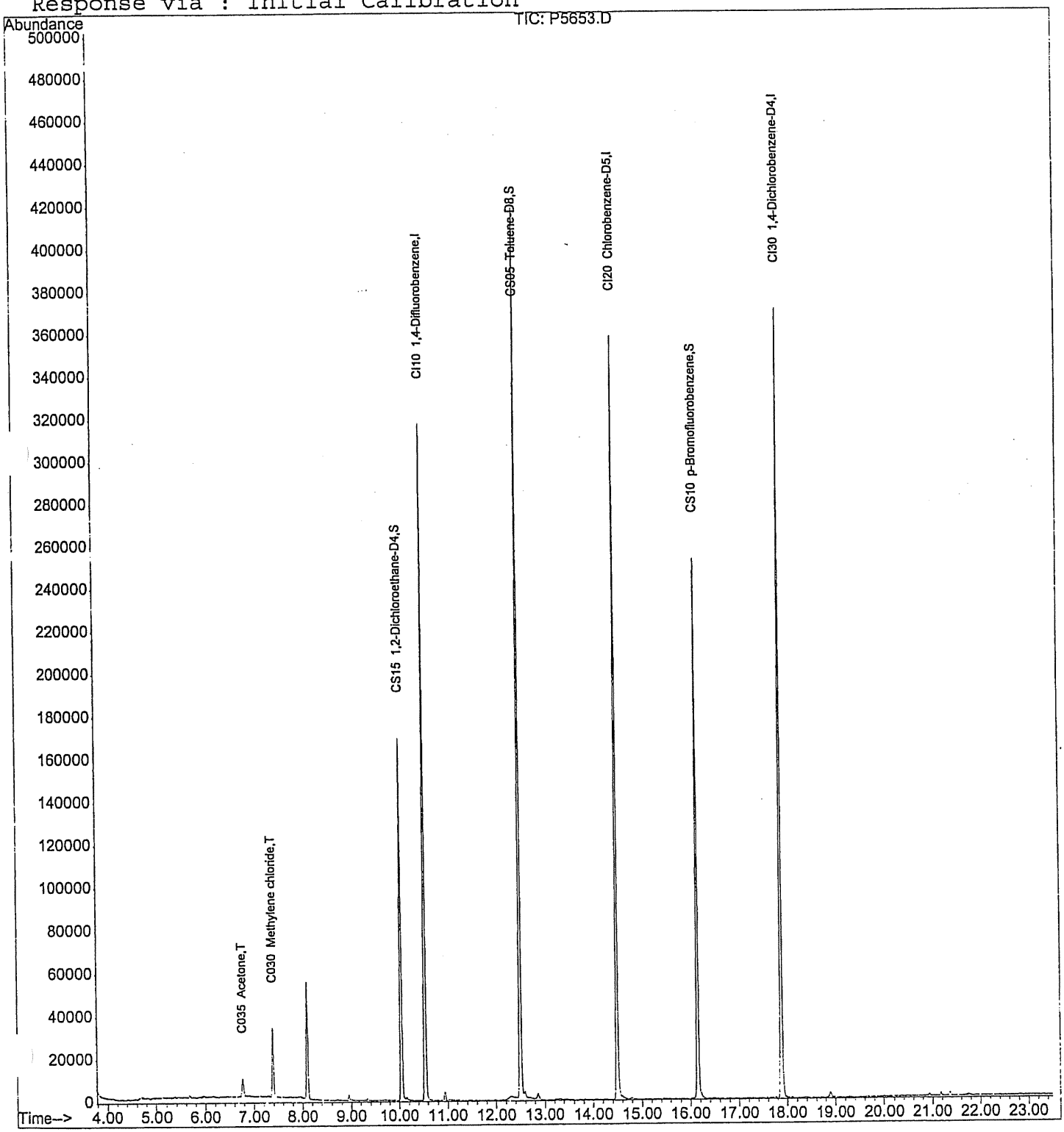


Data File : C:\MSDCHEM\1\DATA\082901\P5653.D
Acq On : 29 Aug 2001 13:24
Sample : VBLK14
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 29 16:08 2001

Vial: 4
Operator: CAS
Inst : HP5973 P
Multiplr: 1.00

Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Wed Aug 29 12:51:22 2001
Response via : Initial Calibration

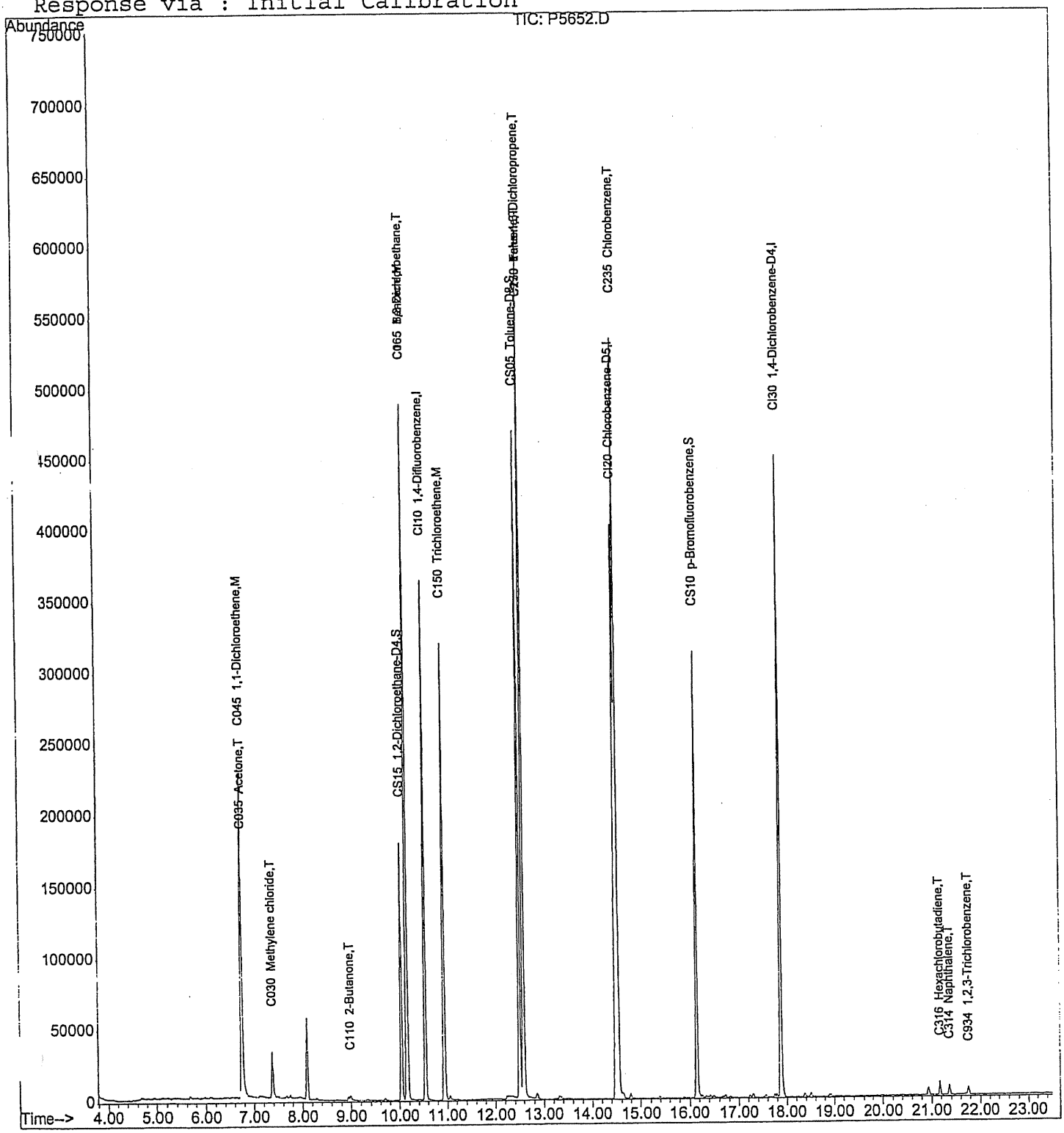


Data File : C:\MSDCHEM\1\DATA\082901\P5652.D
Acq On : 29 Aug 2001 12:52
Sample : MSB
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 29 16:08 2001

Vial: 3
Operator: CAS
Inst : HP5973 P
Multiplr: 1.00

Quant Results File: P8260S.RES

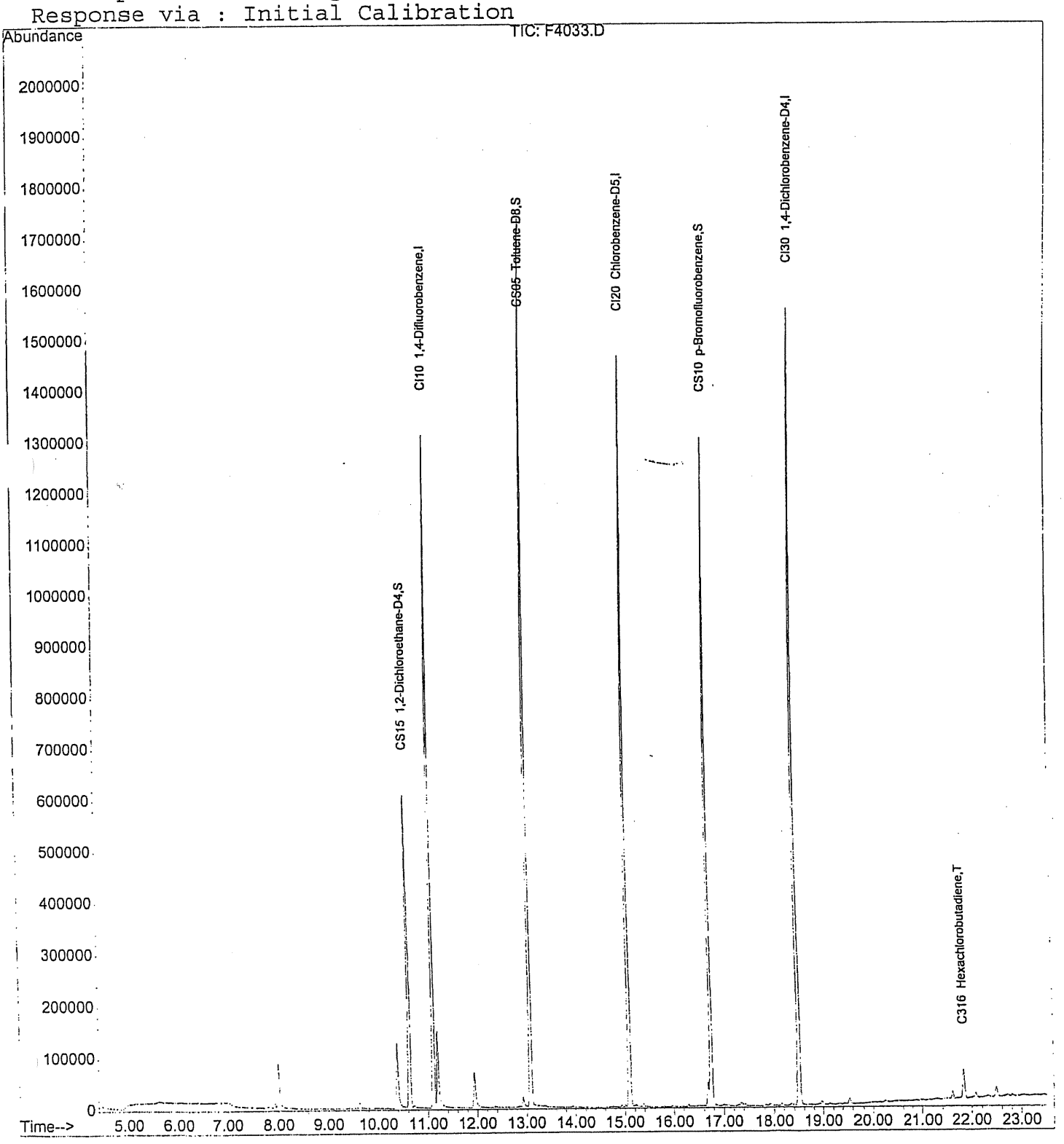
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Wed Aug 29 12:51:22 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082901\F4033.D
Acq On : 29 Aug 2001 17:36
Sample : VBLK66
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 30 11:30 2001

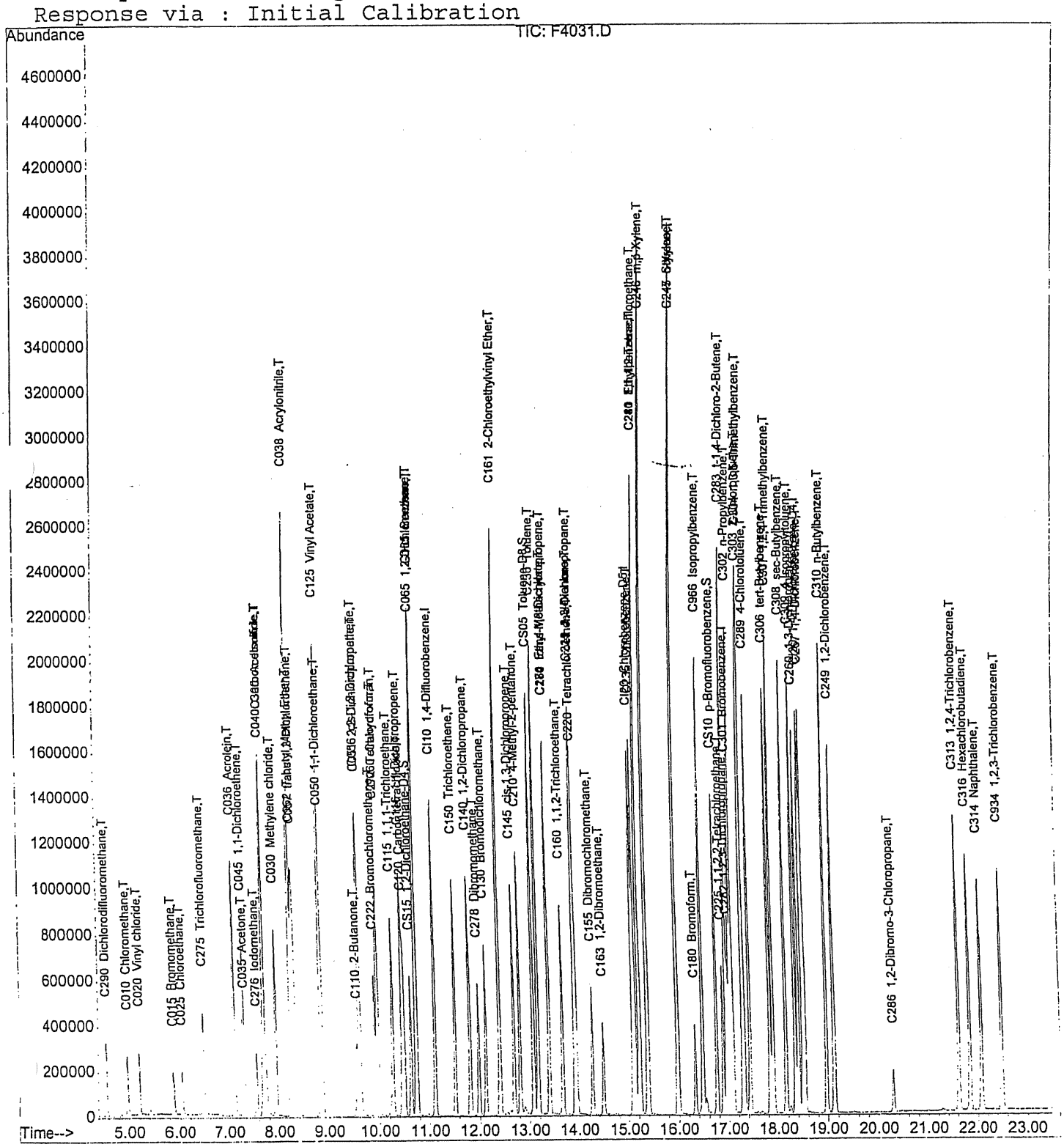
Vial: 5
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Aug 30 11:27:33 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082901\F4031.D Vial: 000025
Acq On : 29 Aug 2001 16:29 Operator: MLW
Sample : MSB Inst : HP5973 F
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 30 11:30 2001 Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Aug 30 11:27:33 2001
Response via : Initial Calibration

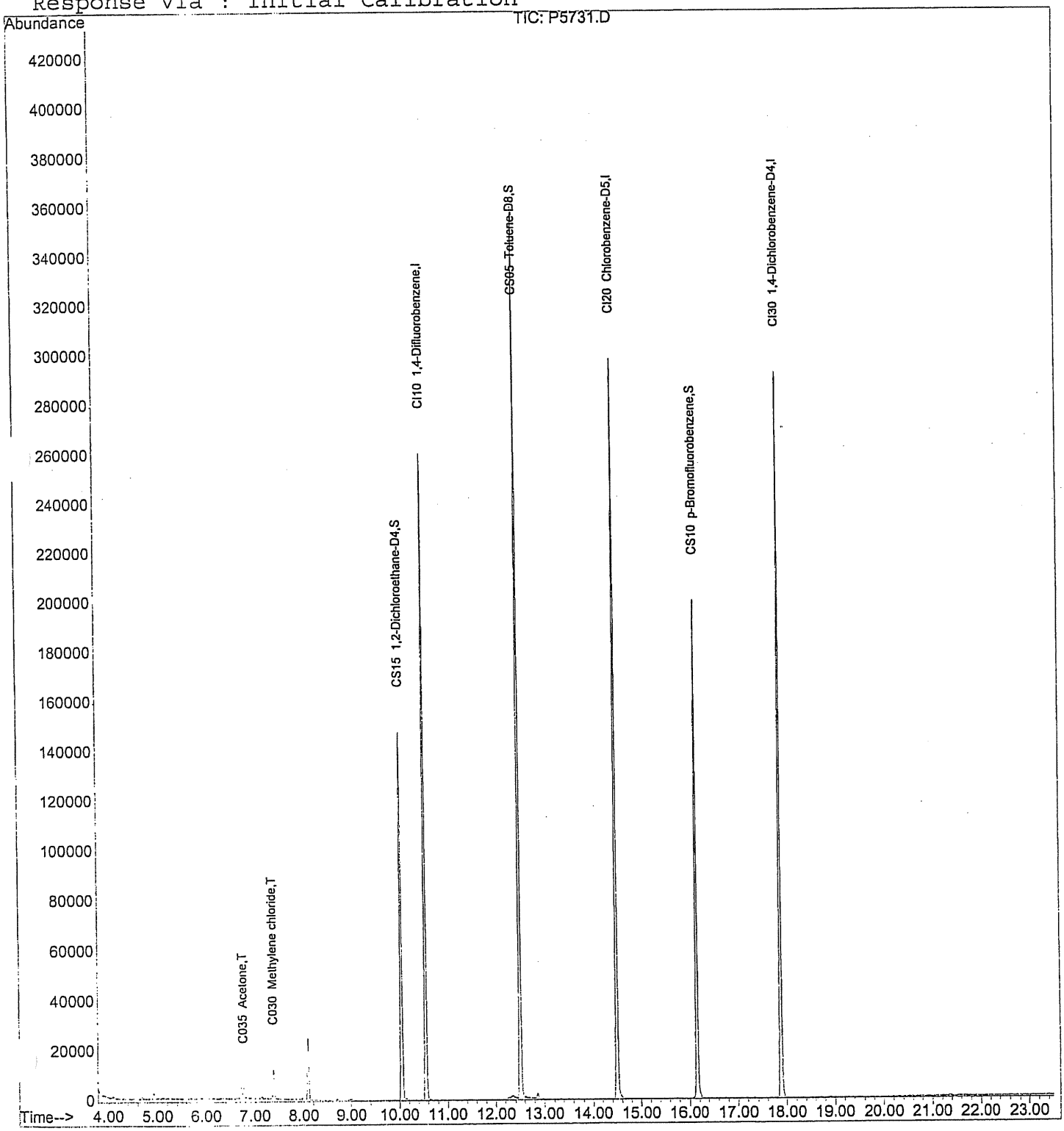


Data File : C:\MSDCHEM\1\DATA\083001\P5731.D
Acq On : 31 Aug 2001 7:12
Sample : A1836501
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 31 15:49 2001

Vial: 10
Operator: KG
Inst : HP5973 P
Multiplr: 1.00

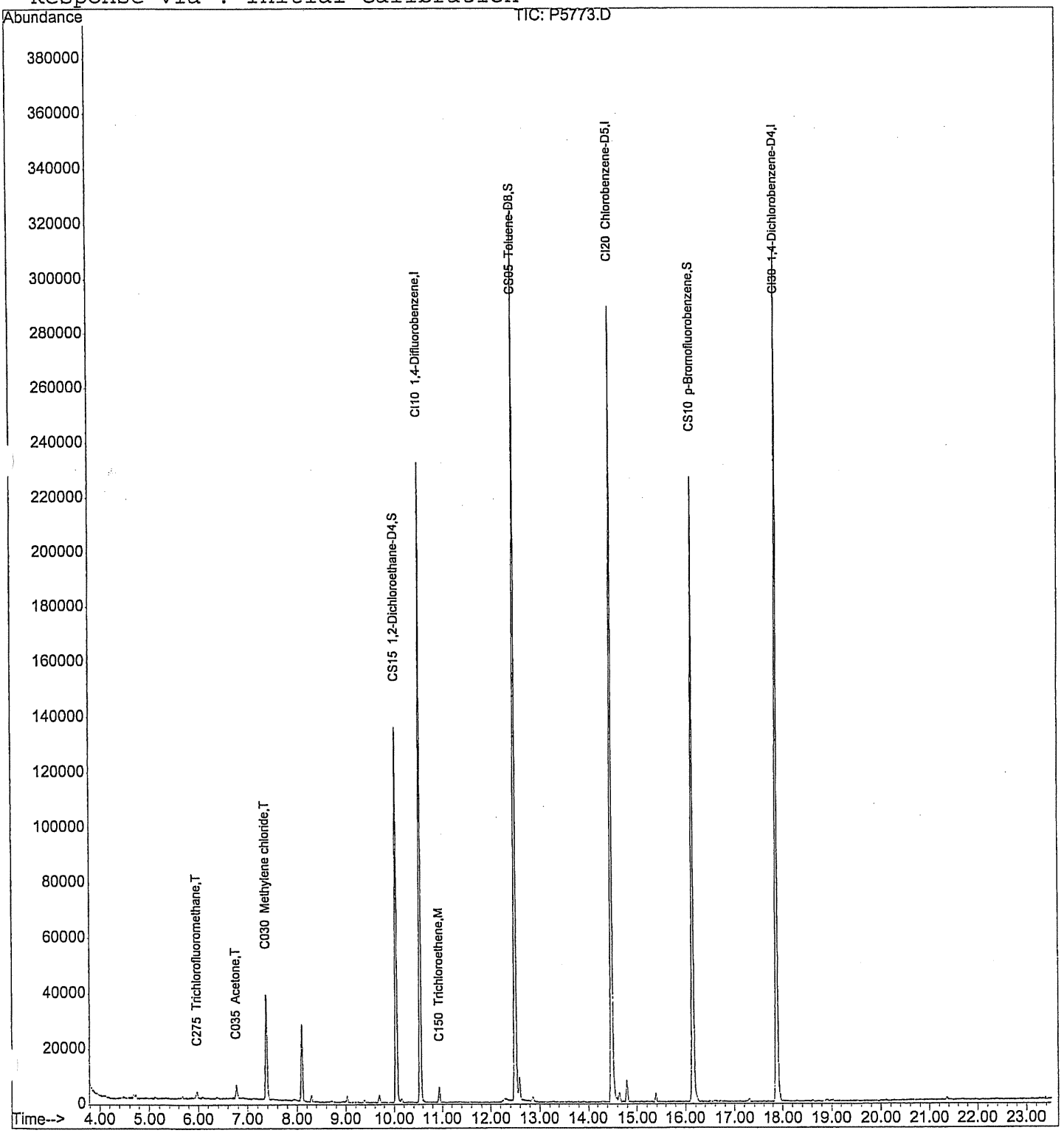
Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Thu Aug 30 22:45:35 2001
Response via : Initial Calibration



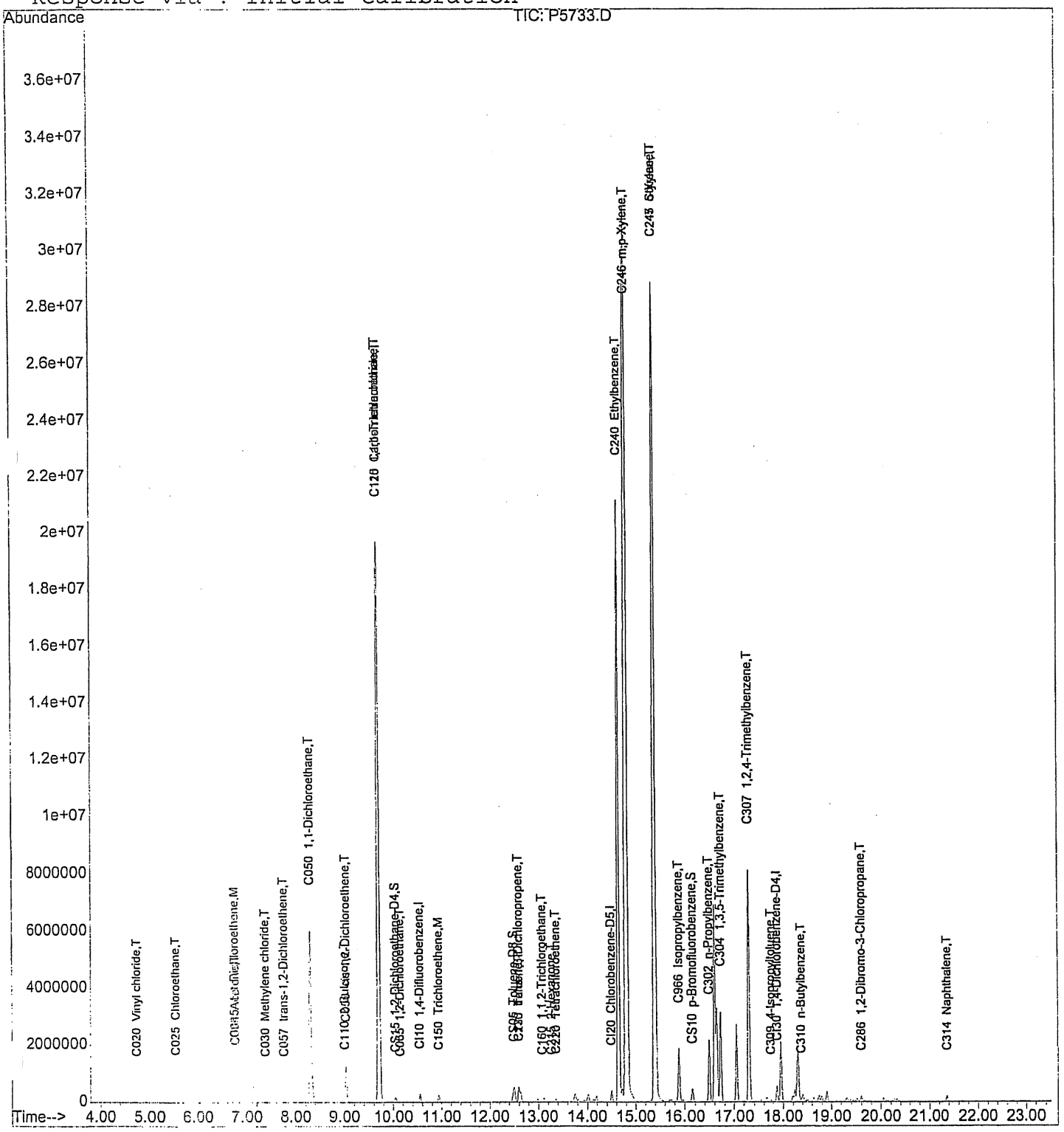
Data File : C:\MSDCHEM\1\DATA\090401\P5773.D Vial: 1
Acq On : 5 Sep 2001 1:03 Operator: KG
Sample : A1836503 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Sep 5 8:19 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Tue Sep 04 18:21:24 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\083001\P5733.D Vial: 21 000028
Acq On : 31 Aug 2001 8:14 Operator: KG
Sample : A1836504 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 31 15:49 2001 Quant Results File: P8260S.RES

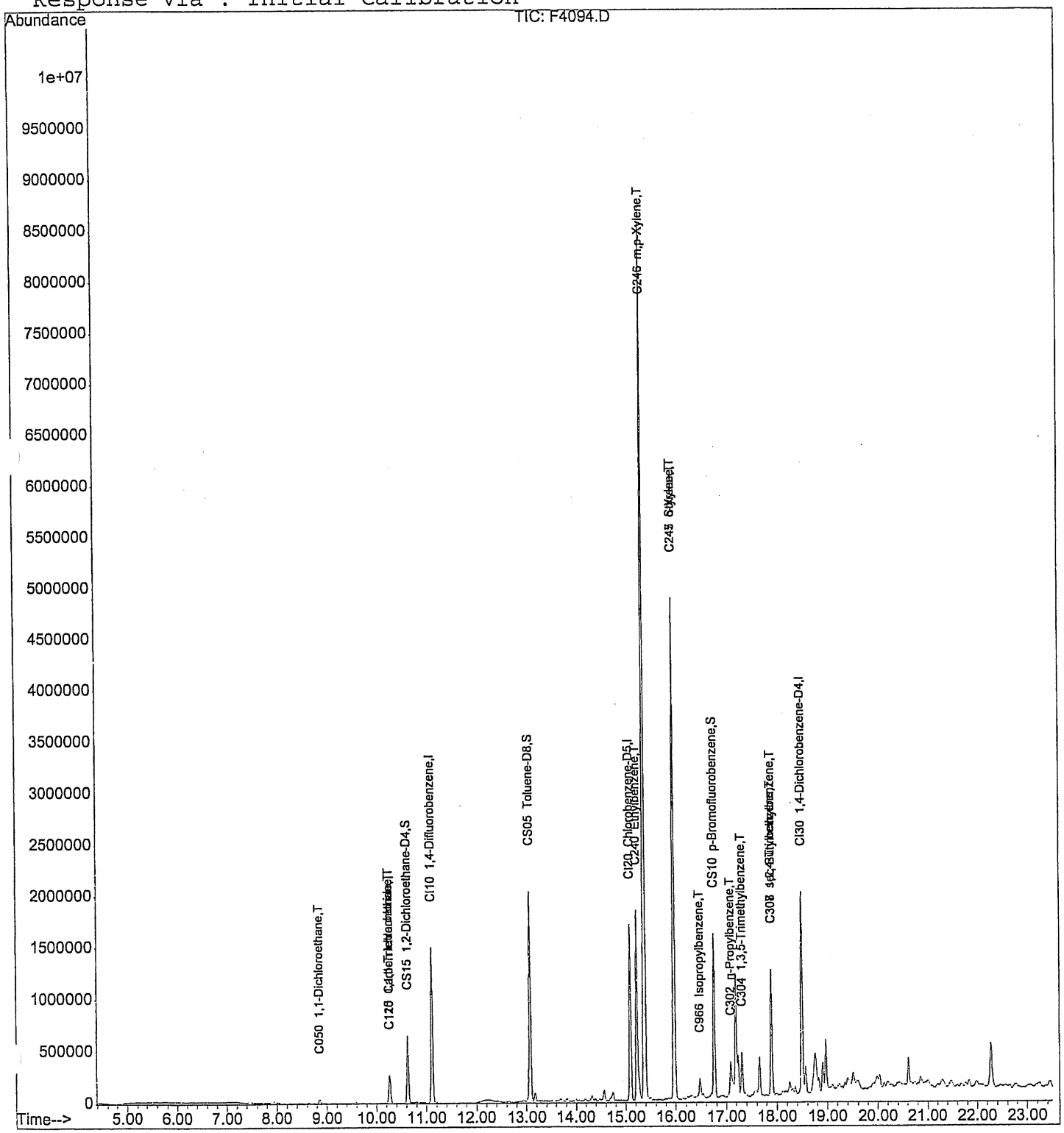
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Thu Aug 30 22:45:35 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090401\F4094.D
Acq On : 5 Sep 2001 2:49
Sample : A1836504 DL mTg 9/14/2001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 5 8:28 2001

Vial: 19 000029
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Wed Sep 05 08:23:10 2001
Response via : Initial Calibration

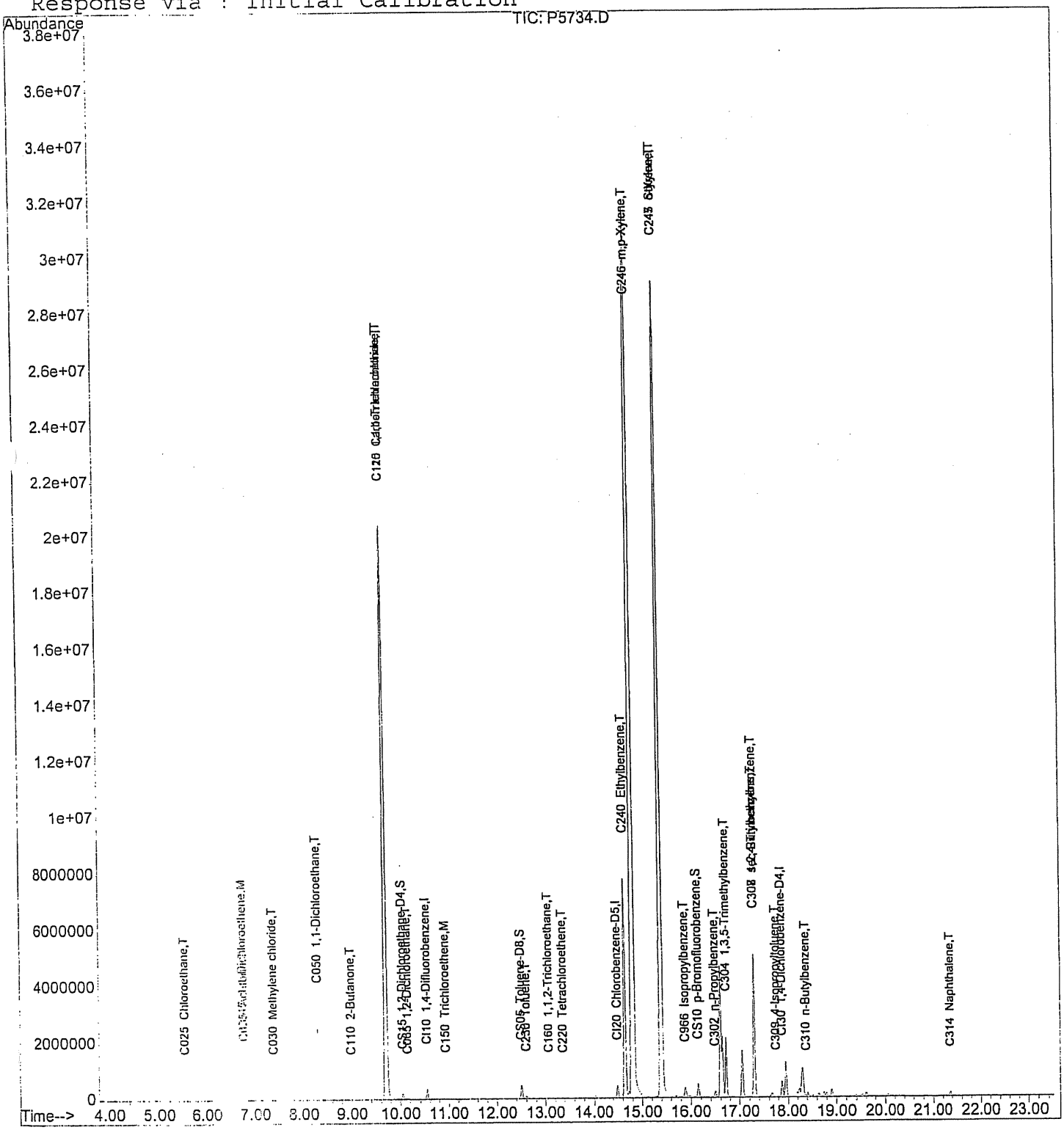


Data File : C:\MSDCHEM\1\DATA\083001\P5734.D
Acq On : 31 Aug 2001 8:46
Sample : A1836506
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 31 15:50 2001

Vial: 22
Operator: KG
Inst : HP5973 P
Multiplr: 1.00

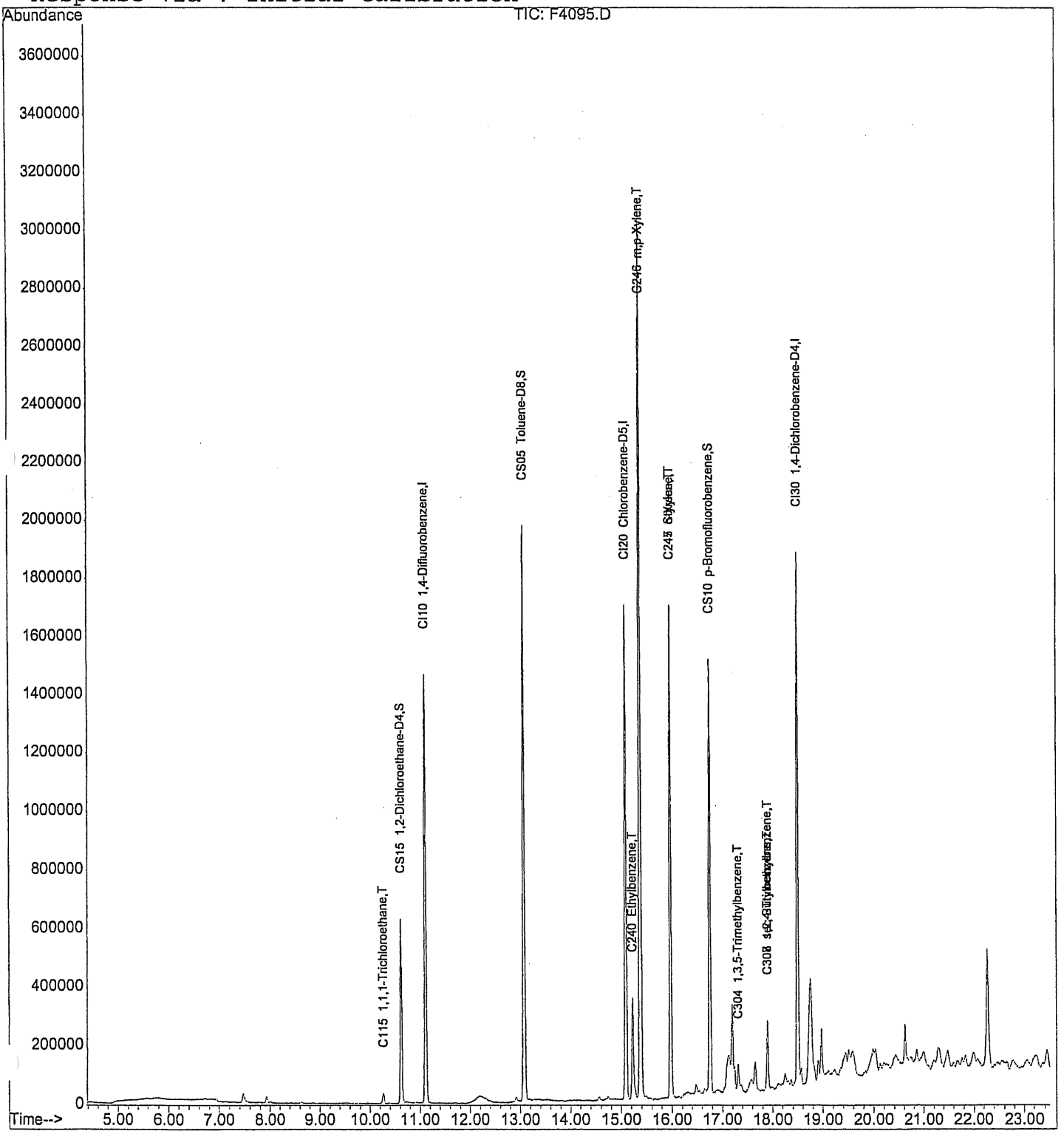
Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Thu Aug 30 22:45:35 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090401\F4095.D Vial: 20
Acq On : 5 Sep 2001 3:19 Operator: MLW
Sample : A1836506 DL MT 9/19/2001 Inst : HP5973 F
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 5 8:28 2001 Quant Results File: F82605ML.RES

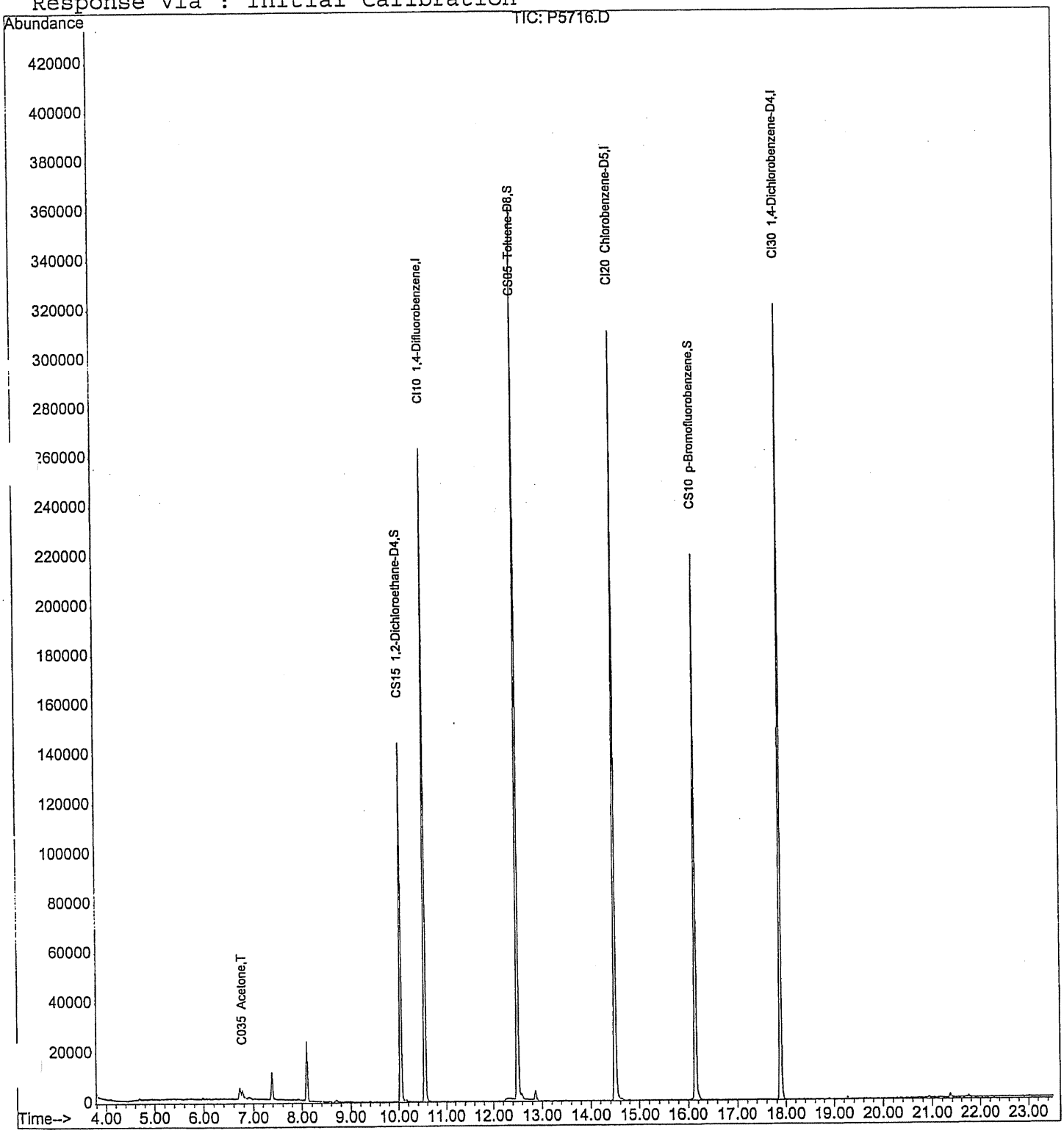
Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Wed Sep 05 08:23:10 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\083001\P5716.D
Acq On : 30 Aug 2001 23:22
Sample : VBLK17
Misc :
IS Integration Params: Rteint.p
Quant Time: Aug 31 15:49 2001

Vial: 4 000032
Operator: KG
Inst : HP5973 P
Multiplr: 1.00
Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Thu Aug 30 22:45:35 2001
Response via : Initial Calibration

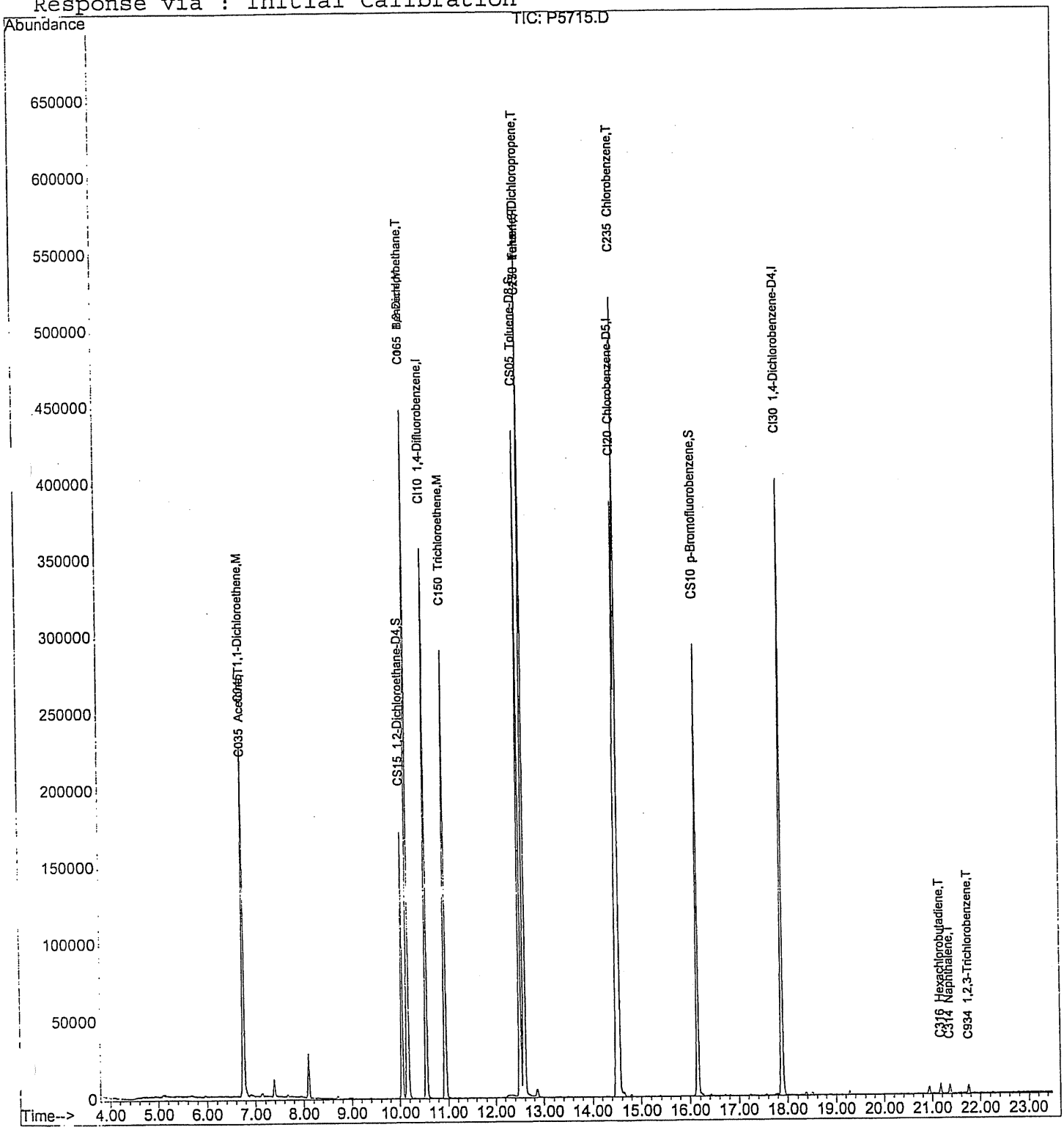


Data File : C:\MSDCHEM\1\DATA\083001\P5715.D
Acq On : 30 Aug 2001 22:51
Sample : MSB
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 30 23:16 2001

Vial: 3 000033
Operator: KG
Inst : HP5973 P
Multiplr: 1.00

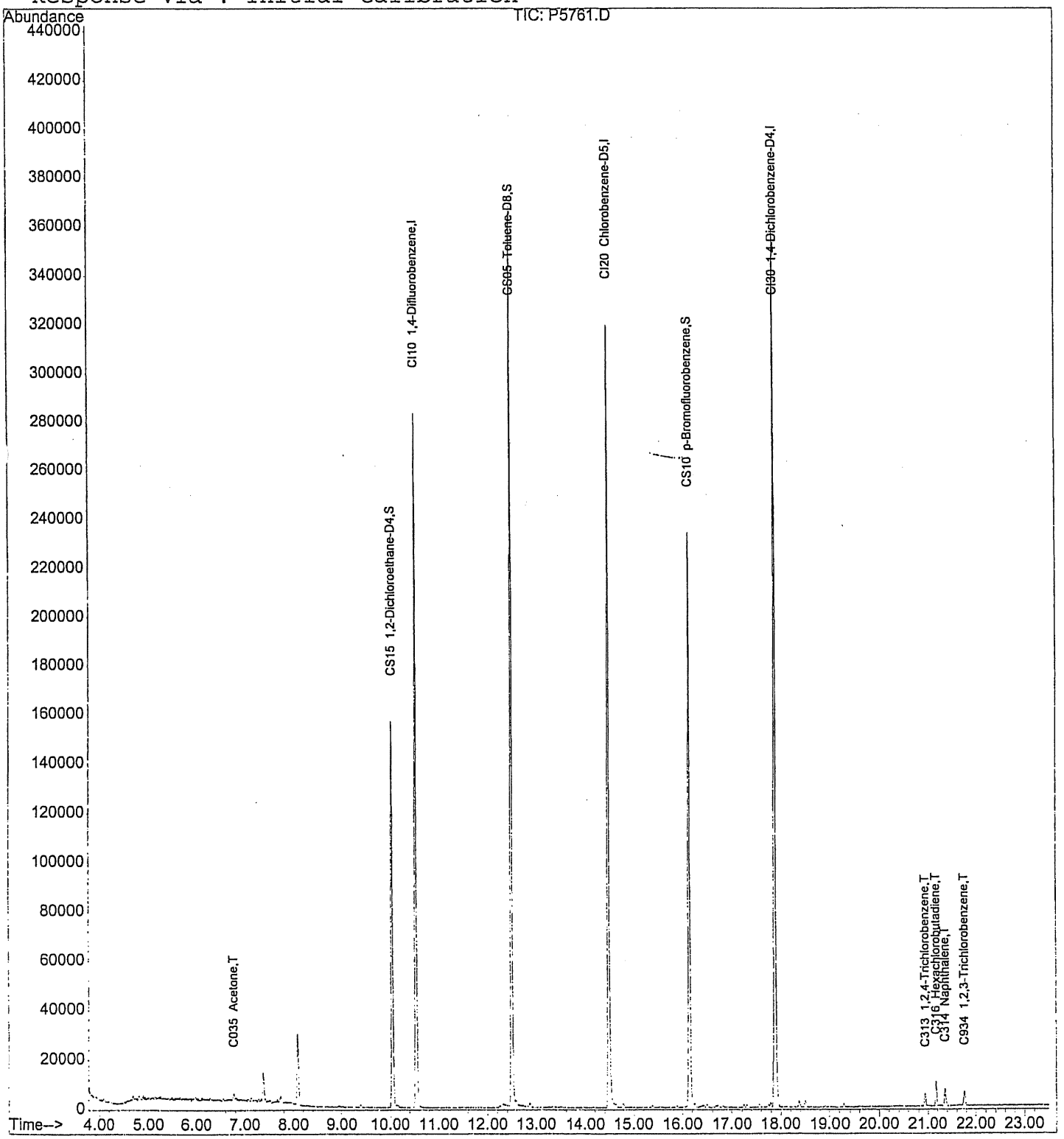
Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Thu Aug 30 22:45:35 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090401\P5761.D Vial: 3
Acq On : 4 Sep 2001 18:47 Operator: KG
Sample : VBLK19 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Sep 4 19:47 2001 Quant Results File: P8260S.RES

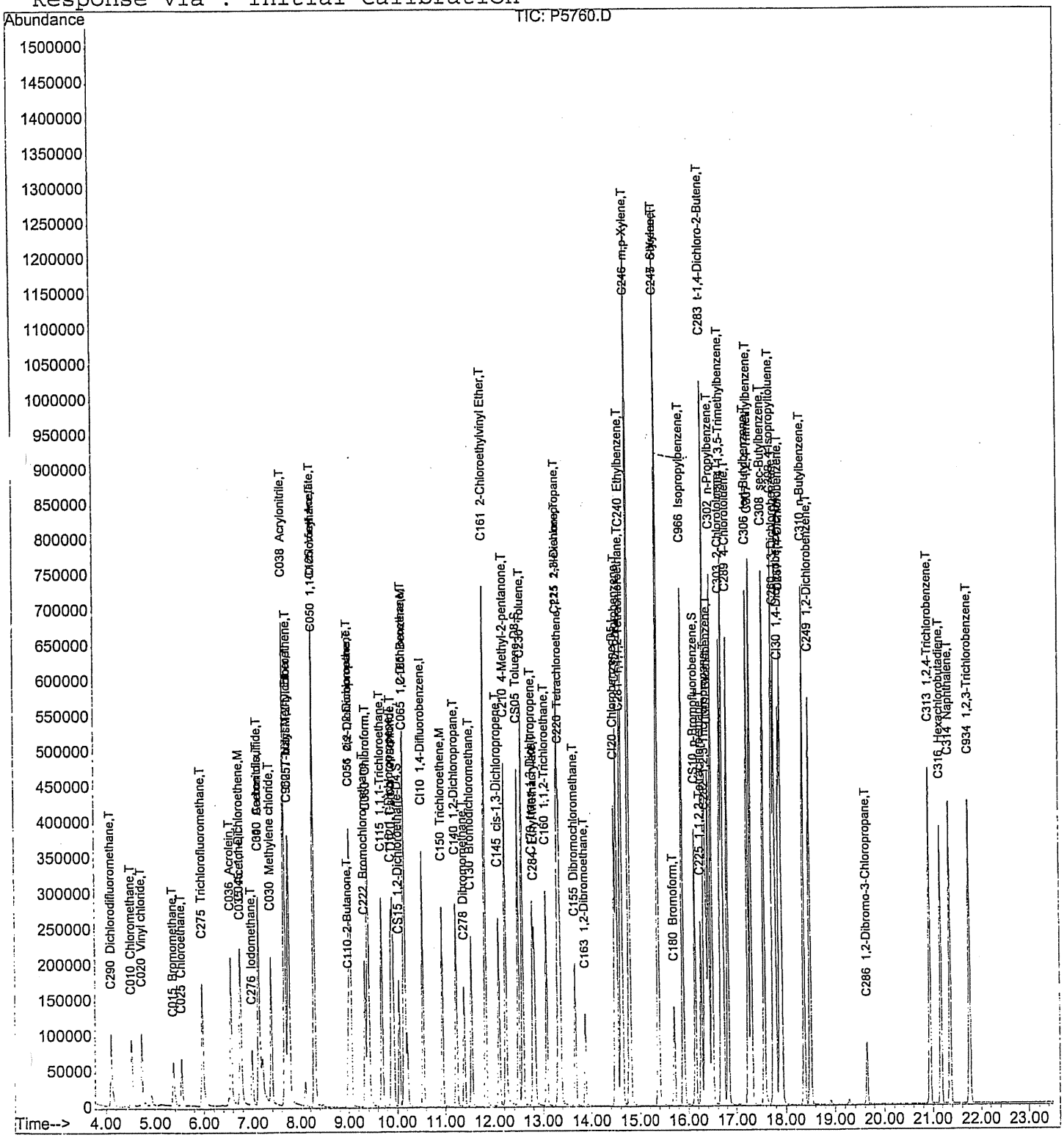
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Tue Sep 04 18:21:24 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090401\P5760.D
Acq On : 4 Sep 2001 18:16
Sample : MSB
Misc :
MS Integration Params: Rteint.p
Quant Time: Sep 4 18:46 2001

Vial: 200035
Operator: KG
Inst : HP5973 P
Multiplr: 1.00
Quant Results File: P8260S.RES

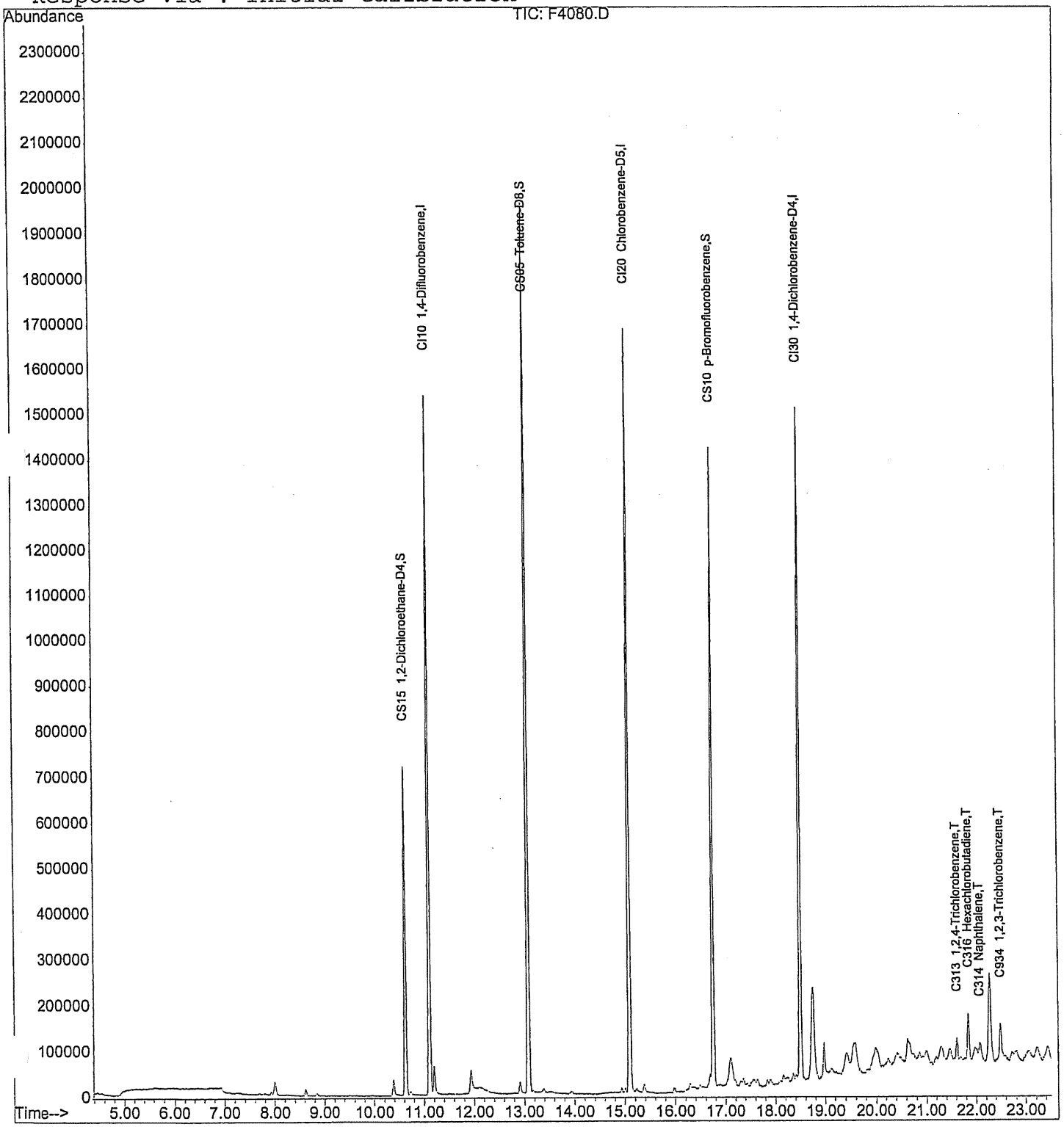
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Tue Sep 04 18:21:24 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090401\F4080.D
Acq On : 4 Sep 2001 19:46
Sample : VLBLK69
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 5 8:28 2001

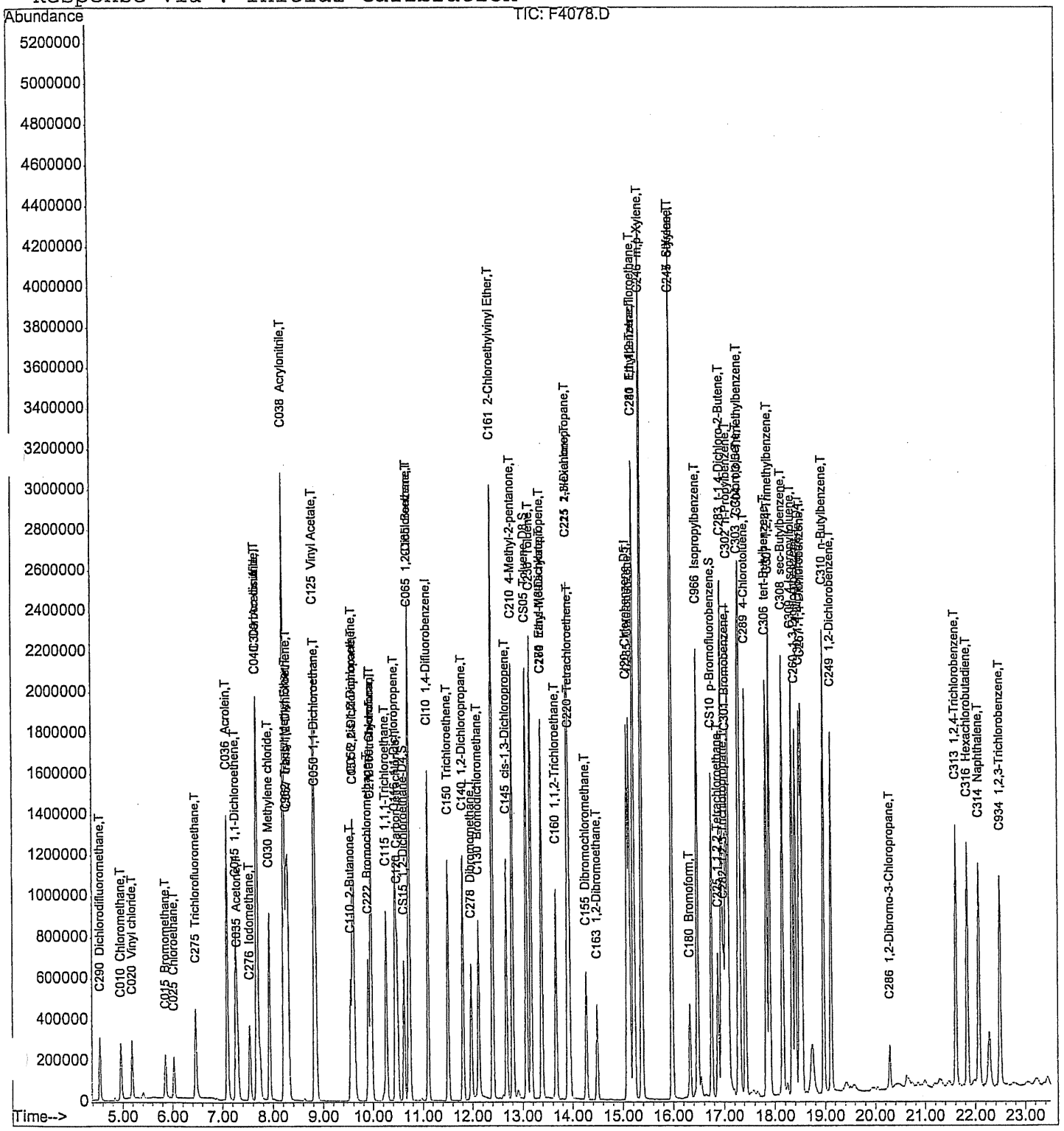
Vial: 5
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Sep 06 23:34:16 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090401\F4078.D Vial: 3
Acq On : 4 Sep 2001 18:25 Operator: MLW
Sample : MSB Inst : HP5973 F
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 5 8:27 2001 Quant Results File: F82605ML.RES

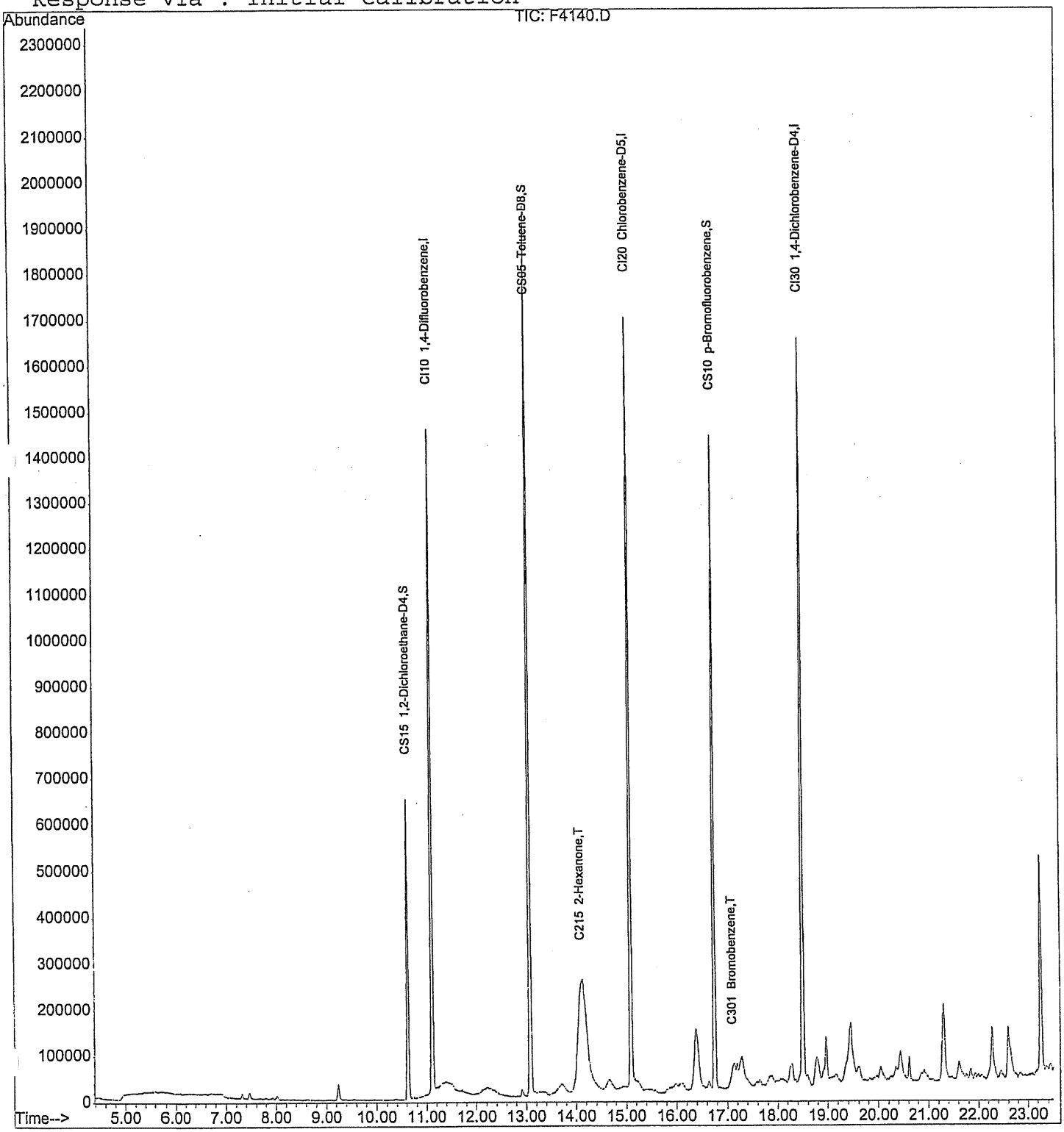
Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Sep 06 23:34:16 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090601\F4140.D
Acq On : 6 Sep 2001 18:29
Sample : A1836502 C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 6 19:21 2001

Vial: 11
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

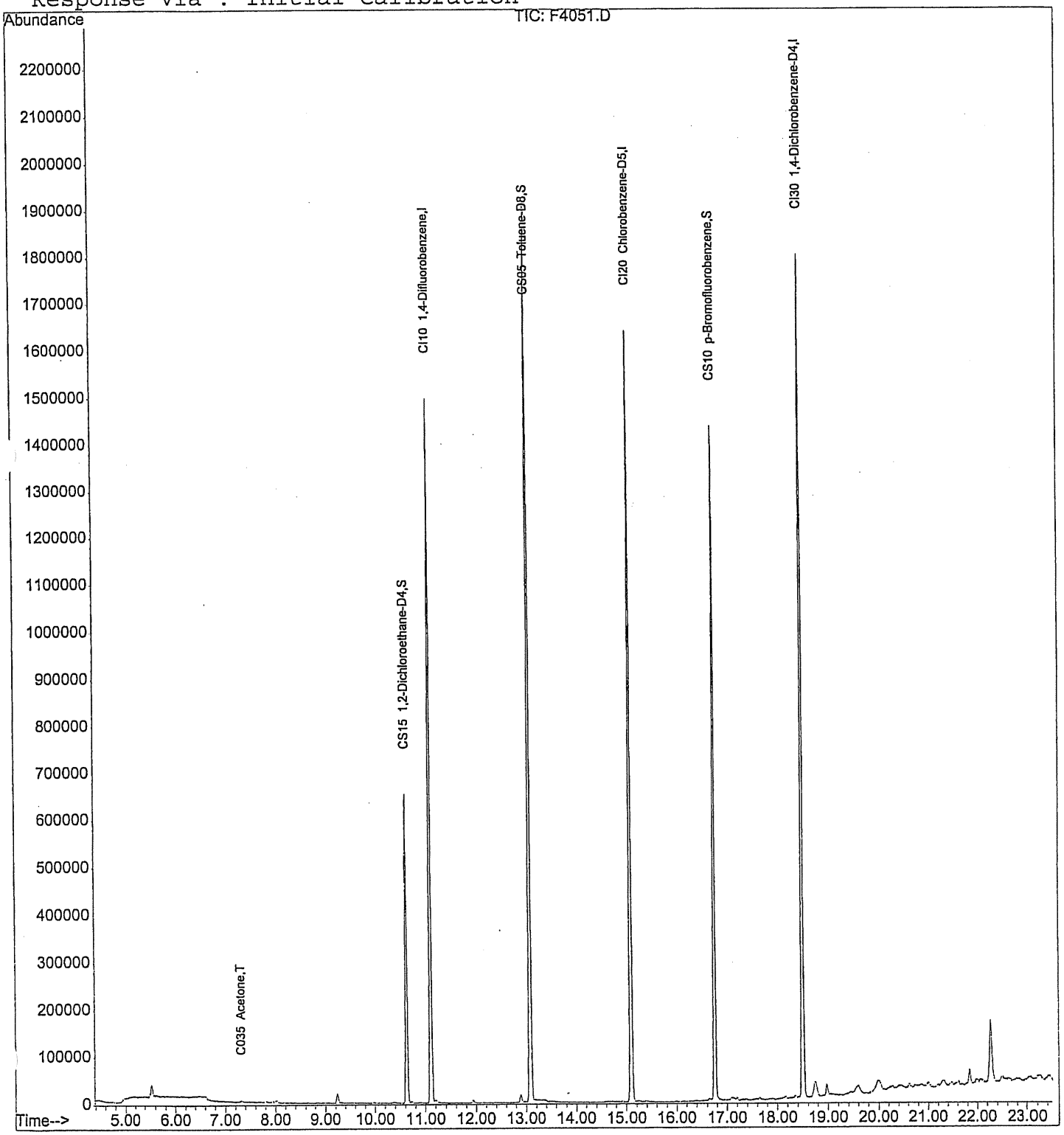
Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Sep 06 17:48:43 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\083001\F4051.D
Acq On : 30 Aug 2001 18:49
Sample : A1836505
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 31 16:29 2001

Vial: 5 000039
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

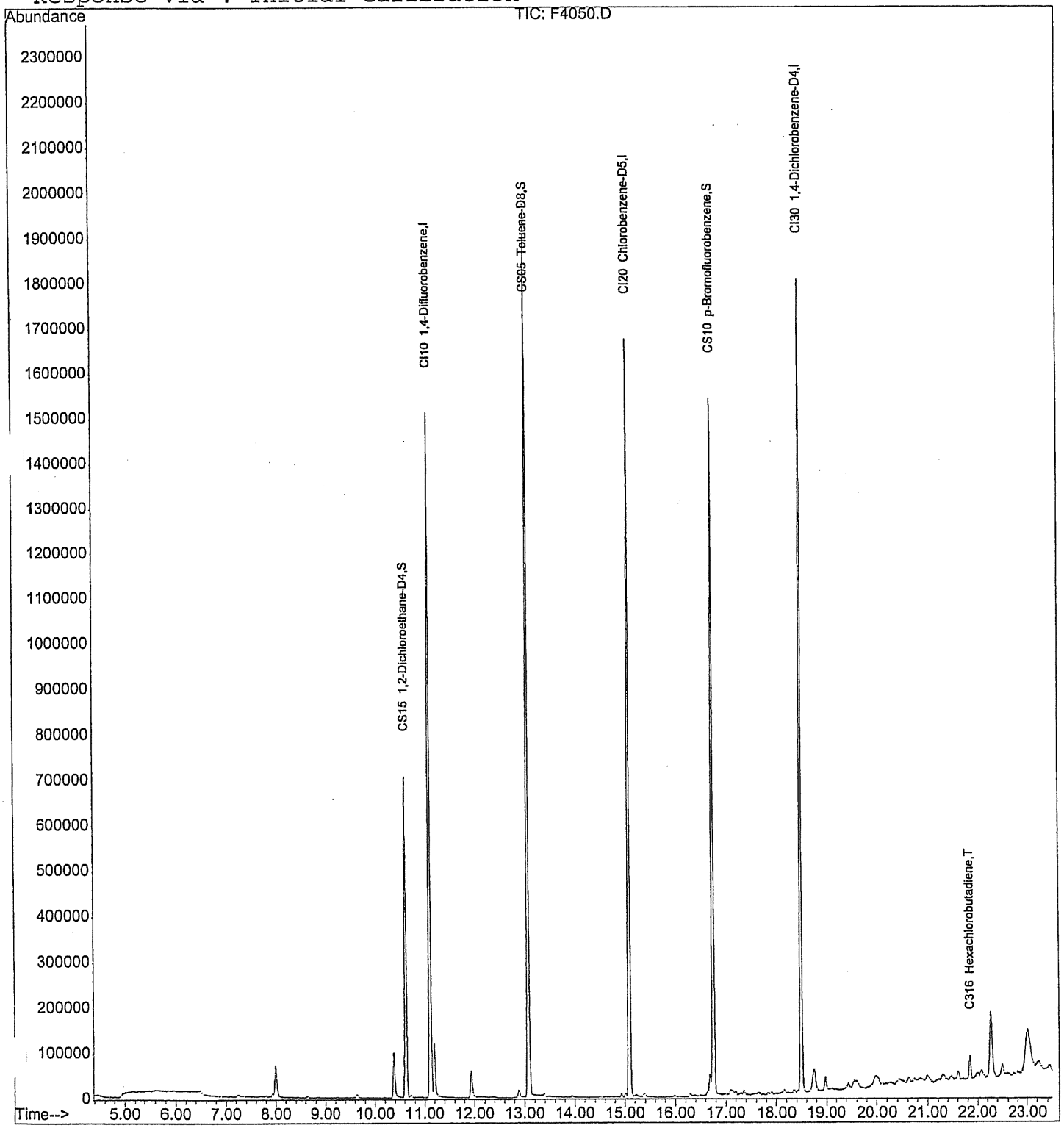
Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Fri Aug 31 16:28:20 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\083001\F4050.D
Acq On : 30 Aug 2001 18:19
Sample : VBLK67
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 6 22:54 2001

Vial: 4000040
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Sep 06 22:54:31 2001
Response via : Initial Calibration

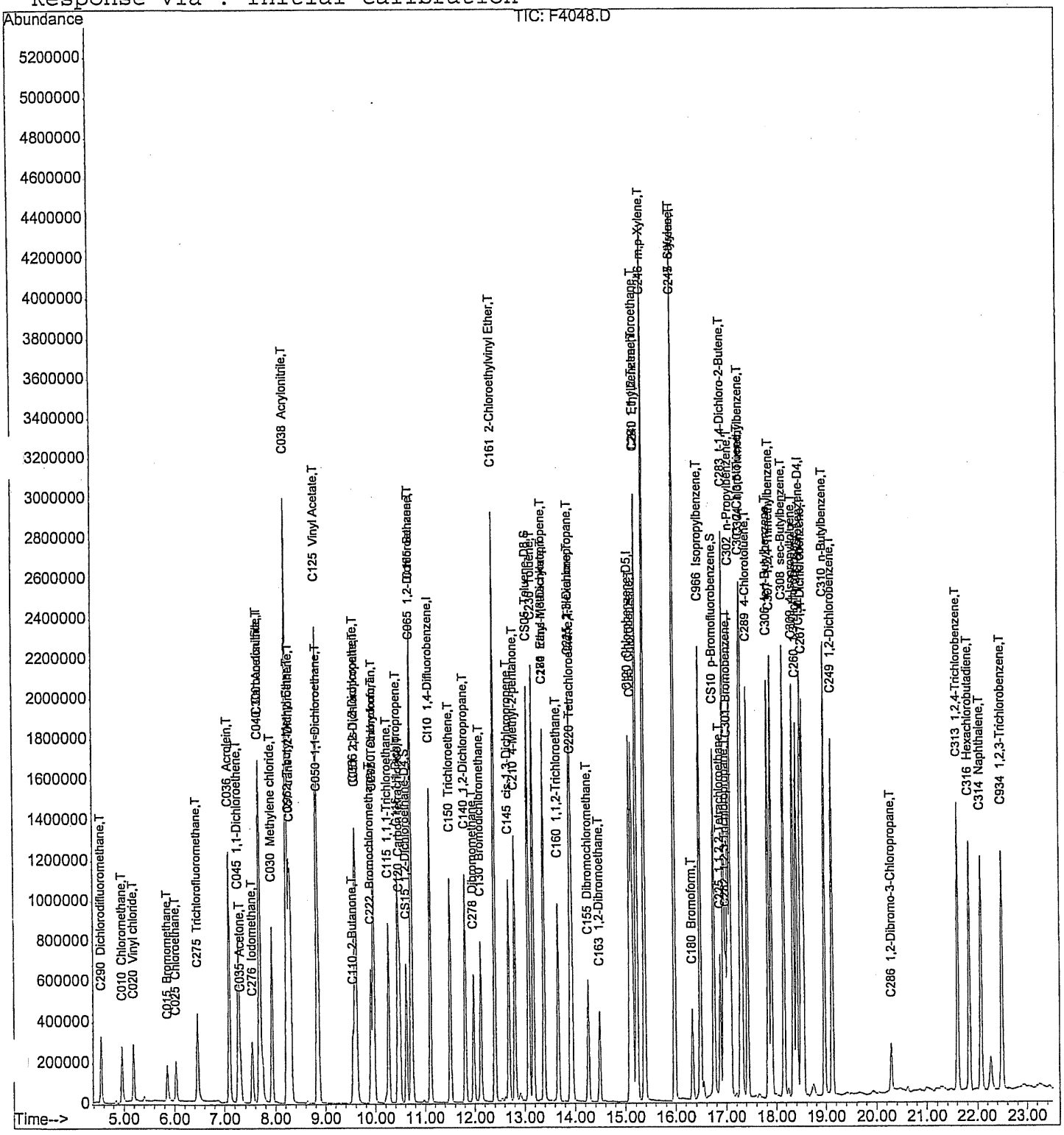


Data File : C:\MSDCHEM\1\DATA\083001\F4048.D
Acq On : 30 Aug 2001 17:18
Sample : MSB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 6 22:54 2001

Vial: 2
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00

Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Sep 06 22:54:31 2001
Response via : Initial Calibration

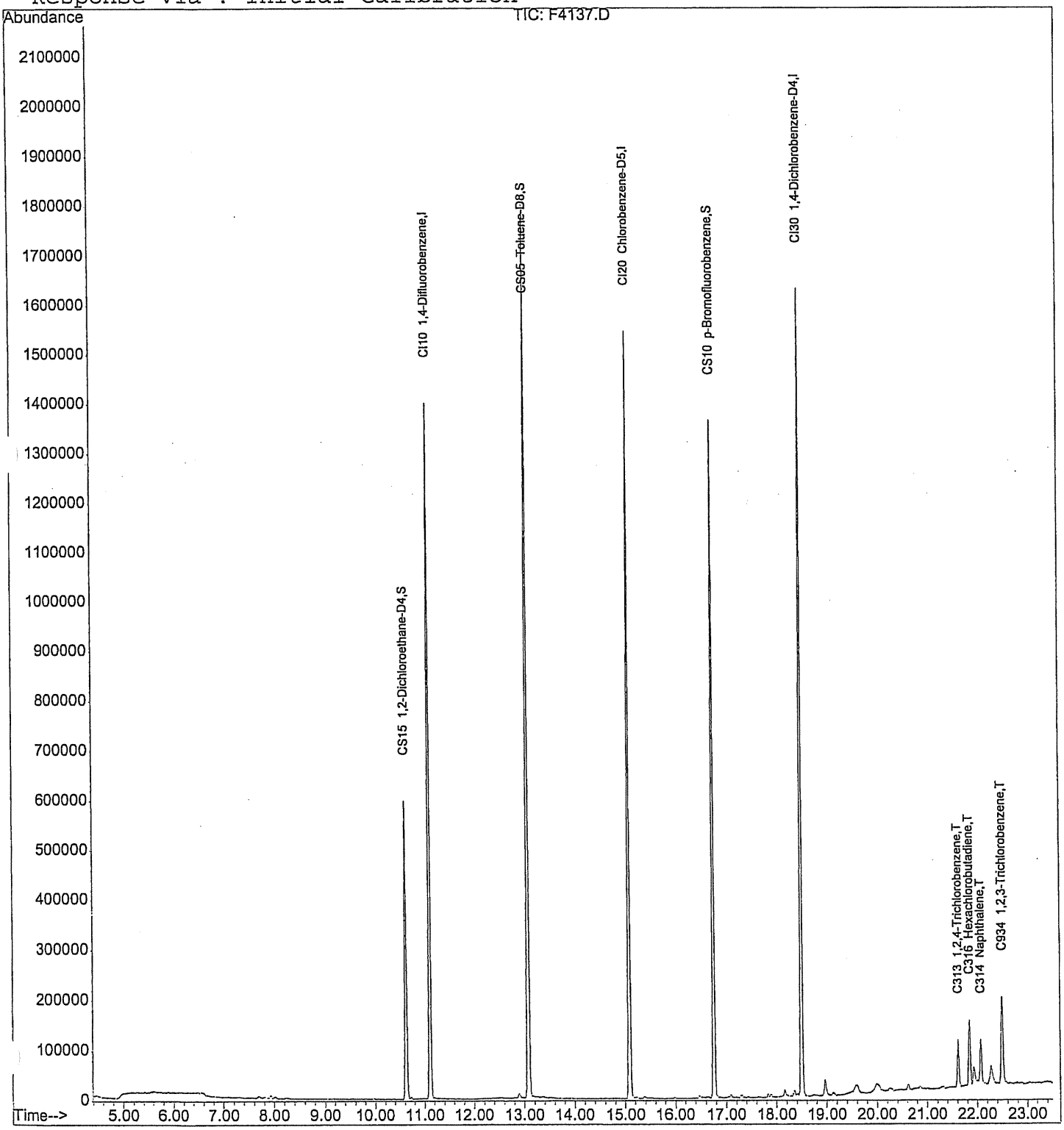


Data File : C:\MSDCHEM\1\DATA\090601\F4137.D
Acq On : 6 Sep 2001 15:34
Sample : VBLK71
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 6 22:56 2001

Vial: 8
Operator: CAS
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

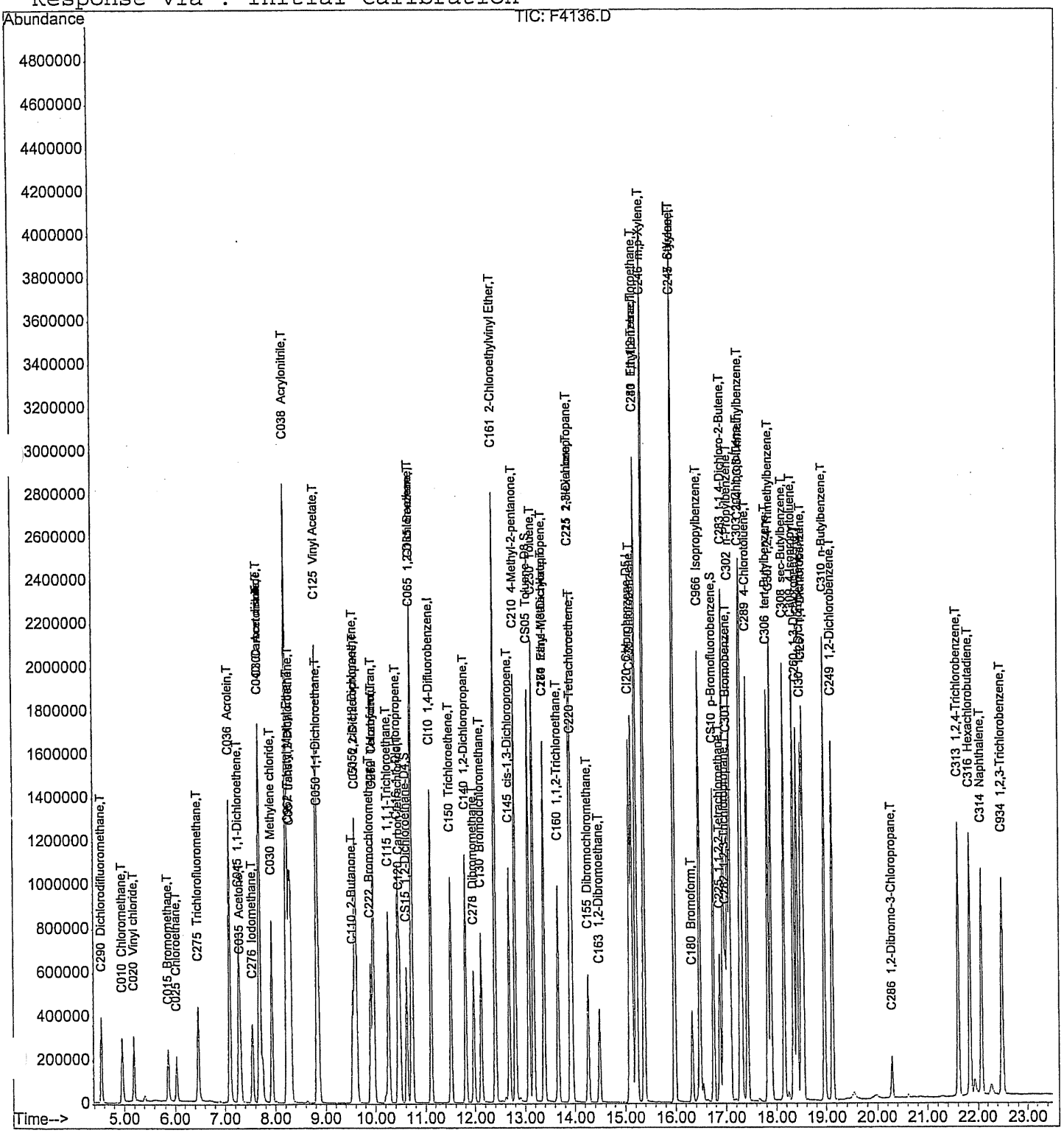
000042

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Sep 06 22:56:13 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090601\F4136.D Vial: 7 000043
Acq On : 6 Sep 2001 14:52 Operator: CAS
Sample : MSB Inst : HP5973 F
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 6 22:56 2001 Quant Results File: F82605ML.RES

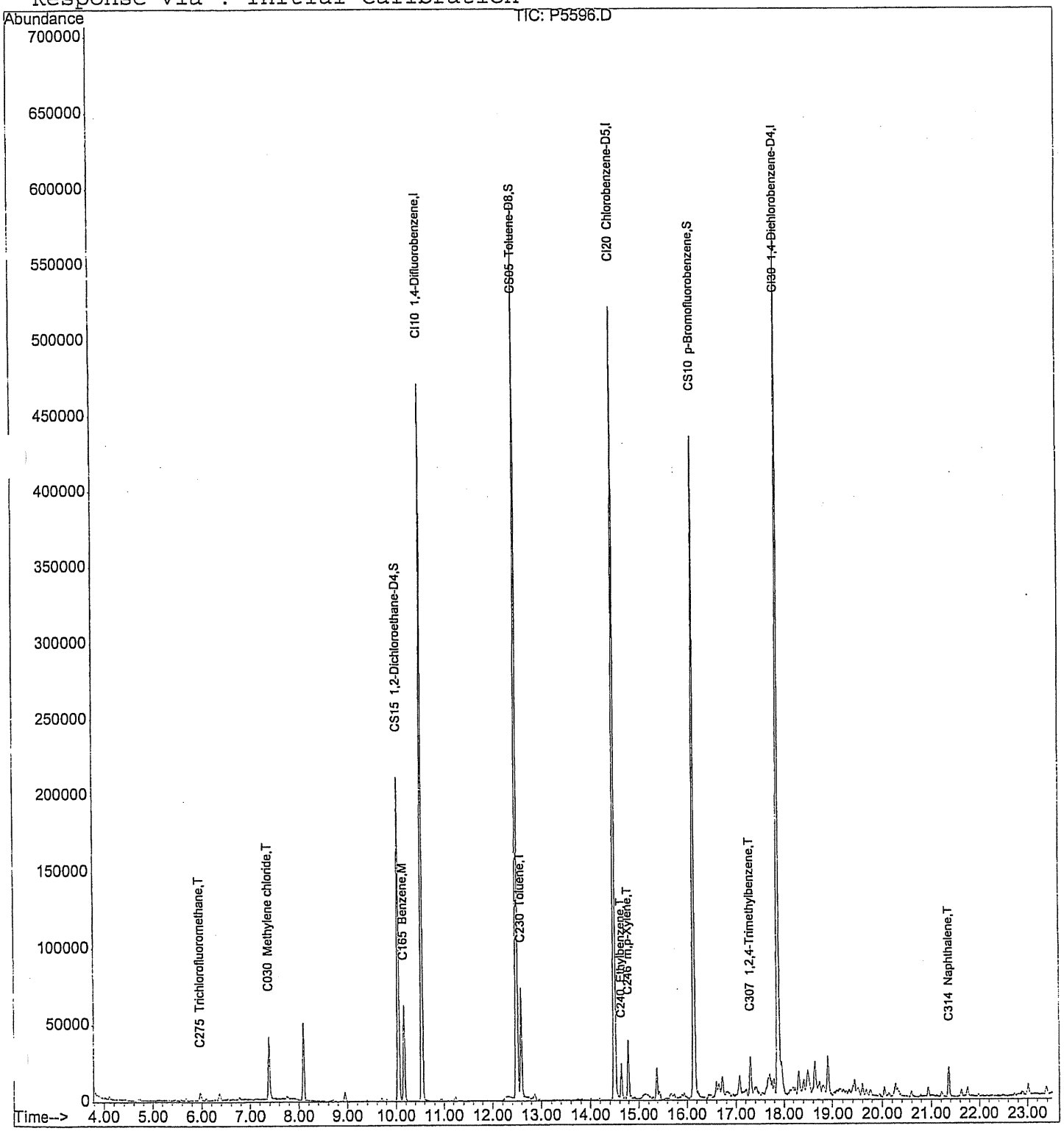
Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Sep 06 22:56:13 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082301\P5596.D
Acq On : 23 Aug 2001 18:31
Sample : A1792301
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 27 10:52 2001

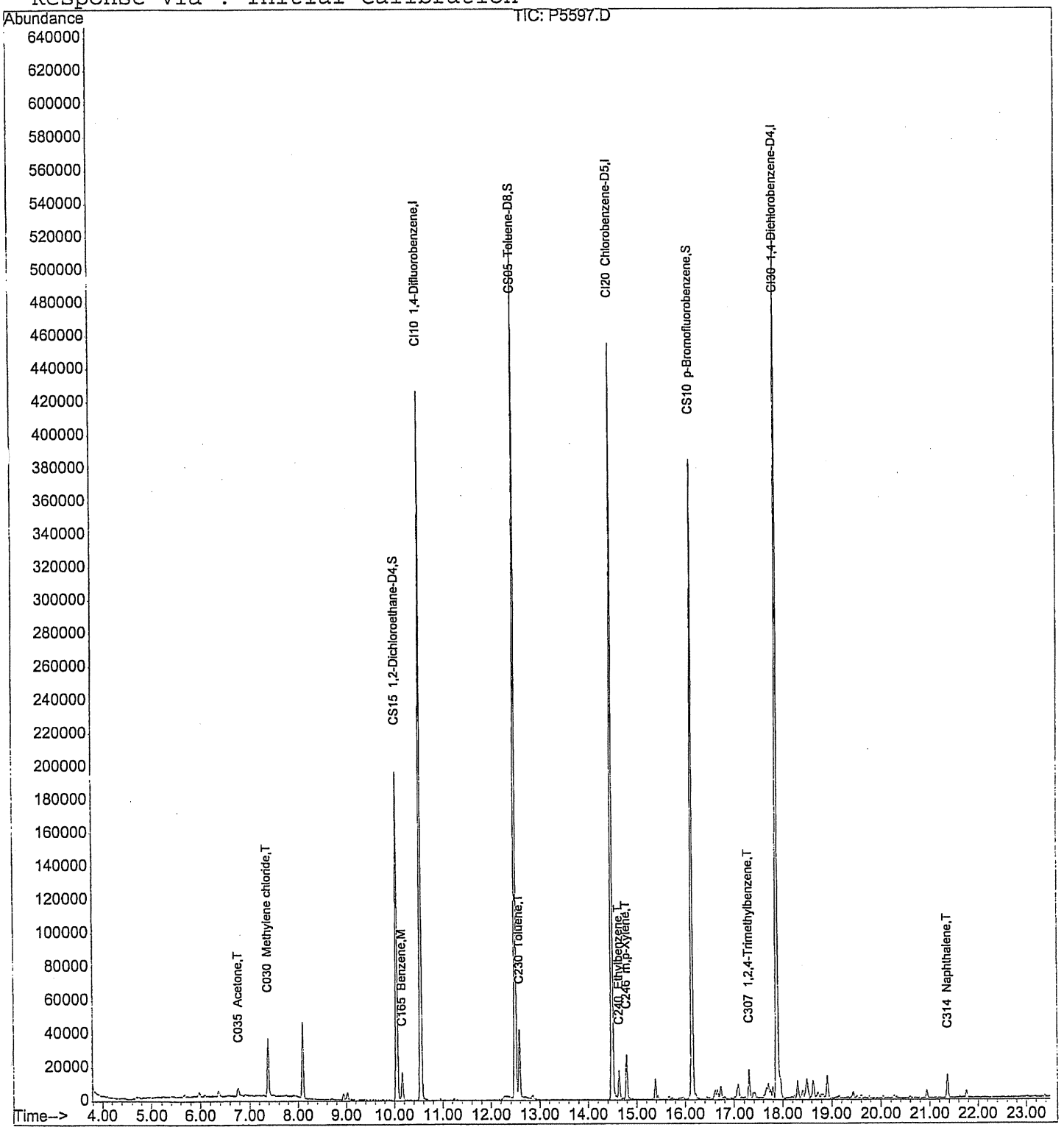
Vial: 000044
Operator: CAS
Inst : HP5973 P
Multiplr: 1.00
Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



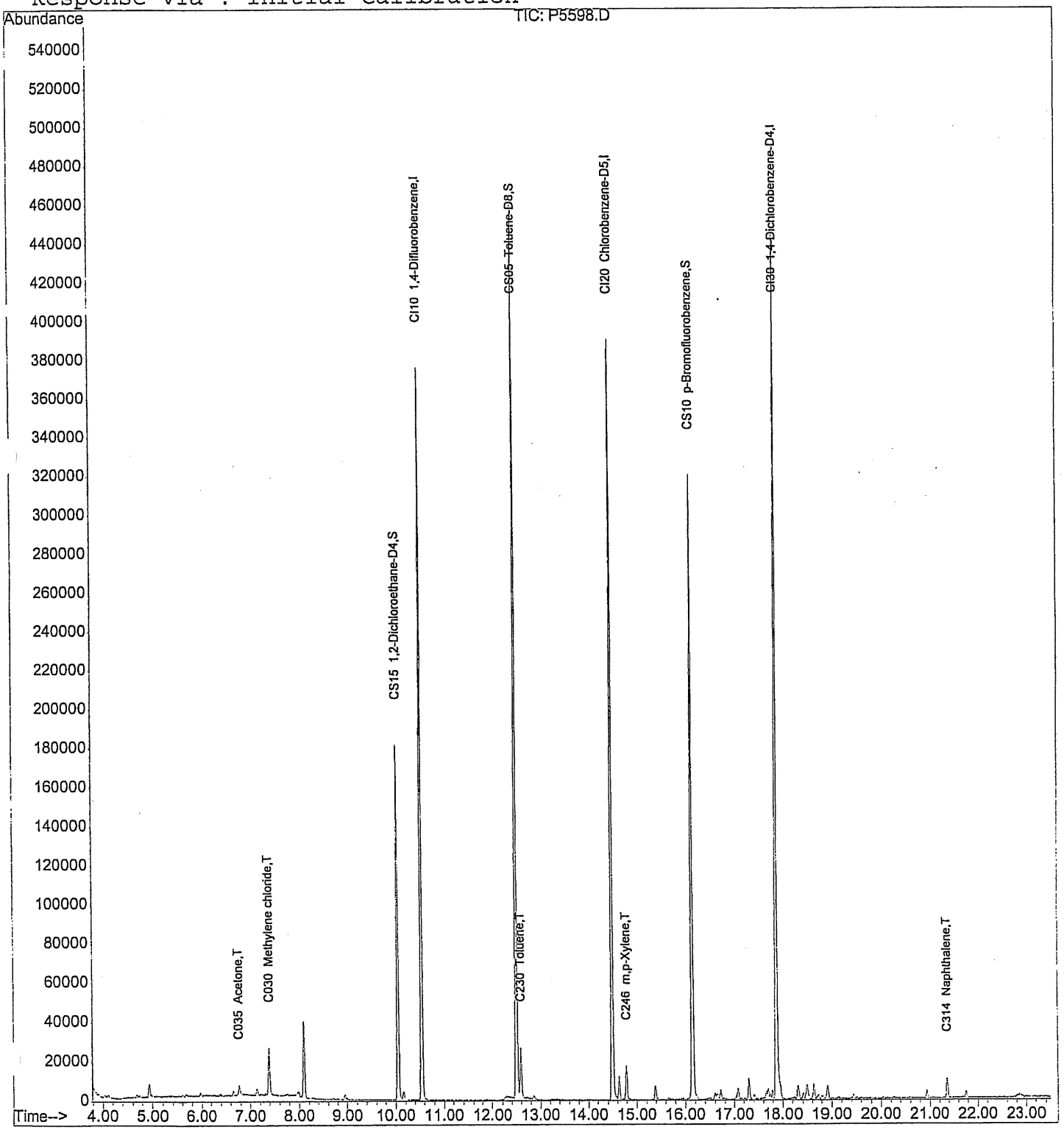
Data File : C:\MSDCHEM\1\DATA\082301\P5597.D Vial: 3
Acq On : 23 Aug 2001 19:03 Operator: CAS
Sample : A1792302 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 27 10:52 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082301\P5598.D Vial: 4
Acq On : 23 Aug 2001 19:34 Operator: CAS
Sample : A1792303 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 27 10:52 2001 Quant Results File: P8260S.RES

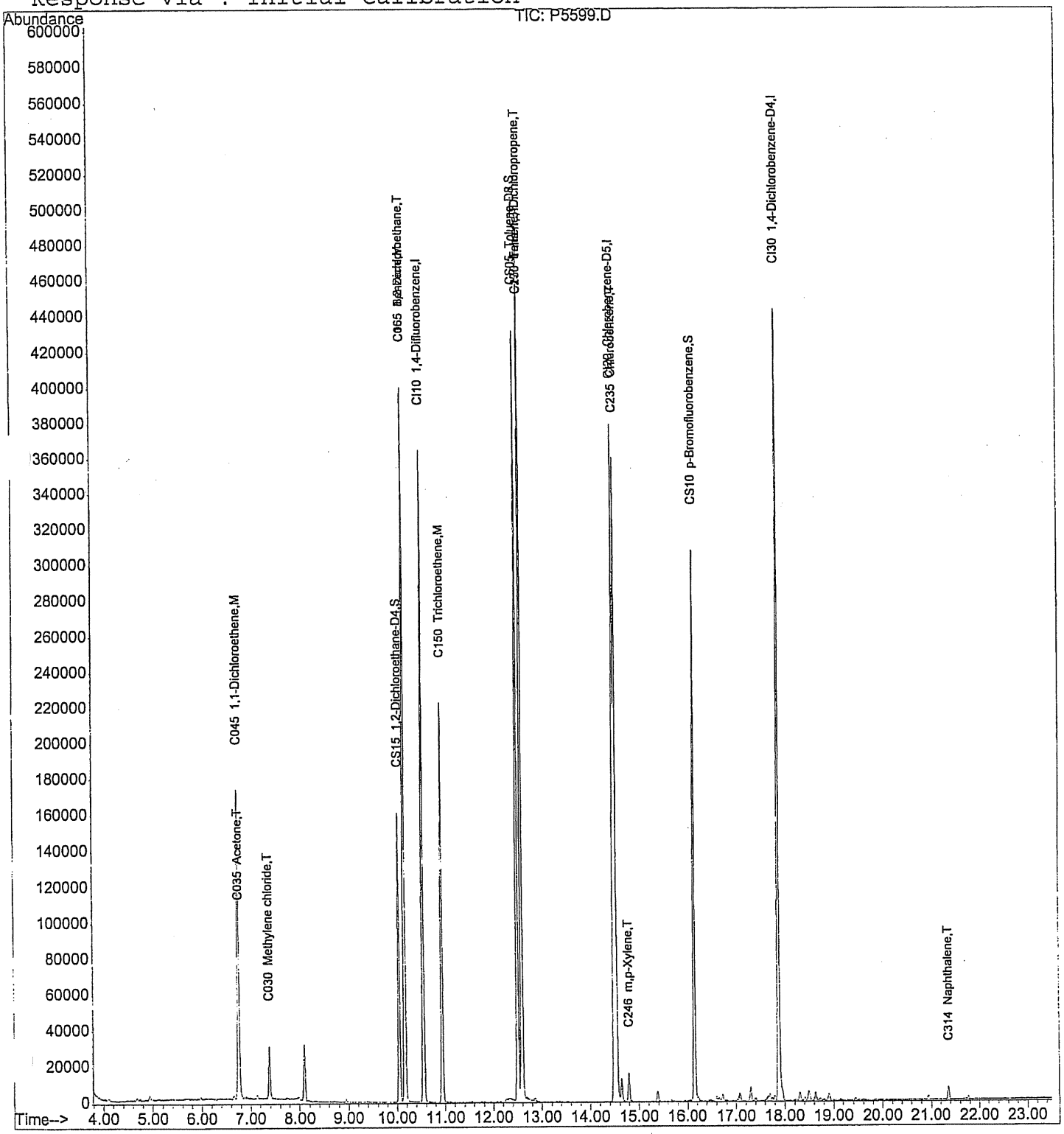
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082301\P5599.D
Acq On : 23 Aug 2001 20:06
Sample : A1792303MS
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 27 10:52 2001

Vial: 5 000047
Operator: CAS
Inst : HP5973 P
Multiplr: 1.00
Quant Results File: P8260S.RES

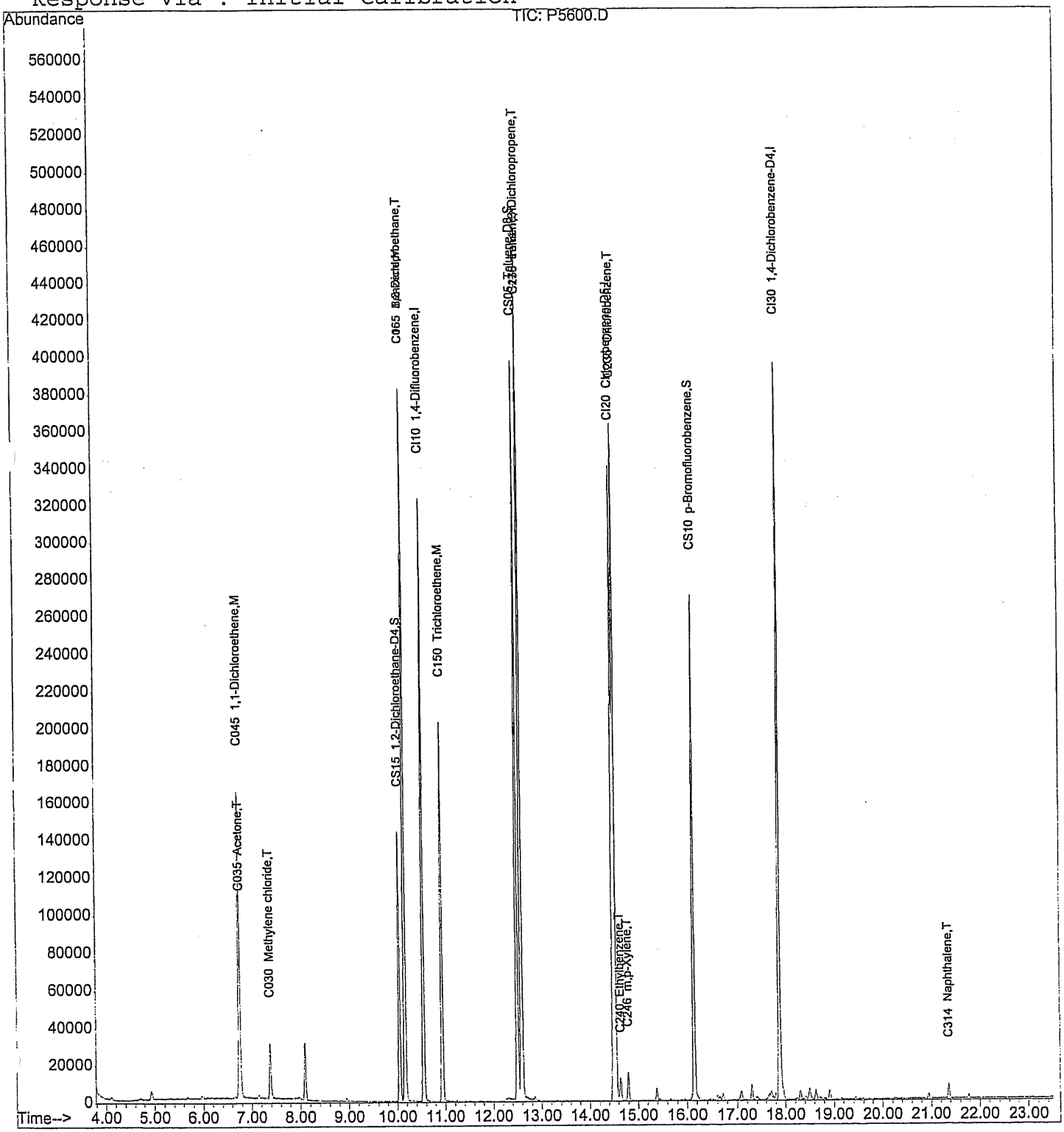
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082301\P5600.D
Acq On : 23 Aug 2001 20:37
Sample : A1792303SD
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 27 10:52 2001

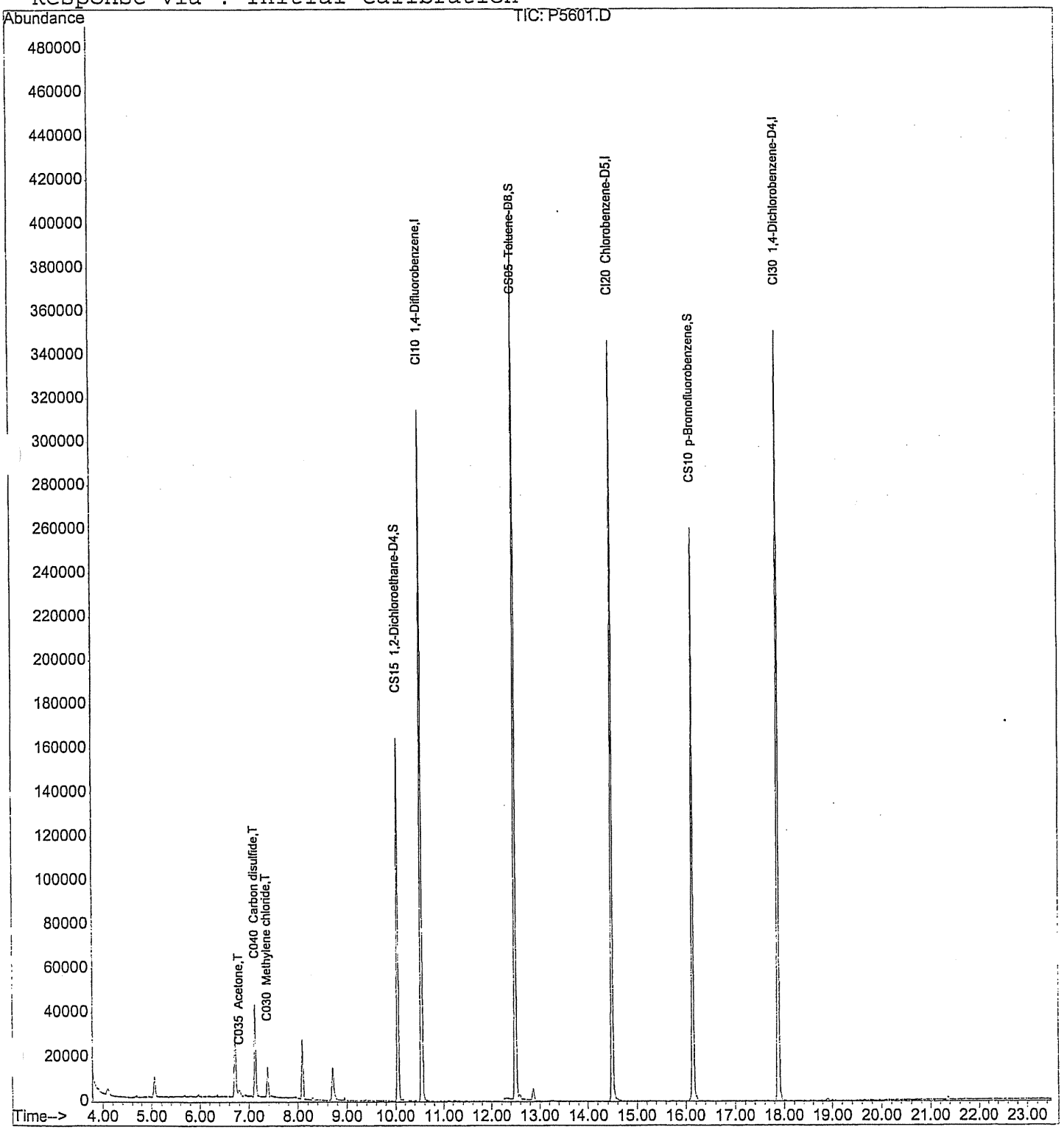
Vial: 6
Operator: CAS
Inst : HP5973 P
Multiplr: 1.00
Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



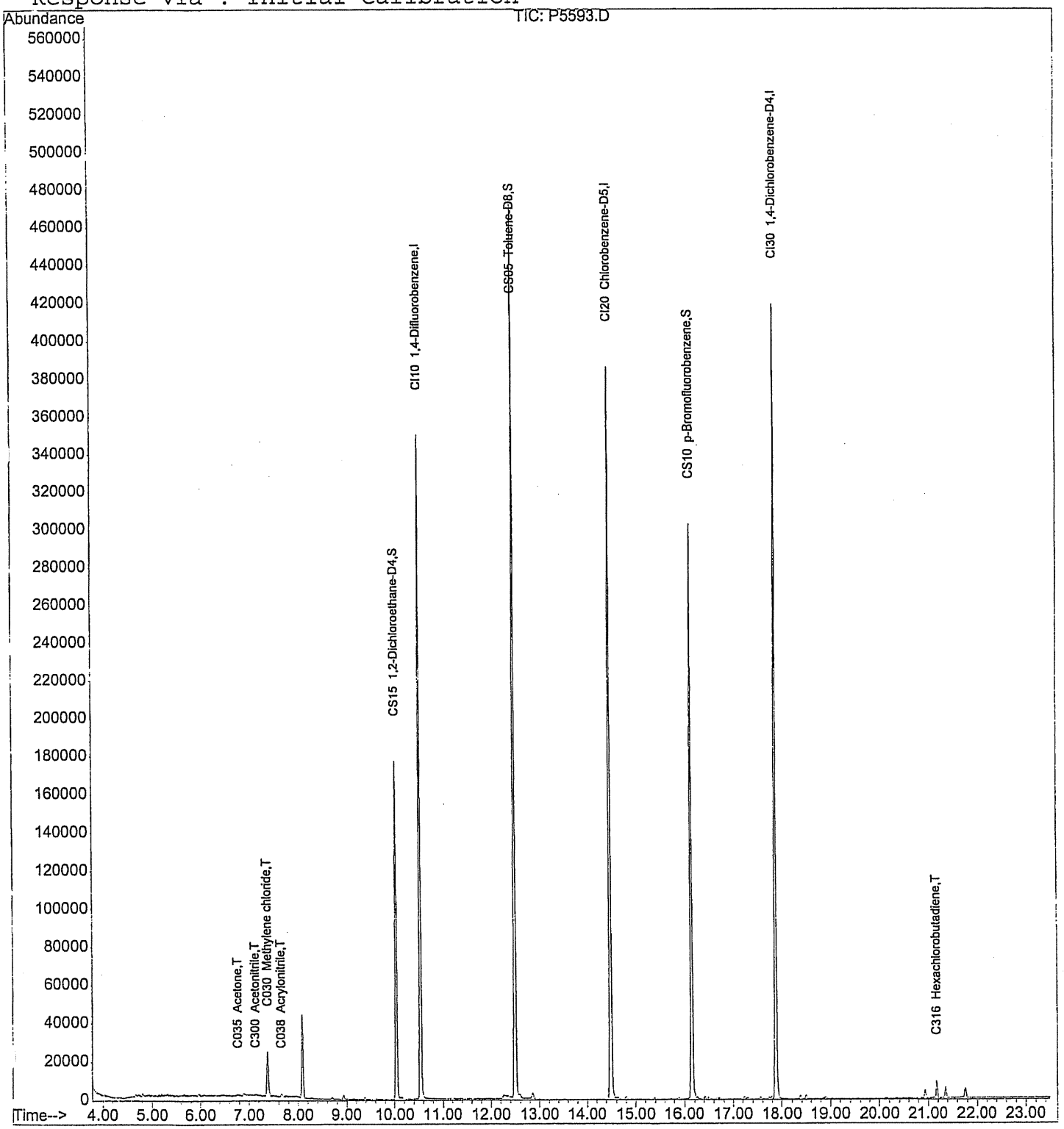
Data File : C:\MSDCHEM\1\DATA\082301\P5601.D Vial: 7
Acq On : 23 Aug 2001 21:08 Operator: CAS
Sample : A1792304 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 27 10:52 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



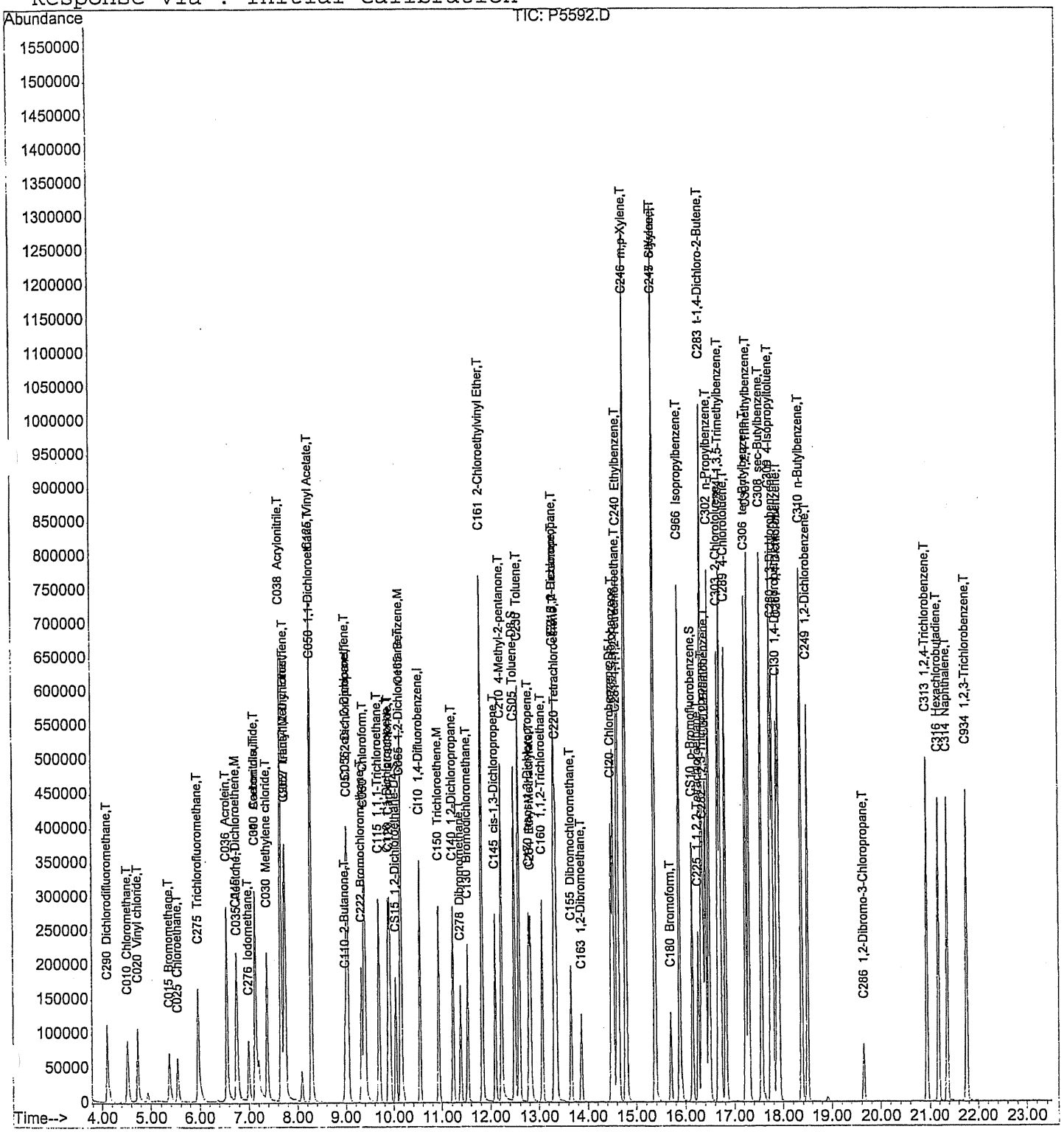
Data File : C:\MSDCHEM\1\DATA\082301\P5593.D Vial: 6
Acq On : 23 Aug 2001 15:57 Operator: CAS
Sample : VBLK10 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 23 17:38 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Thu Aug 23 15:16:50 2001
Response via : Initial Calibration



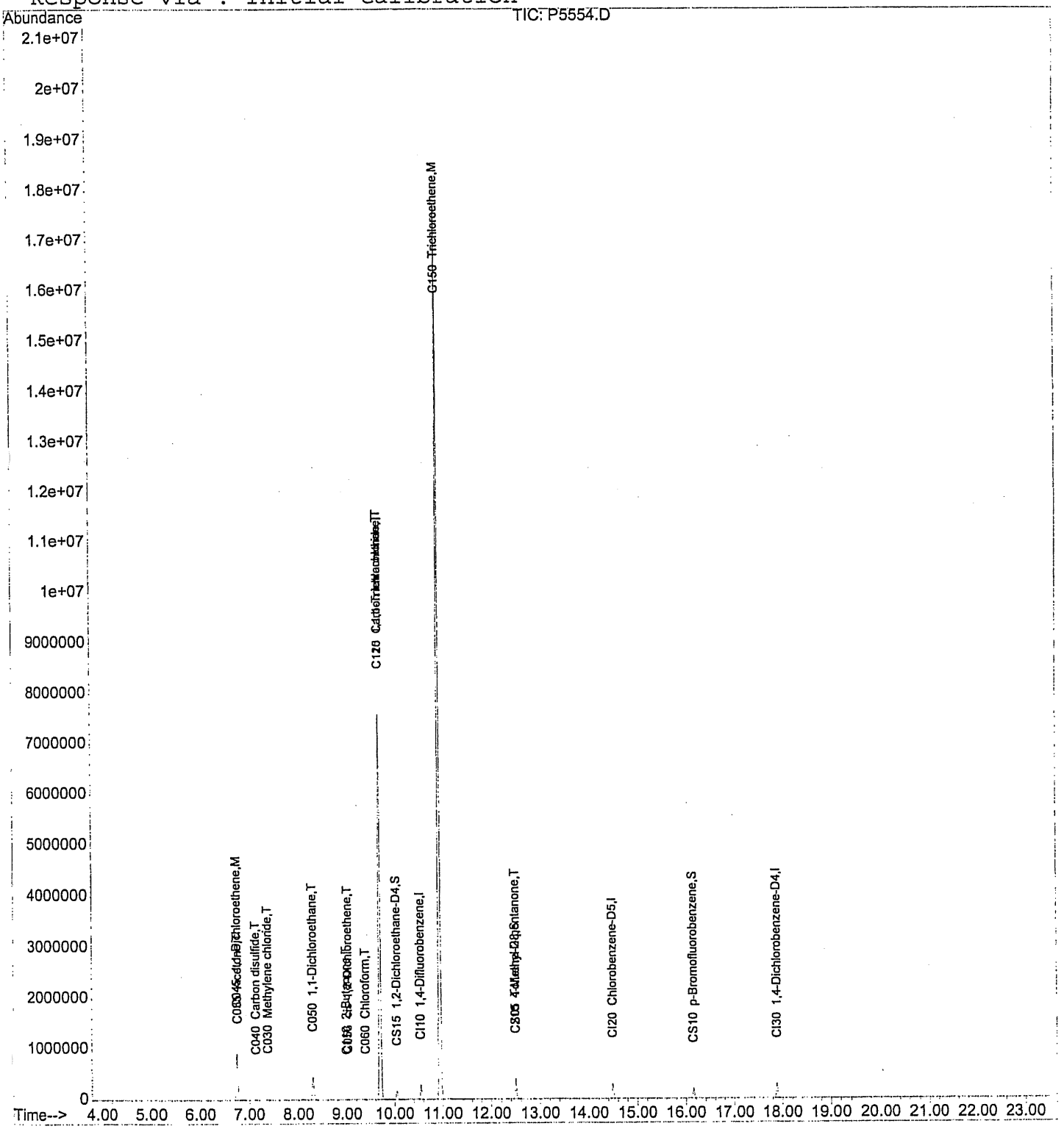
Data File : C:\MSDCHEM\1\DATA\082301\P5592.D Vial: 5
Acq On : 23 Aug 2001 14:58 Operator: CAS
Sample : SSCALCHL/MSB Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 23 15:23 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Thu Aug 23 15:16:50 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082101\P5554.D Vial: 15
Acq On : 22 Aug 2001 9:58 Operator: KG
Sample : A1796301 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 22 10:58 2001 Quant Results File: P8260S.RES

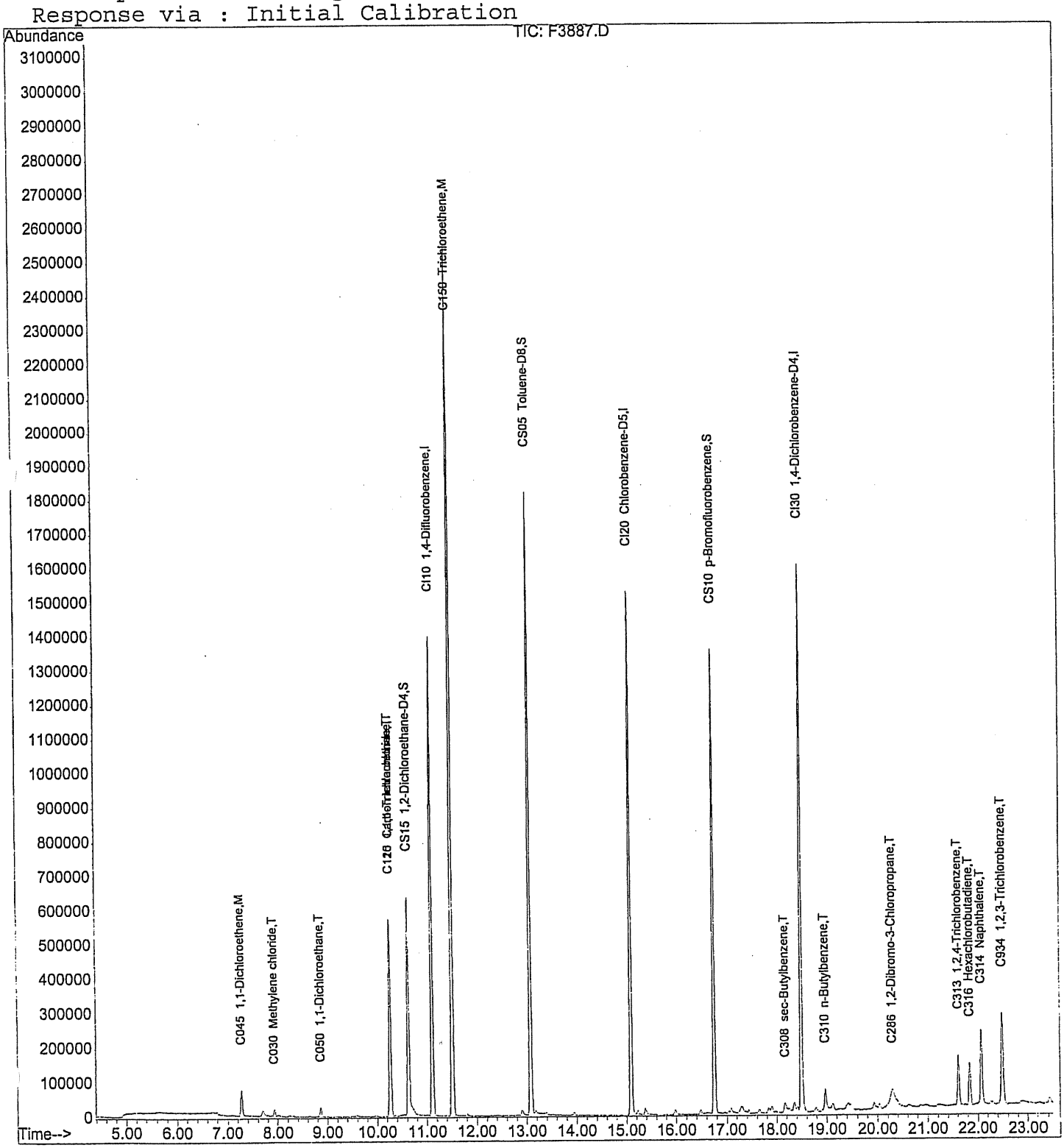
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Wed Aug 22 10:55:27 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082301\F3887.D
Acq On : 24 Aug 2001 7:30
Sample : A1796301DL DF10
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 24 7:56 2001

Vial: 16
Operator: KG
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F8260_5ML.RE

Method : C:\MSDCHEM\1\METHODS\F8260_5ML.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Aug 24 00:52:17 2001
Response via : Initial Calibration

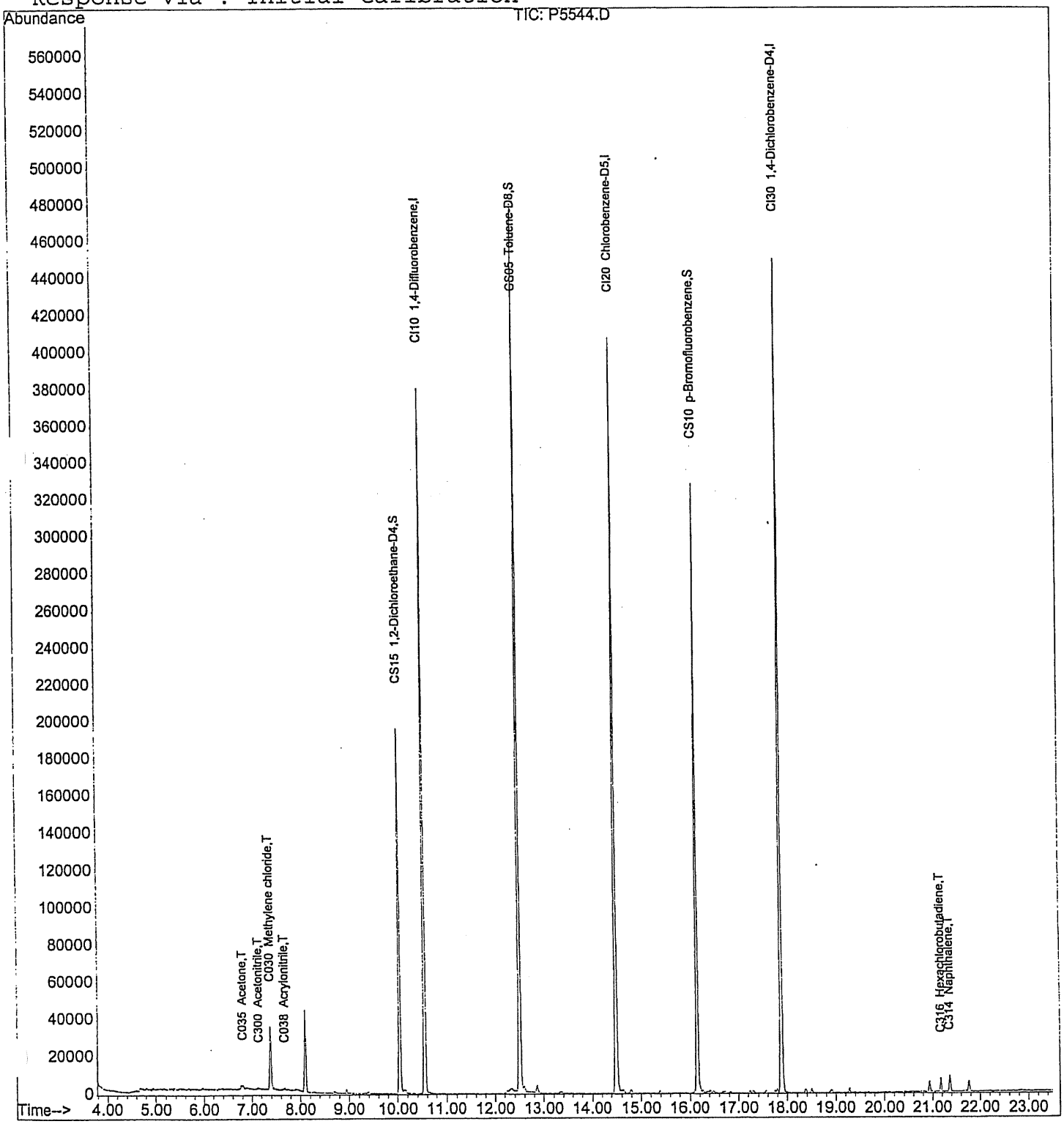


Data File : C:\MSDCHEM\1\DATA\082101\P5544.D
Acq On : 22 Aug 2001 4:44
Sample : VBLK08
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 22 10:58 2001

Vial: 5
Operator: KG
Inst : HP5973 P
Multiplr: 1.00

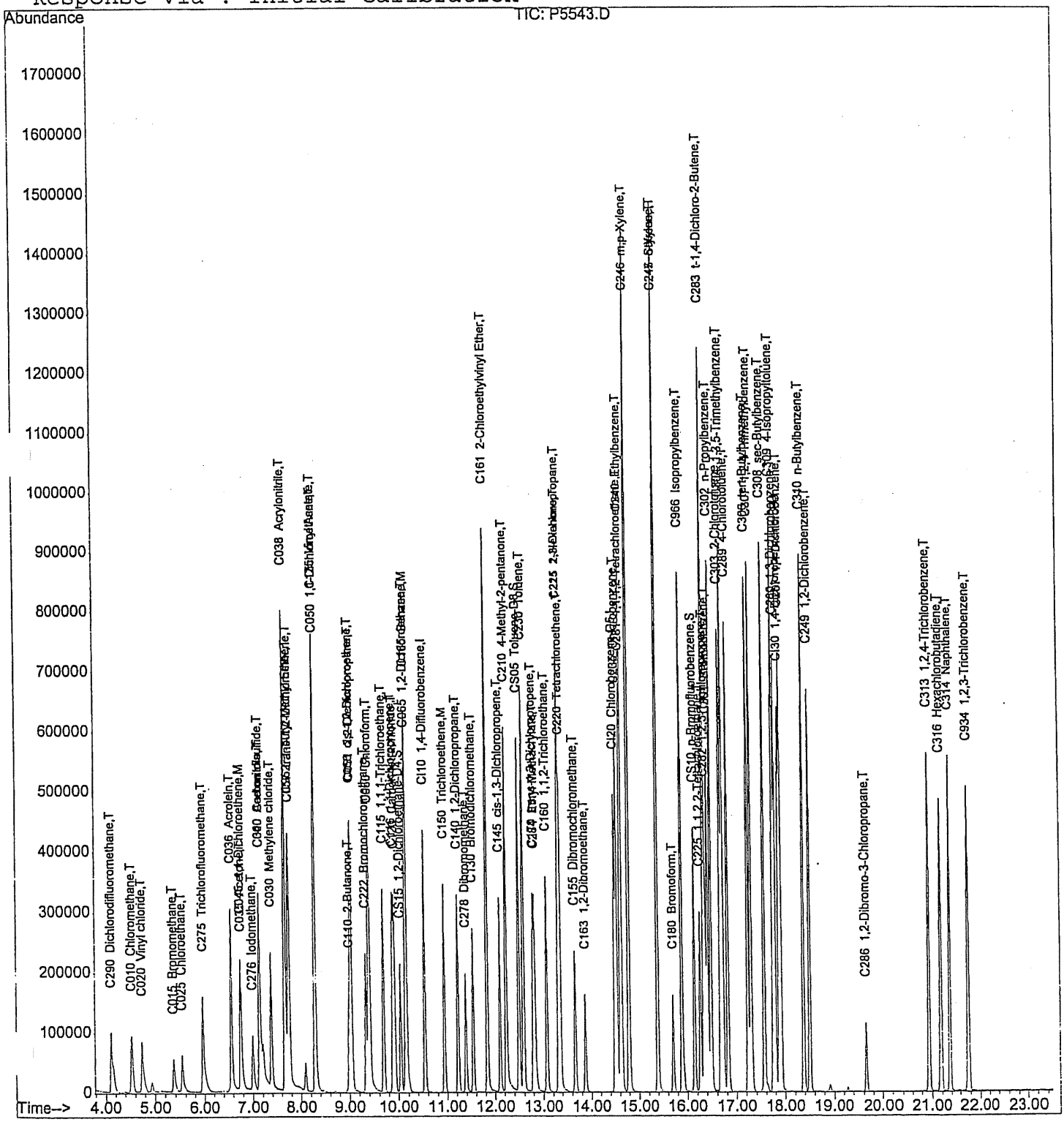
Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Wed Aug 22 10:55:27 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082101\P5543.D Vial: 4
Acq On : 22 Aug 2001 4:12 Operator: KG
Sample : MSB Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 22 10:56 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Wed Aug 22 10:55:27 2001
Response via : Initial Calibration



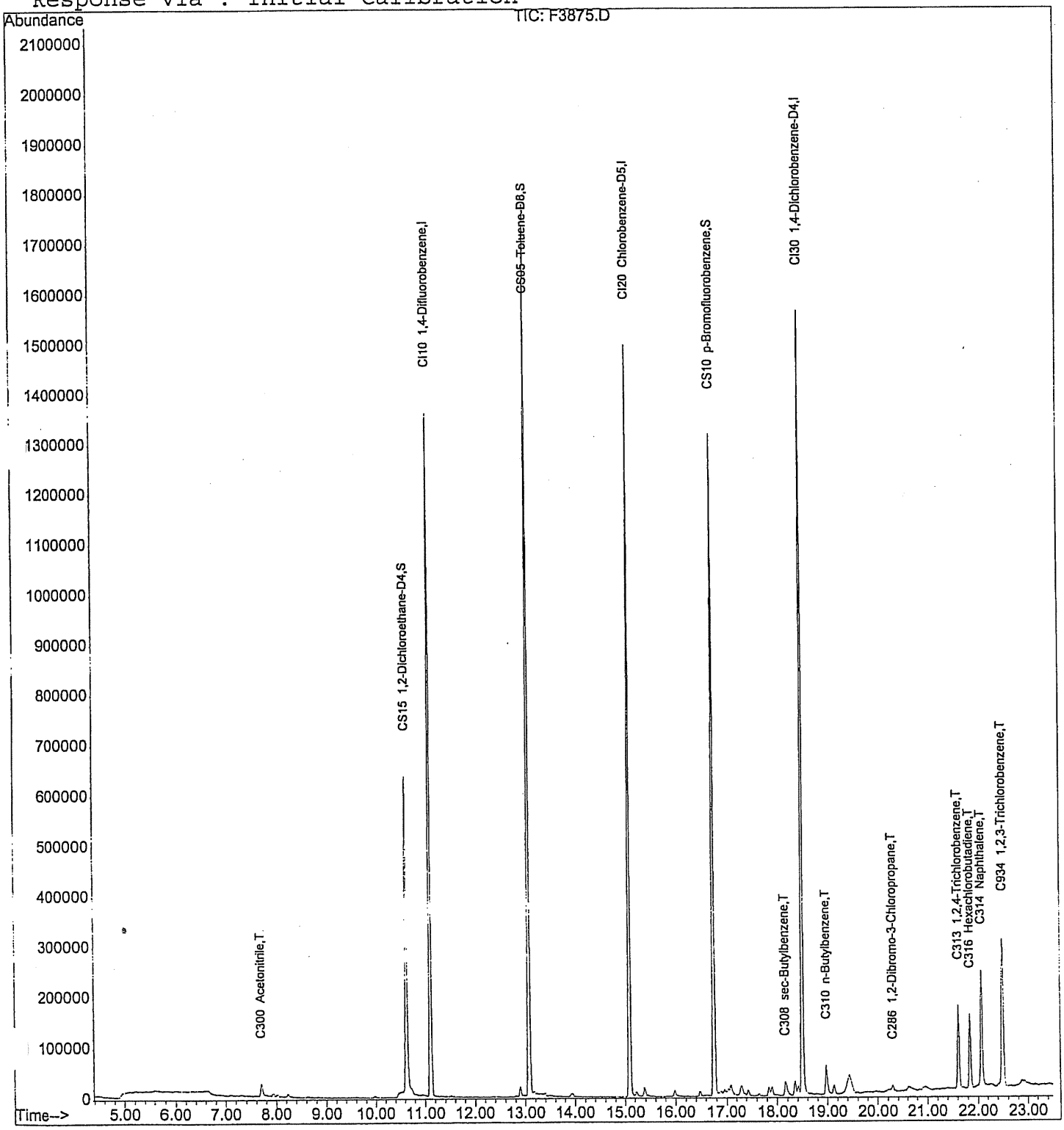
000056

Data File : C:\MSDCHEM\1\DATA\082301\F3875.D
Acq On : 24 Aug 2001 1:28
Sample : VBLK58
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 24 7:54 2001

Vial: 4
Operator: KG
Inst : HP5973 F
Multiplr: 1.00

Quant Results File: F8260_5ML.RE

Method : C:\MSDCHEM\1\METHODS\F8260_5ML.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Aug 24 00:52:17 2001
Response via : Initial Calibration

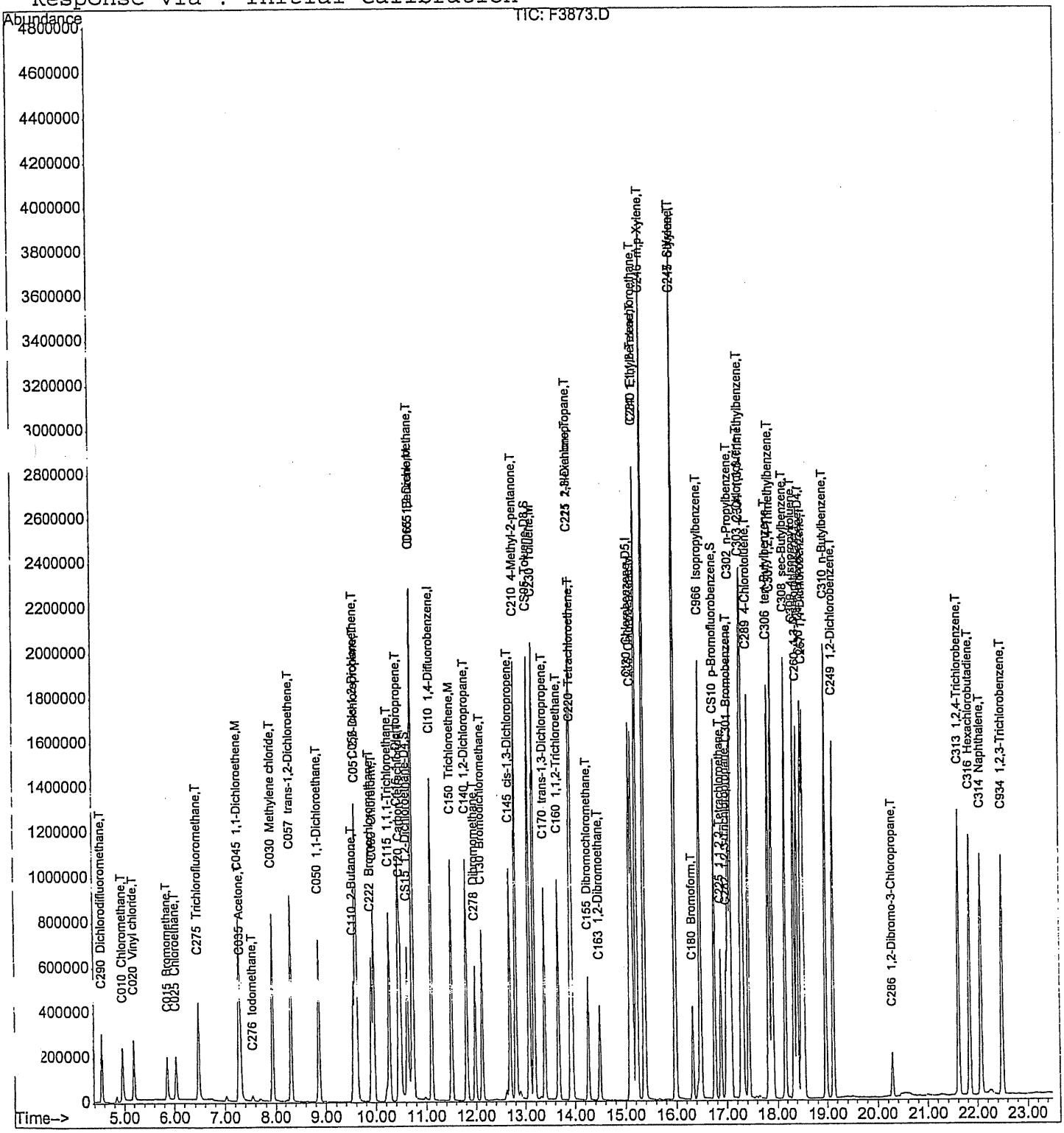


Data File : C:\MSDCHEM\1\DATA\082301\F3873.D
Acq On : 24 Aug 2001 00:28
Sample : MSB/SSCALCHCK
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 24 7:53 2001

Vial: 2000057
Operator: KG
Inst : HP5973 F
Multiplr: 1.00

Quant Results File: F8260_5ML.RE

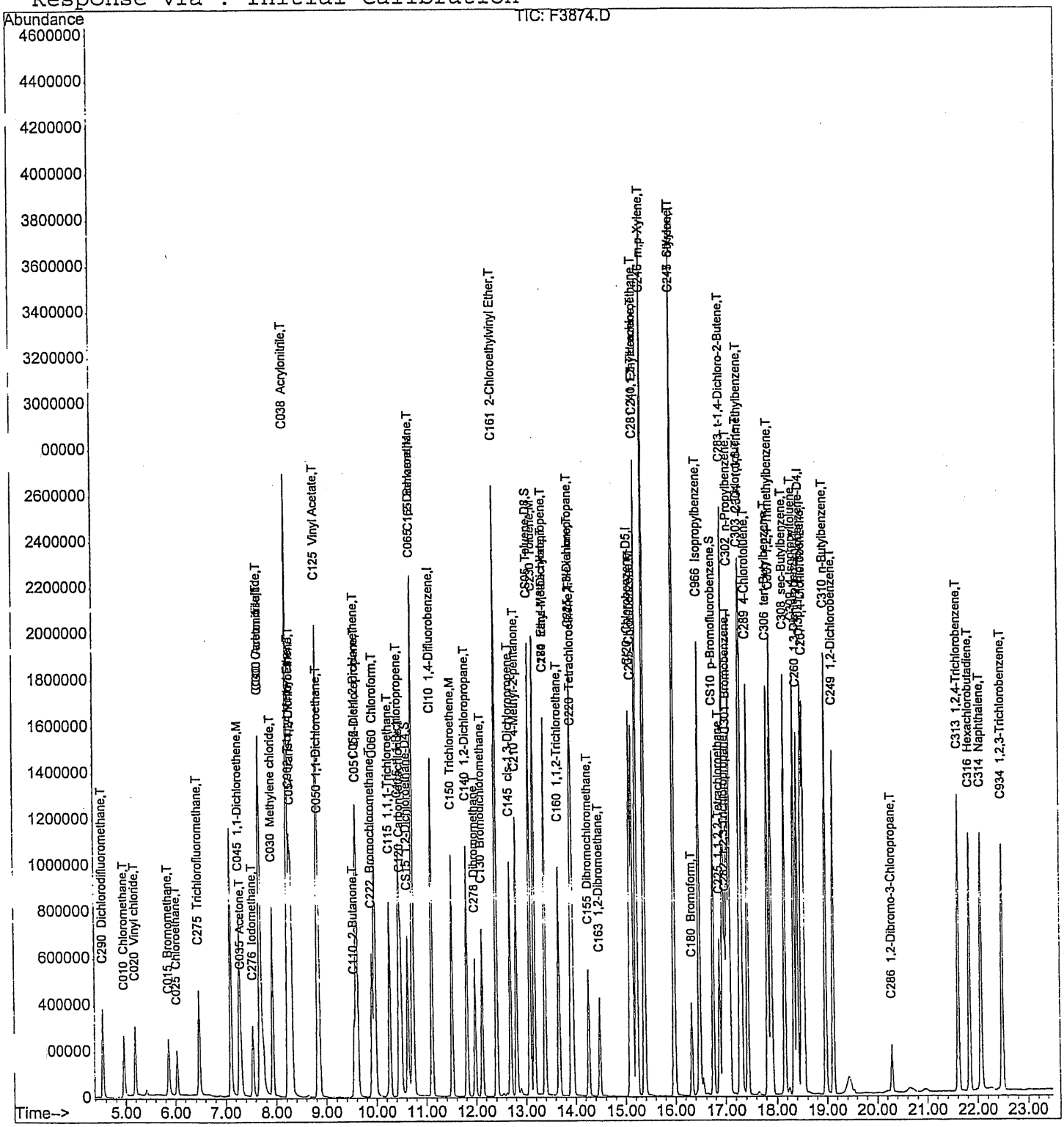
Method : C:\MSDCHEM\1\METHODS\F8260_5ML.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Aug 24 00:52:17 2001
Response via : Initial Calibration



000058

Data File : C:\MSDCHEM\1\DATA\082301\F3874.D Vial: 3
Acq On : 24 Aug 2001 00:58 Operator: KG
Sample : MSBD Inst : HP5973 F
Misc : Multiplr: 1.00
.S Integration Params: RTEINT.P
Quant Time: Aug 24 7:53 2001 Quant Results File: F8260_5ML.RE

Method : C:\MSDCHEM\1\METHODS\F8260_5ML.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Aug 24 00:52:17 2001
Response via : Initial Calibration

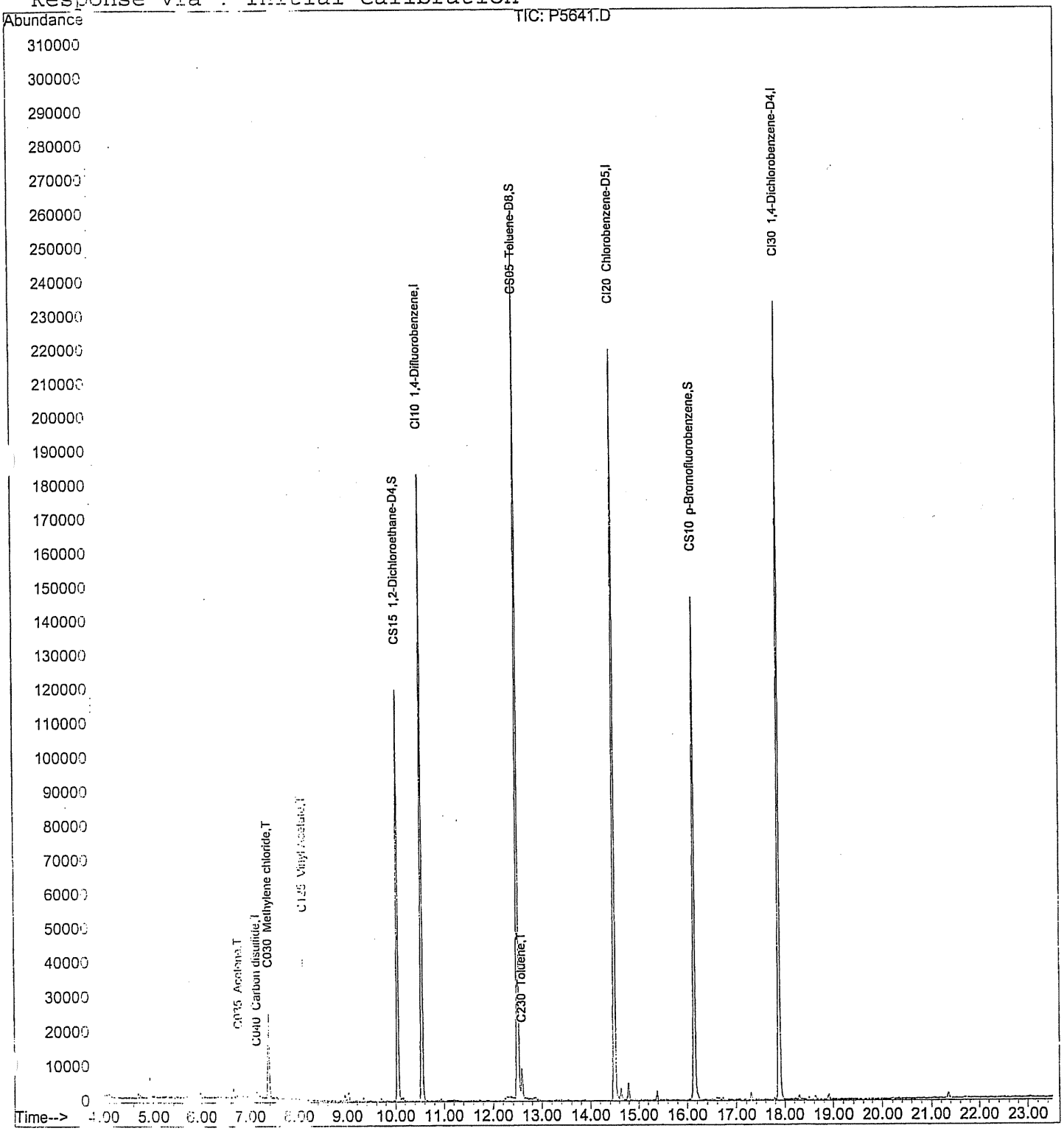


Data File : C:\MSDCHEM\1\DATA\082801\P5641.D
Acq On : 29 Aug 2001 00:50
Sample : A13217-01
Misc
MS Integration Params: Rteint.p
Quant Time: Aug 31 16:07 2001

Vial: 15
Operator: JRS
Inst : HP5973 P
Multiplr: 1.00

Quant Results File: P8260S.RES

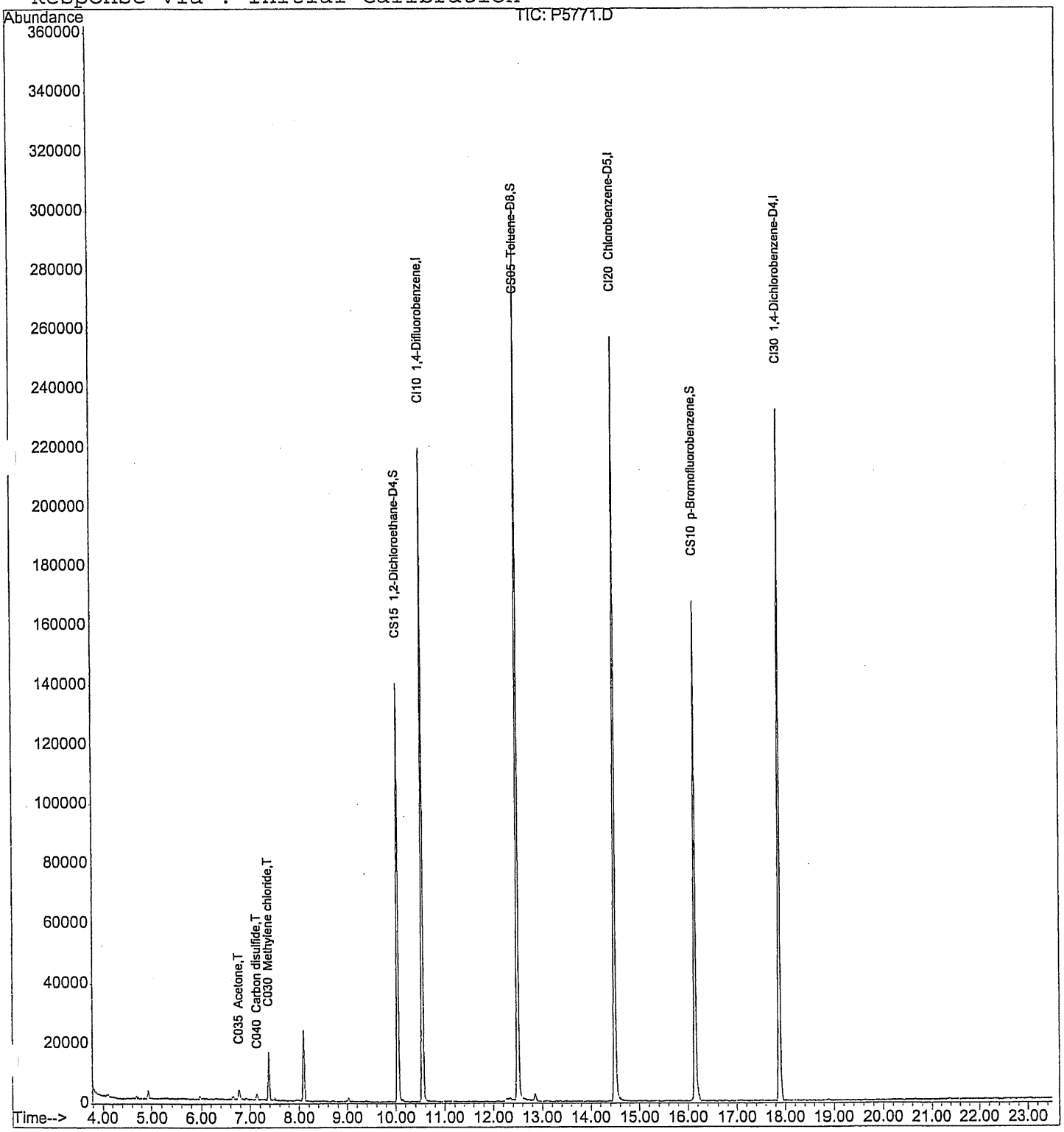
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Fri Aug 31 16:06:56 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090401\P5771.D
Acq On : 5 Sep 2001 00:00
Sample : A1821801 RT 9/14/2001
Misc :
MS Integration Params: Rteint.p
Quant Time: Sep 5 8:19 2001

Vial: 13
Operator: KG
Inst : HP5973 P
Multiplr: 1.00
Quant Results File: P8260S.RES

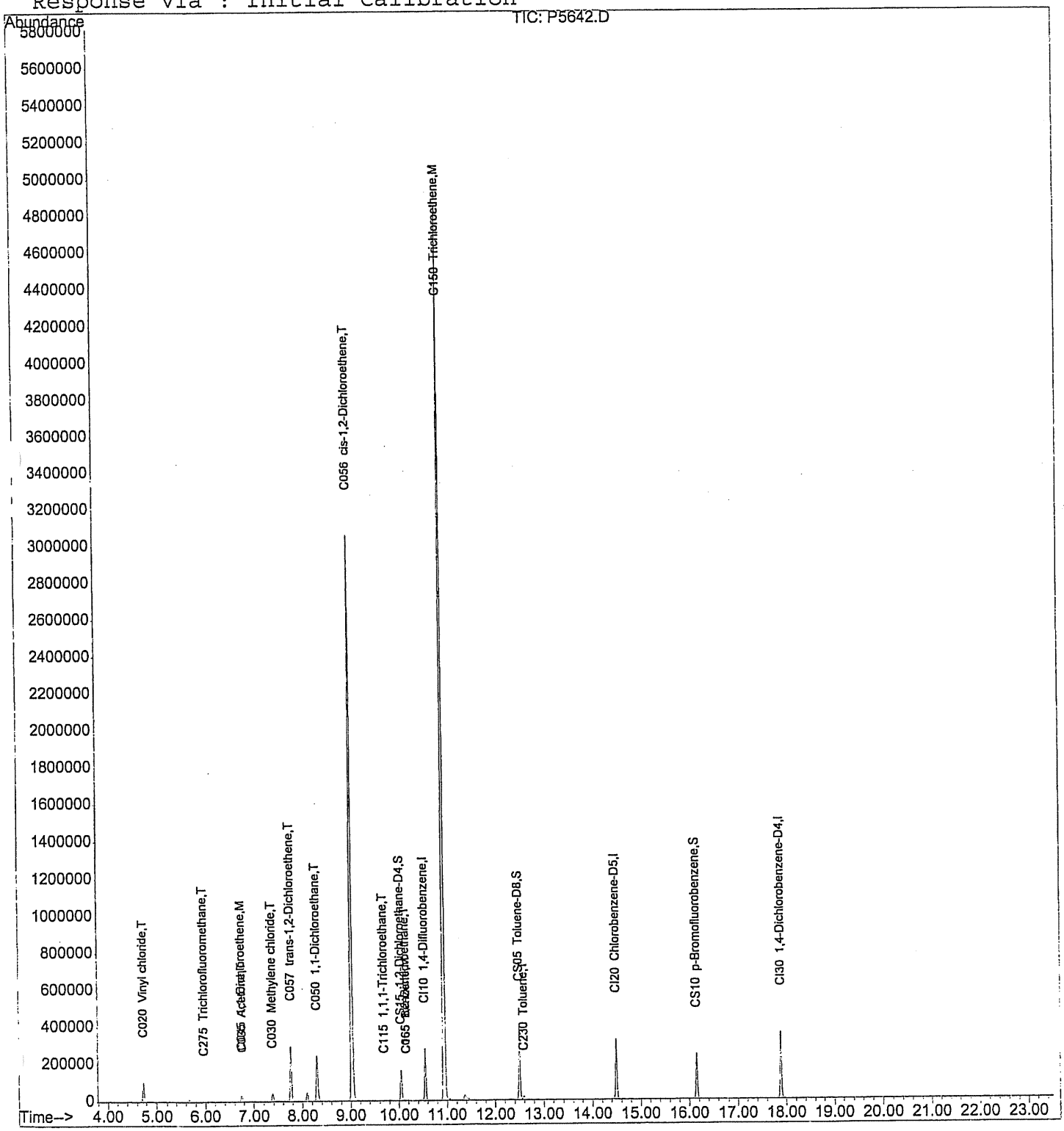
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Wed Sep 05 10:24:33 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082801\P5642.D
Acq On : 29 Aug 2001 1:21
Sample : A1821802
Misc :
MS Integration Params: Rteint.p
Quant Time: Aug 29 8:53 2001

Vial: 16
Operator: JRS
Inst : HP5973 P
Multiplr: 1.00
Quant Results File: P8260S.RES

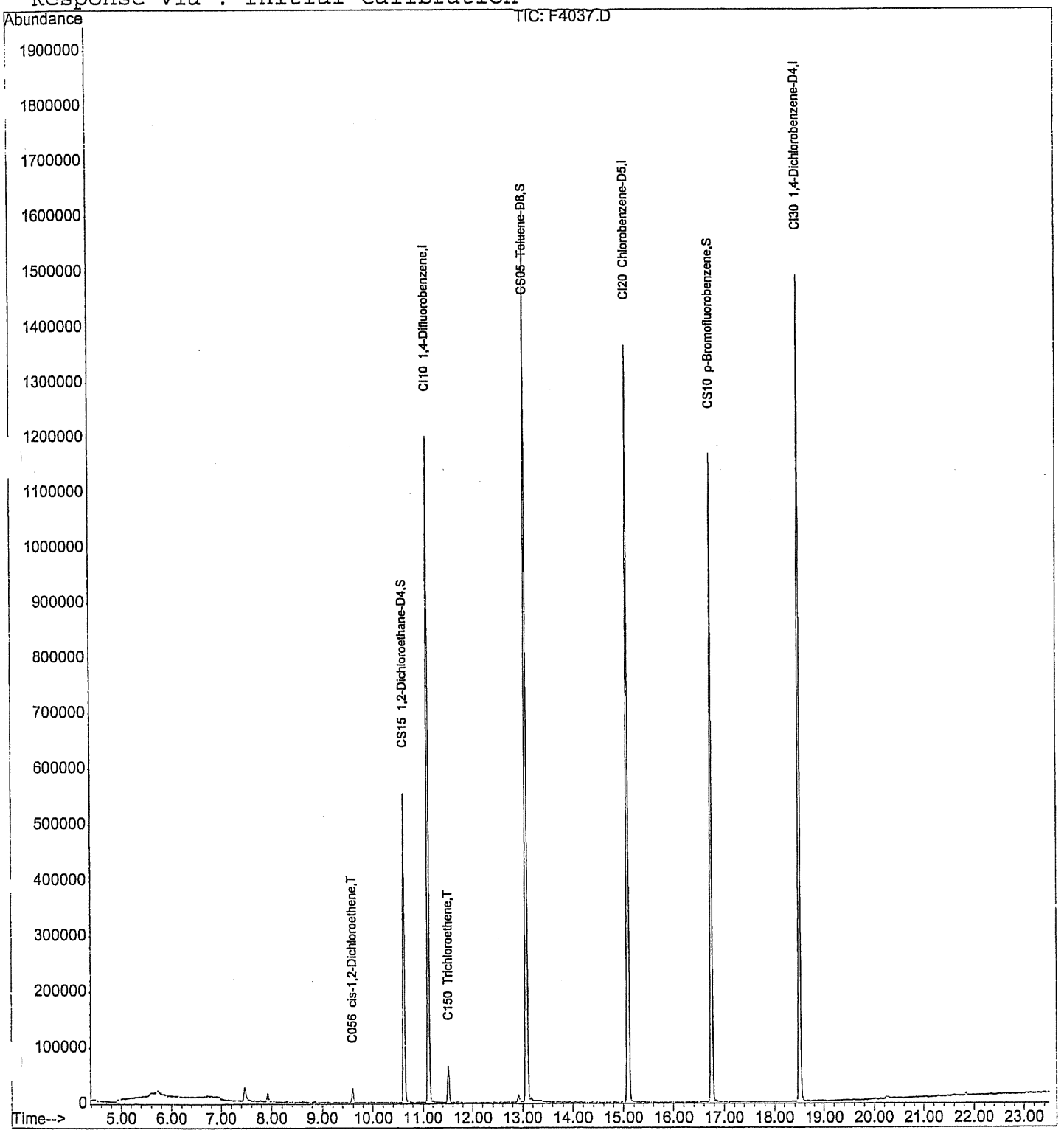
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082901\F4037.D
Acq On : 29 Aug 2001 20:26
Sample : A1821802 DL 8/29/2001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 30 18:34 2001

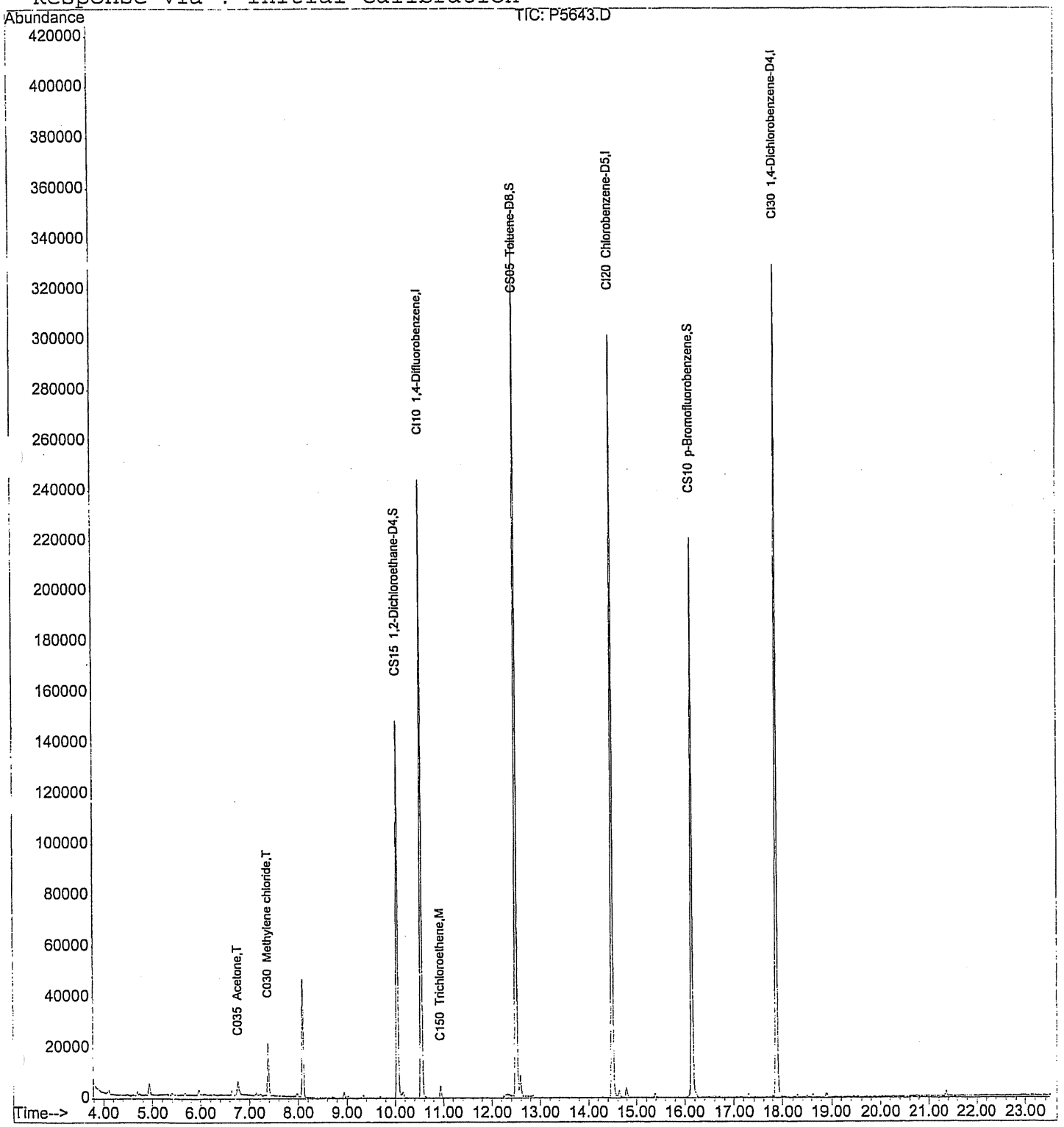
Vial: 9
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00
Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Aug 30 18:34:37 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082801\P5643.D Vial: 17
Acq On : 29 Aug 2001 1:53 Operator: JRS
Sample : A1821803 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 29 8:53 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



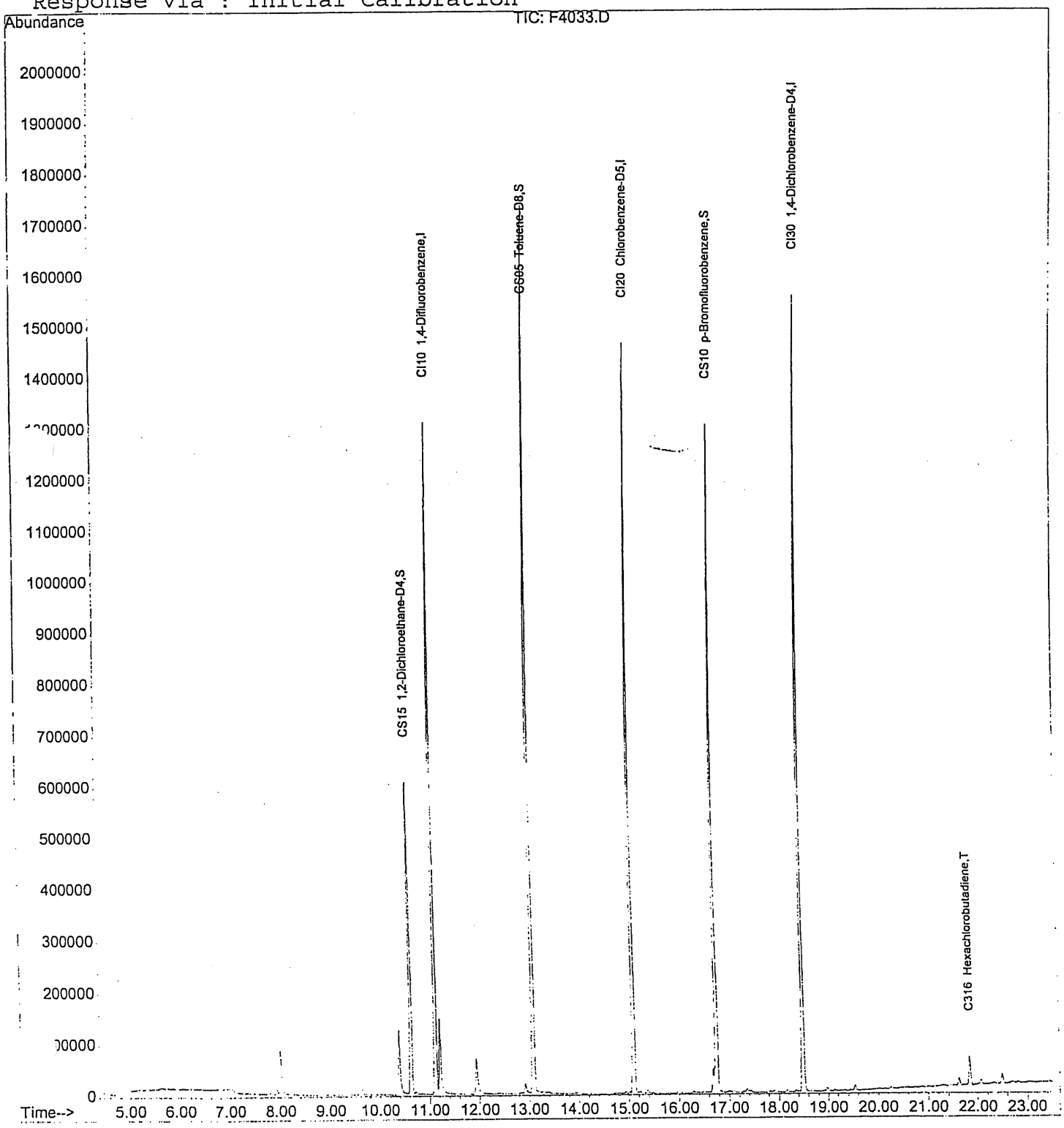
000064

Data File : C:\MSDCHEM\1\DATA\082901\F4033.D
Acq On : 29 Aug 2001 17:36
Sample : VBLK66
Misc :
Integration Params: RTEINT.P
Quant Time: Aug 30 11:30 2001

Vial: 5
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00

Quant Results File: F82605ML.RES

Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Aug 30 11:27:33 2001
Response via : Initial Calibration

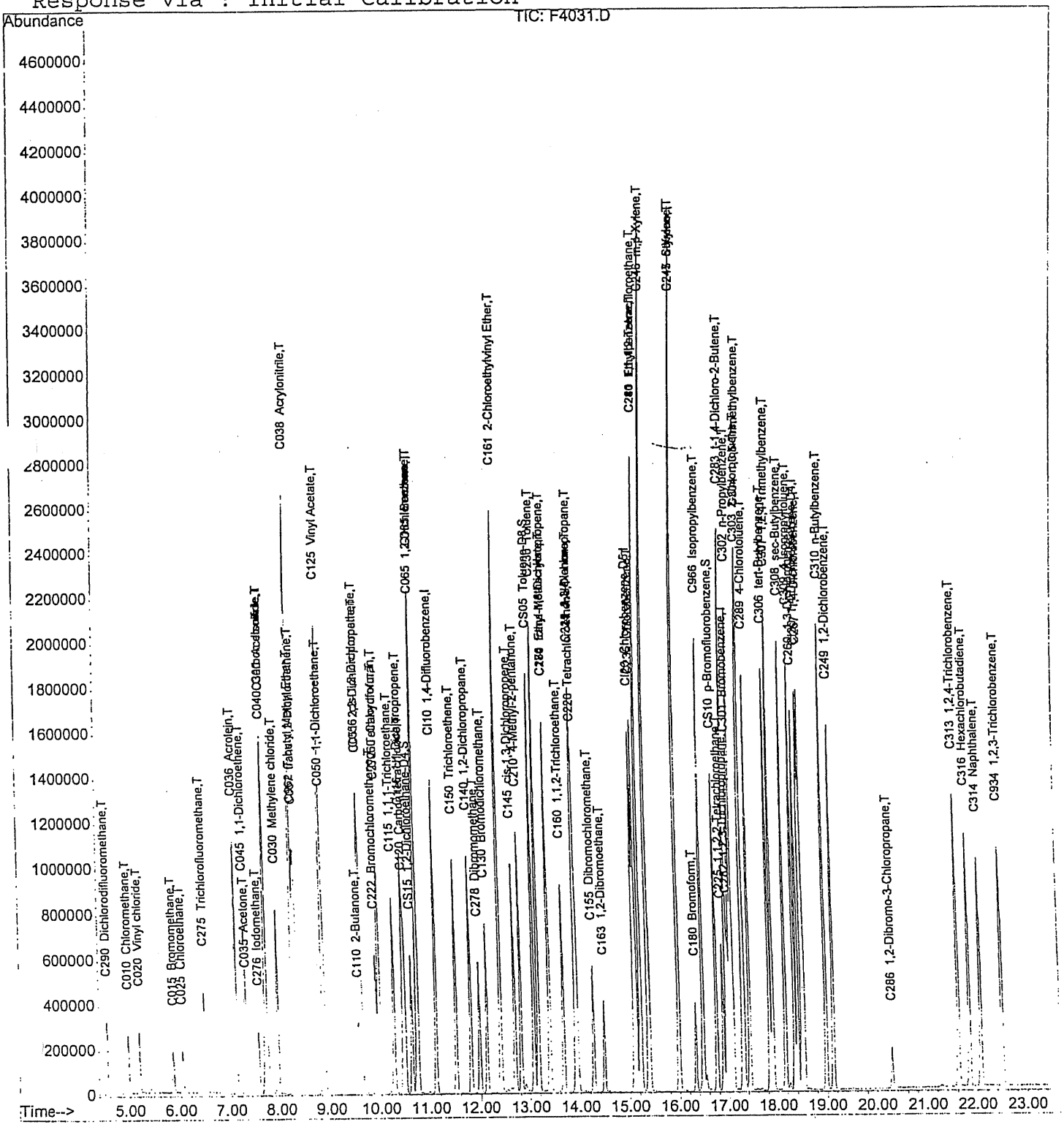


Data File : C:\MSDCHEM\1\DATA\082901\F4031.D
Acq On : 29 Aug 2001 16:29
Sample : MSB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Aug 30 11:30 2001

Vial: 3
Operator: MLW
Inst : HP5973 F
Multiplr: 1.00

Quant Results File: F82605ML.RES

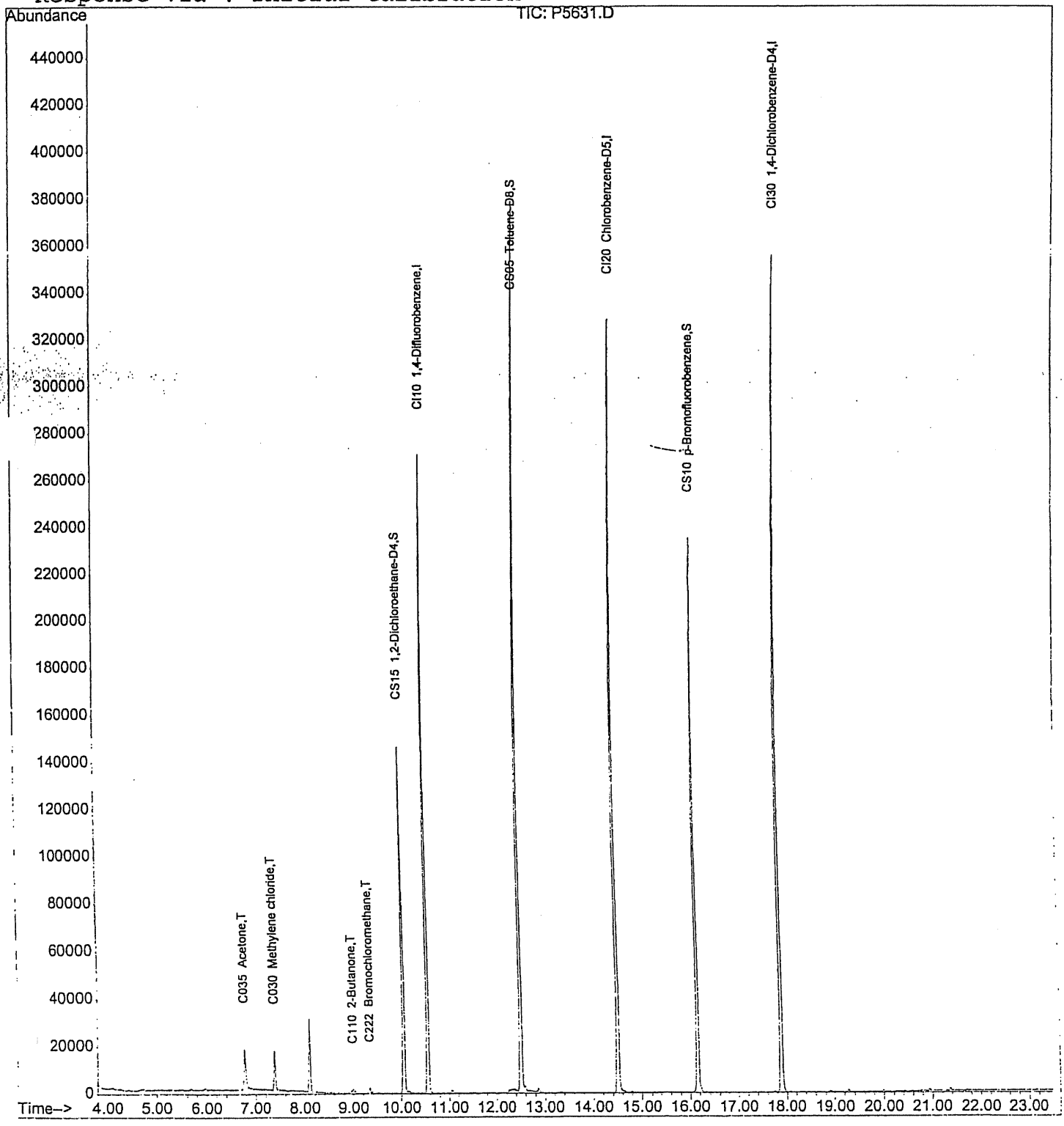
Method : C:\MSDCHEM\1\METHODS\F82605ML.M (RTE Integrator)
Title : 8260 5ML WATER
Last Update : Thu Aug 30 11:27:33 2001
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

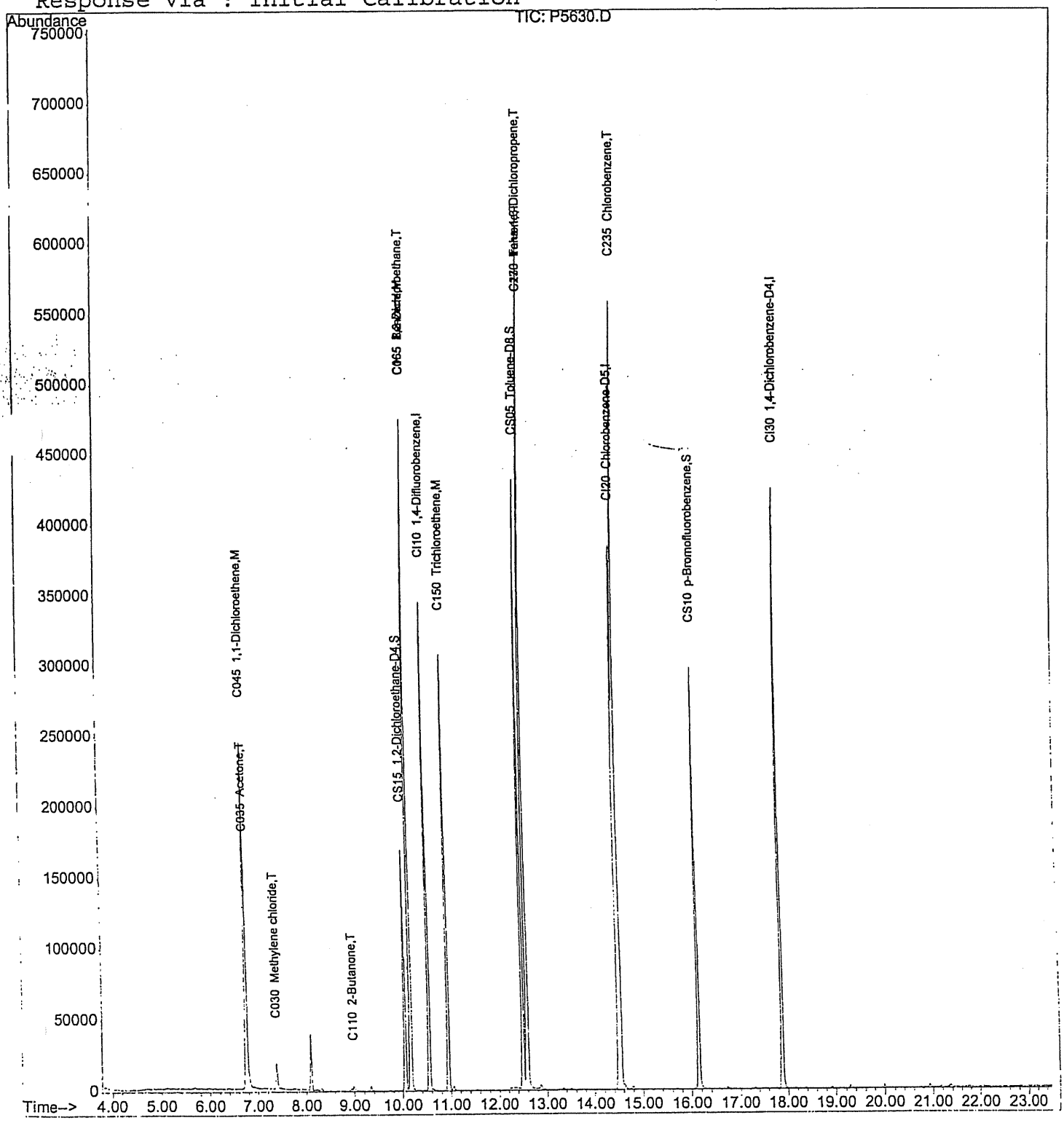
Data File : C:\MSDCHEM\1\DATA\082801\P5631.D Vial: 000066
Acq On : 28 Aug 2001 19:07 Operator: JRS
Sample : VBLK13 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 28 19:51 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



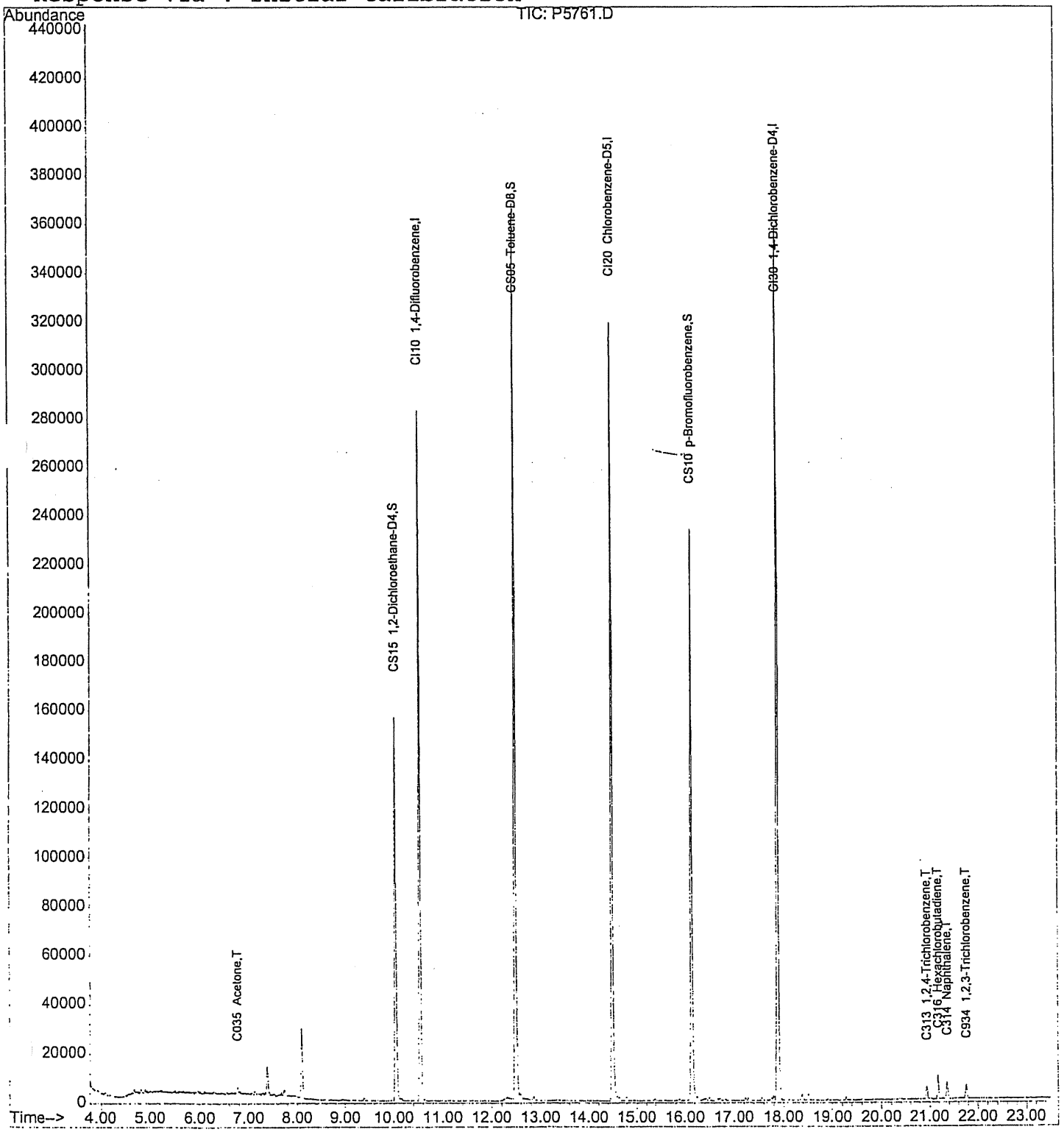
Data File : C:\MSDCHEM\1\DATA\082801\P5630.D Vial: 4
Acq On : 28 Aug 2001 18:36 Operator: JRS
Sample : MSB Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Aug 28 19:16 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Mon Aug 27 10:51:41 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\090401\P5761.D Vial: 3 000068
Acq On : 4 Sep 2001 18:47 Operator: KG
Sample : VBLK19 Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Sep 4 19:47 2001 Quant Results File: P8260S.RES

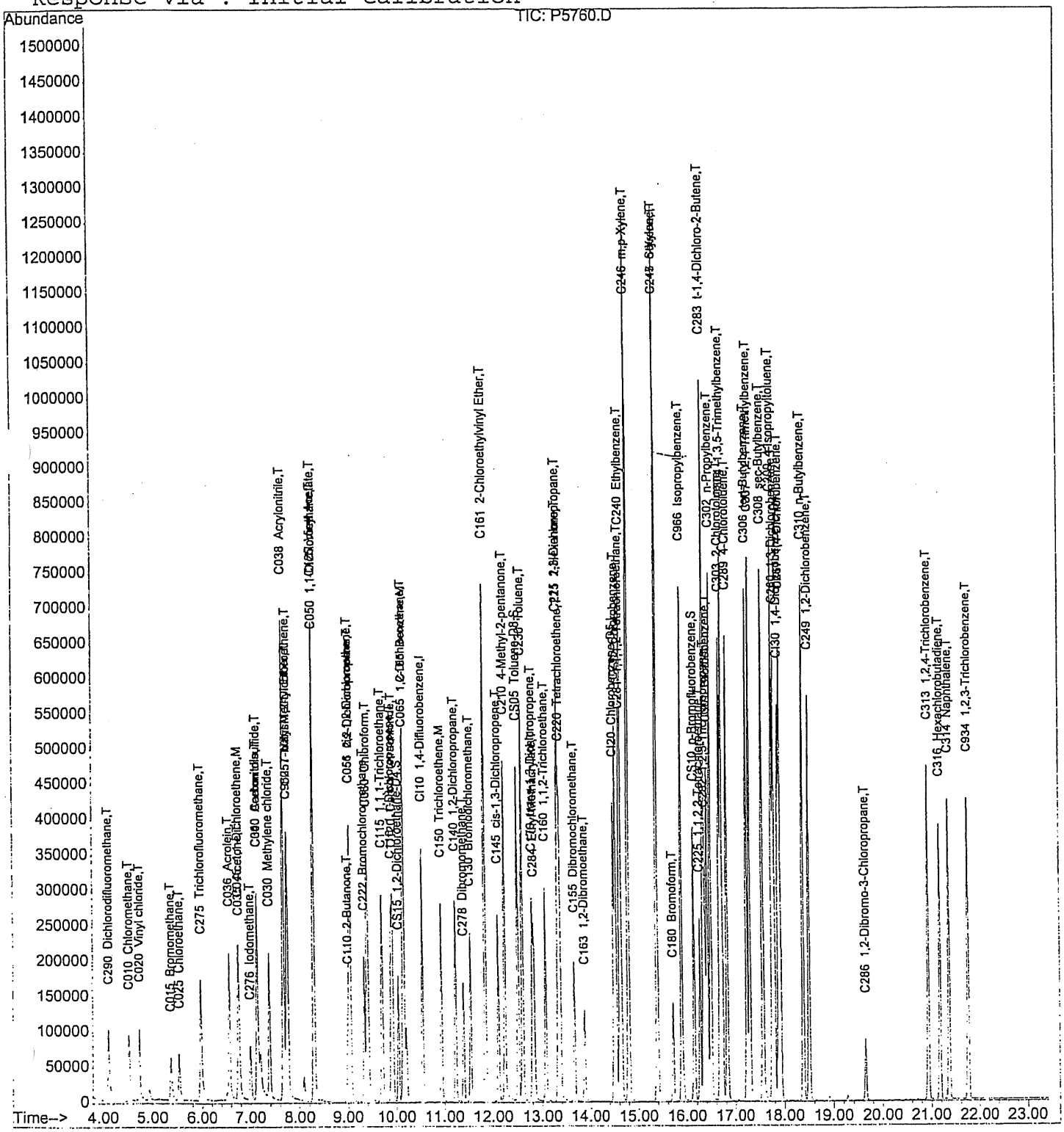
Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Tue Sep 04 18:21:24 2001
Response via : Initial Calibration



000069

Data File : C:\MSDCHEM\1\DATA\090401\P5760.D Vial: 2
Acq On : 4 Sep 2001 18:16 Operator: KG
Sample : MSB Inst : HP5973 P
Misc : Multiplr: 1.00
MS Integration Params: Rteint.p
Quant Time: Sep 4 18:46 2001 Quant Results File: P8260S.RES

Method : C:\MSDCHEM\1\METHODS\P8260S.M (RTE Integrator)
Title : 8260 SOIL
Last Update : Tue Sep 04 18:21:24 2001
Response via : Initial Calibration



Client ID		GB-27-0-1		GB-30-8-9		GB-33-3		GB-34-3	
Job No	Lab ID	A01-7963	A1796301	A01-8132	A1813201	A01-7923	A1792302	A01-8365	A1836504
Sample Date		08/17/2001		08/21/2001		08/15/2001		08/28/2001	

Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	ND	390	ND	410	ND	2000	ND	400
Acenaphthylene	UG/KG	ND	390	ND	410	ND	2000	ND	400
Anthracene	UG/KG	25 J	390	ND	410	240 J	2000	ND	400
Benzo(a)anthracene	UG/KG	82 J	390	ND	410	1100 J	2000	21 J	400
Benzo(b)fluoranthene	UG/KG	70 J	390	ND	410	1100 J	2000	57 J	400
Benzo(k)fluoranthene	UG/KG	46 J	390	ND	410	ND	2000	ND	400
Benzo(ghi)perylene	UG/KG	ND	390	ND	410	300 J	2000	ND	400
Benzo(a)pyrene	UG/KG	62 J	390	ND	410	940 J	2000	ND	400
Benzoic acid	UG/KG	ND	1900	ND	2000	ND	9800	ND	1900
Benzyl alcohol	UG/KG	ND	390	ND	410	ND	2000	ND	400
Bis(2-chloroethoxy) methane	UG/KG	ND	390	ND	410	ND	2000	ND	400
Bis(2-chloroethyl) ether	UG/KG	ND	390	ND	410	ND	2000	ND	400
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	390	ND	410	ND	2000	ND	400
Bis(2-ethylhexyl) phthalate	UG/KG	ND	390	50 J	410	ND	2000	90 J	400
4-Bromophenyl phenyl ether	UG/KG	ND	390	ND	410	ND	2000	ND	400
Butyl benzyl phthalate	UG/KG	ND	390	ND	410	ND	2000	ND	400
4-Chloroaniline	UG/KG	ND	390	ND	410	ND	2000	ND	400
4-Chloro-3-methylphenol	UG/KG	ND	390	ND	410	ND	2000	ND	400
2-Chloronaphthalene	UG/KG	ND	390	ND	410	ND	2000	ND	400
2-Chlorophenol	UG/KG	ND	390	ND	410	ND	2000	ND	400
4-Chlorophenyl phenyl ether	UG/KG	ND	390	ND	410	ND	2000	ND	400
Chrysene	UG/KG	84 J	390	ND	410	1200 J	2000	27 J	400
Dibenzo(a,h)anthracene	UG/KG	ND	390	ND	410	86 J	2000	ND	400
Dibenzofuran	UG/KG	ND	390	ND	410	ND	2000	ND	400
Di-n-butyl phthalate	UG/KG	130 BJ	390	ND	410	ND	2000	ND	400
1,2-Dichlorobenzene	UG/KG	ND	390	ND	410	ND	2000	ND	400
1,3-Dichlorobenzene	UG/KG	ND	390	ND	410	ND	2000	ND	400
1,4-Dichlorobenzene	UG/KG	ND	390	ND	410	ND	2000	ND	400
3,3'-Dichlorobenzidine	UG/KG	ND	780	ND	820	ND	4000	ND	790
2,4-Dichlorophenol	UG/KG	ND	390	ND	410	ND	2000	ND	400
Diethyl phthalate	UG/KG	ND	390	ND	410	ND	2000	ND	400
2,4-Dimethylphenol	UG/KG	ND	390	ND	410	ND	2000	62 J	400
Dimethyl phthalate	UG/KG	ND	390	ND	410	ND	2000	ND	400
4,6-Dinitro-2-methylphenol	UG/KG	ND	1900	ND	2000	ND	9800	ND	1900
2,4-Dinitrophenol	UG/KG	ND	1900	ND	2000	ND	9800	ND	1900
2,4-Dinitrotoluene	UG/KG	ND	390	ND	410	ND	2000	ND	400
2,6-Dinitrotoluene	UG/KG	ND	390	ND	410	ND	2000	ND	400
Di-n-octyl phthalate	UG/KG	ND	390	44 J	410	ND	2000	ND	400
Fluoranthene	UG/KG	150 J	390	ND	410	2000	2000	ND	400
Fluorene	UG/KG	ND	390	ND	410	ND	2000	ND	400
Hexachlorobenzene	UG/KG	ND	390	ND	410	ND	2000	ND	400
Hexachlorobutadiene	UG/KG	ND	390	ND	410	ND	2000	ND	400
Hexachlorocyclopentadiene	UG/KG	ND	390	ND	410	ND	2000	ND	400

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		GB-27-0-1		GB-30-8-9		GB-33-3		GB-34-3	
Job No	Lab ID	A01-7963	A1796301	A01-8132	A1813201	A01-7923	A1792302	A01-8365	A1836504
Sample Date		08/17/2001		08/21/2001		08/15/2001		08/28/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/KG	ND	390	ND	410	ND	2000	ND	400
Indeno(1,2,3-cd)pyrene	UG/KG	ND	390	ND	410	280 J	2000	ND	400
Isophorone	UG/KG	ND	390	ND	410	ND	2000	ND	400
2-Methylnaphthalene	UG/KG	47 J	390	ND	410	ND	2000	ND	400
2-Methylphenol	UG/KG	ND	390	ND	410	ND	2000	ND	400
4-Methylphenol	UG/KG	ND	390	ND	410	ND	2000	ND	400
Naphthalene	UG/KG	18 J	390	ND	410	ND	2000	75 J	400
2-Nitroaniline	UG/KG	ND	1900	ND	2000	ND	9800	ND	1900
3-Nitroaniline	UG/KG	ND	1900	ND	2000	ND	9800	ND	1900
4-Nitroaniline	UG/KG	ND	1900	ND	2000	ND	9800	ND	1900
Nitrobenzene	UG/KG	ND	390	ND	410	ND	2000	ND	400
2-Nitrophenol	UG/KG	ND	390	ND	410	ND	2000	ND	400
4-Nitrophenol	UG/KG	ND	1900	ND	2000	ND	9800	ND	1900
N-nitrosodiphenylamine	UG/KG	ND	390	ND	410	ND	2000	ND	400
N-Nitroso-Di-n-propylamine	UG/KG	ND	390	ND	410	ND	2000	ND	400
Pentachlorophenol	UG/KG	ND	1900	ND	2000	ND	9800	ND	1900
Phenanthrene	UG/KG	180 J	390	ND	410	870 J	2000	96 J	400
Phenol	UG/KG	ND	390	ND	410	ND	2000	ND	400
Pyrene	UG/KG	120 J	390	ND	410	2500	2000	54 J	400
1,2,4-Trichlorobenzene	UG/KG	ND	390	ND	410	ND	2000	ND	400
2,4,5-Trichlorophenol	UG/KG	ND	950	ND	990	ND	4900	ND	960
2,4,6-Trichlorophenol	UG/KG	ND	390	ND	410	ND	2000	ND	400
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	99	50-200	94	50-200	96	50-200	94	50-200
Naphthalene-D8	%	100	50-200	95	50-200	96	50-200	95	50-200
Acenaphthene-D10	%	97	50-200	93	50-200	91	50-200	97	50-200
Phenanthrene-D10	%	94	50-200	94	50-200	94	50-200	86	50-200
Chrysene-D12	%	92	50-200	92	50-200	91	50-200	68	50-200
Perylene-D12	%	75	50-200	76	50-200	89	50-200	40 *	50-200
Nitrobenzene-D5	%	64	16-120	52	16-120	44	16-120	81	16-120
2-Fluorobiphenyl	%	77	32-120	68	32-120	69	32-120	92	32-120
p-Terphenyl-d14	%	85	35-133	79	35-133	76	35-133	113	35-133
Phenol-D5	%	62	29-120	56	29-120	50	29-120	86	29-120
2-Fluorophenol	%	49	23-120	48	23-120	42	23-120	78	23-120
2,4,6-Tribromophenol	%	35 *	37-135	88	37-135	55	37-135	115	37-135

Date: 09/15/2
Time: 11:16:3

ERM - GRE OS. SITE
GREIF L . SITE
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

ept: AN0326

Client ID		GB-34-3 RI		GB-35-16		GB-37-3-4			
Job No	Lab ID	A01-8365	A1836504RI	A01-7923	A1792303	A01-7923	A1792301		
Sample Date		08/28/2001		08/15/2001		08/15/2001			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	ND	2000	ND	440	ND	390	NA	
Acenaphthylene	UG/KG	ND	2000	ND	440	ND	390	NA	
Anthracene	UG/KG	ND	2000	ND	440	ND	390	NA	
Benzo(a)anthracene	UG/KG	ND	2000	ND	440	ND	390	NA	
Benzo(b)fluoranthene	UG/KG	ND	2000	ND	440	ND	390	NA	
Benzo(k)fluoranthene	UG/KG	ND	2000	ND	440	ND	390	NA	
Benzo(ghi)perylene	UG/KG	ND	2000	ND	440	ND	390	NA	
Benzo(a)pyrene	UG/KG	ND	2000	ND	440	ND	390	NA	
Benzoic acid	UG/KG	ND	9600	ND	2100	ND	1900	NA	
Benzyl alcohol	UG/KG	ND	2000	ND	440	ND	390	NA	
Bis(2-chloroethoxy) methane	UG/KG	ND	2000	ND	440	ND	390	NA	
Bis(2-chloroethyl) ether	UG/KG	ND	2000	ND	440	ND	390	NA	
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	2000	ND	440	ND	390	NA	
Bis(2-ethylhexyl) phthalate	UG/KG	ND	2000	ND	440	ND	390	NA	
4-Bromophenyl phenyl ether	UG/KG	ND	2000	ND	440	ND	390	NA	
Butyl benzyl phthalate	UG/KG	ND	2000	ND	440	ND	390	NA	
4-Chloroaniline	UG/KG	ND	2000	ND	440	ND	390	NA	
4-Chloro-3-methylphenol	UG/KG	ND	2000	ND	440	ND	390	NA	
2-Chloronaphthalene	UG/KG	ND	2000	ND	440	ND	390	NA	
2-Chlorophenol	UG/KG	ND	2000	ND	440	ND	390	NA	
4-Chlorophenyl phenyl ether	UG/KG	ND	2000	ND	440	ND	390	NA	
Chrysene	UG/KG	ND	2000	ND	440	ND	390	NA	
Dibenzo(a,h)anthracene	UG/KG	ND	2000	ND	440	ND	390	NA	
Dibenzofuran	UG/KG	ND	2000	ND	440	ND	390	NA	
Di-n-butyl phthalate	UG/KG	ND	2000	ND	440	ND	390	NA	
1,2-Dichlorobenzene	UG/KG	ND	2000	ND	440	ND	390	NA	
1,3-Dichlorobenzene	UG/KG	ND	2000	ND	440	ND	390	NA	
1,4-Dichlorobenzene	UG/KG	ND	2000	ND	440	ND	390	NA	
3,3'-Dichlorobenzidine	UG/KG	ND	4000	ND	880	ND	780	NA	
2,4-Dichlorophenol	UG/KG	ND	2000	ND	440	ND	390	NA	
Diethyl phthalate	UG/KG	ND	2000	ND	440	ND	390	NA	
2,4-Dimethylphenol	UG/KG	ND	2000	ND	440	ND	390	NA	
Dimethyl phthalate	UG/KG	ND	2000	ND	440	ND	390	NA	
4,6-Dinitro-2-methylphenol	UG/KG	ND	9600	ND	2100	ND	1900	NA	
2,4-Dinitrophenol	UG/KG	ND	9600	ND	2100	ND	1900	NA	
2,4-Dinitrotoluene	UG/KG	ND	2000	ND	440	ND	390	NA	
2,6-Dinitrotoluene	UG/KG	ND	2000	ND	440	ND	390	NA	
Di-n-octyl phthalate	UG/KG	ND	2000	ND	440	ND	390	NA	
Fluoranthene	UG/KG	ND	2000	ND	440	ND	390	NA	
Fluorene	UG/KG	ND	2000	ND	440	ND	390	NA	
Hexachlorobenzene	UG/KG	ND	2000	ND	440	ND	390	NA	
Hexachlorobutadiene	UG/KG	ND	2000	ND	440	ND	390	NA	
Hexachlorocyclopentadiene	UG/KG	ND	2000	ND	440	ND	390	NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		GB-34-3 RI		GB-35-16		GB-37-3-4			
Job No	Lab ID	A01-8365	A1836504RI	A01-7923	A1792303	A01-7923	A1792301		
Sample Date		08/28/2001		08/15/2001		08/15/2001			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/KG	ND	2000	ND	440	ND	390	NA	
Indeno(1,2,3-cd)pyrene	UG/KG	ND	2000	ND	440	ND	390	NA	
Isophorone	UG/KG	ND	2000	ND	440	ND	390	NA	
2-Methylnaphthalene	UG/KG	ND	2000	ND	440	ND	390	NA	
2-Methylphenol	UG/KG	ND	2000	ND	440	ND	390	NA	
4-Methylphenol	UG/KG	ND	2000	ND	440	ND	390	NA	
Naphthalene	UG/KG	ND	2000	ND	440	ND	390	NA	
2-Nitroaniline	UG/KG	ND	9600	ND	2100	ND	1900	NA	
3-Nitroaniline	UG/KG	ND	9600	ND	2100	ND	1900	NA	
4-Nitroaniline	UG/KG	ND	9600	ND	2100	ND	1900	NA	
Nitrobenzene	UG/KG	ND	2000	ND	440	ND	390	NA	
2-Nitrophenol	UG/KG	ND	2000	ND	440	ND	390	NA	
4-Nitrophenol	UG/KG	ND	9600	ND	2100	ND	1900	NA	
N-nitrosodiphenylamine	UG/KG	ND	2000	ND	440	ND	390	NA	
N-Nitroso-Di-n-propylamine	UG/KG	ND	2000	ND	440	ND	390	NA	
Pentachlorophenol	UG/KG	ND	9600	ND	2100	ND	1900	NA	
Phenanthrene	UG/KG	ND	2000	ND	440	ND	390	NA	
Phenol	UG/KG	ND	2000	ND	440	ND	390	NA	
Pyrene	UG/KG	ND	2000	ND	440	ND	390	NA	
1,2,4-Trichlorobenzene	UG/KG	ND	2000	ND	440	ND	390	NA	
2,4,5-Trichlorophenol	UG/KG	ND	4800	ND	1100	ND	940	NA	
2,4,6-Trichlorophenol	UG/KG	ND	2000	ND	440	ND	390	NA	
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	103	50-200	88	50-200	106	50-200	NA	
Naphthalene-D8	%	98	50-200	86	50-200	103	50-200	NA	
Acenaphthene-D10	%	102	50-200	82	50-200	99	50-200	NA	
Phenanthrene-D10	%	103	50-200	82	50-200	100	50-200	NA	
Chrysene-D12	%	102	50-200	85	50-200	102	50-200	NA	
Perylene-D12	%	93	50-200	81	50-200	98	50-200	NA	
Nitrobenzene-D5	%	74	16-120	65	16-120	63	16-120	NA	
2-Fluorobiphenyl	%	105	32-120	82	32-120	75	32-120	NA	
p-Terphenyl-d14	%	106	35-133	84	35-133	73	35-133	NA	
Phenol-D5	%	81	29-120	70	29-120	66	29-120	NA	
2-Fluorophenol	%	70	23-120	59	23-120	60	23-120	NA	
2,4,6-Tribromophenol	%	101	37-135	86	37-135	76	37-135	NA	

NA = Not Applicable ND = Not Detected

Client ID		GB-32-R							
Job No	Lab ID	A01-8365	A1836502						
Sample Date		08/28/2001							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/L	ND	10	NA		NA		NA	
Acenaphthylene	UG/L	ND	10	NA		NA		NA	
Anthracene	UG/L	ND	10	NA		NA		NA	
Benzo(a)anthracene	UG/L	ND	10	NA		NA		NA	
Benzo(b)fluoranthene	UG/L	ND	10	NA		NA		NA	
Benzo(k)fluoranthene	UG/L	ND	10	NA		NA		NA	
Benzo(ghi)perylene	UG/L	ND	10	NA		NA		NA	
Benzo(a)pyrene	UG/L	ND	10	NA		NA		NA	
Benzoic acid	UG/L	ND	53	NA		NA		NA	
Benzyl alcohol	UG/L	ND	21	NA		NA		NA	
Bis(2-chloroethoxy) methane	UG/L	ND	10	NA		NA		NA	
Bis(2-chloroethyl) ether	UG/L	ND	10	NA		NA		NA	
2,2'-Oxybis(1-Chloropropane)	UG/L	ND	10	NA		NA		NA	
Bis(2-ethylhexyl) phthalate	UG/L	ND	10	NA		NA		NA	
4-Bromophenyl phenyl ether	UG/L	ND	10	NA		NA		NA	
Butyl benzyl phthalate	UG/L	ND	10	NA		NA		NA	
4-Chloroaniline	UG/L	ND	10	NA		NA		NA	
4-Chloro-3-methylphenol	UG/L	ND	10	NA		NA		NA	
2-Chloronaphthalene	UG/L	ND	10	NA		NA		NA	
2-Chlorophenol	UG/L	ND	10	NA		NA		NA	
4-Chlorophenyl phenyl ether	UG/L	ND	10	NA		NA		NA	
Chrysene	UG/L	ND	10	NA		NA		NA	
Dibenzo(a,h)anthracene	UG/L	ND	10	NA		NA		NA	
Dibenzofuran	UG/L	ND	10	NA		NA		NA	
Di-n-butyl phthalate	UG/L	ND	10	NA		NA		NA	
1,2-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
1,3-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
1,4-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
3,3'-Dichlorobenzidine	UG/L	ND	21	NA		NA		NA	
2,4-Dichlorophenol	UG/L	ND	10	NA		NA		NA	
Diethyl phthalate	UG/L	ND	10	NA		NA		NA	
2,4-Dimethylphenol	UG/L	ND	10	NA		NA		NA	
Dimethyl phthalate	UG/L	ND	10	NA		NA		NA	
4,6-Dinitro-2-methylphenol	UG/L	ND	53	NA		NA		NA	
2,4-Dinitrophenol	UG/L	ND	53	NA		NA		NA	
2,4-Dinitrotoluene	UG/L	ND	10	NA		NA		NA	
2,6-Dinitrotoluene	UG/L	ND	10	NA		NA		NA	
Di-n-octyl phthalate	UG/L	ND	10	NA		NA		NA	
Fluoranthene	UG/L	ND	10	NA		NA		NA	
Fluorene	UG/L	ND	10	NA		NA		NA	
Hexachlorobenzene	UG/L	ND	10	NA		NA		NA	
Hexachlorobutadiene	UG/L	ND	10	NA		NA		NA	
Hexachlorocyclopentadiene	UG/L	ND	10	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Date: 09/15/
Time: 11:16:37

ERM - GR ROS. SITE
GREIF BROS. SITE
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Dept: AN0326

Client ID		GB-32-R							
Job No	Lab ID	A01-8365	A1836502						
Sample Date		08/28/2001							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/L	ND	10	NA		NA		NA	
Indeno(1,2,3-cd)pyrene	UG/L	ND	10	NA		NA		NA	
Isophorone	UG/L	ND	10	NA		NA		NA	
2-Methylnaphthalene	UG/L	ND	10	NA		NA		NA	
2-Methylphenol	UG/L	ND	10	NA		NA		NA	
4-Methylphenol	UG/L	ND	10	NA		NA		NA	
Naphthalene	UG/L	ND	10	NA		NA		NA	
2-Nitroaniline	UG/L	ND	53	NA		NA		NA	
3-Nitroaniline	UG/L	ND	53	NA		NA		NA	
4-Nitroaniline	UG/L	ND	53	NA		NA		NA	
Nitrobenzene	UG/L	ND	10	NA		NA		NA	
2-Nitrophenol	UG/L	ND	10	NA		NA		NA	
4-Nitrophenol	UG/L	ND	53	NA		NA		NA	
N-nitrosodiphenylamine	UG/L	ND	10	NA		NA		NA	
N-Nitroso-Di-n-propylamine	UG/L	ND	10	NA		NA		NA	
Pentachlorophenol	UG/L	ND	53	NA		NA		NA	
Phenanthrene	UG/L	ND	10	NA		NA		NA	
Phenol	UG/L	ND	10	NA		NA		NA	
Pyrene	UG/L	ND	10	NA		NA		NA	
1,2,4-Trichlorobenzene	UG/L	ND	10	NA		NA		NA	
2,4,5-Trichlorophenol	UG/L	ND	10	NA		NA		NA	
2,4,6-Trichlorophenol	UG/L	ND	10	NA		NA		NA	
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	99	50-200	NA		NA		NA	
Naphthalene-D8	%	96	50-200	NA		NA		NA	
Acenaphthene-D10	%	92	50-200	NA		NA		NA	
Phenanthrene-D10	%	92	50-200	NA		NA		NA	
Chrysene-D12	%	93	50-200	NA		NA		NA	
Perylene-D12	%	91	50-200	NA		NA		NA	
Nitrobenzene-D5	%	53	24-120	NA		NA		NA	
2-Fluorobiphenyl	%	66	33-120	NA		NA		NA	
p-Terphenyl-d14	%	96	24-130	NA		NA		NA	
Phenol-D5	%	25	10-120	NA		NA		NA	
2-Fluorophenol	%	31	10-120	NA		NA		NA	
2,4,6-Tribromophenol	%	106	24-143	NA		NA		NA	

NA = Not Applicable ND = Not Detected

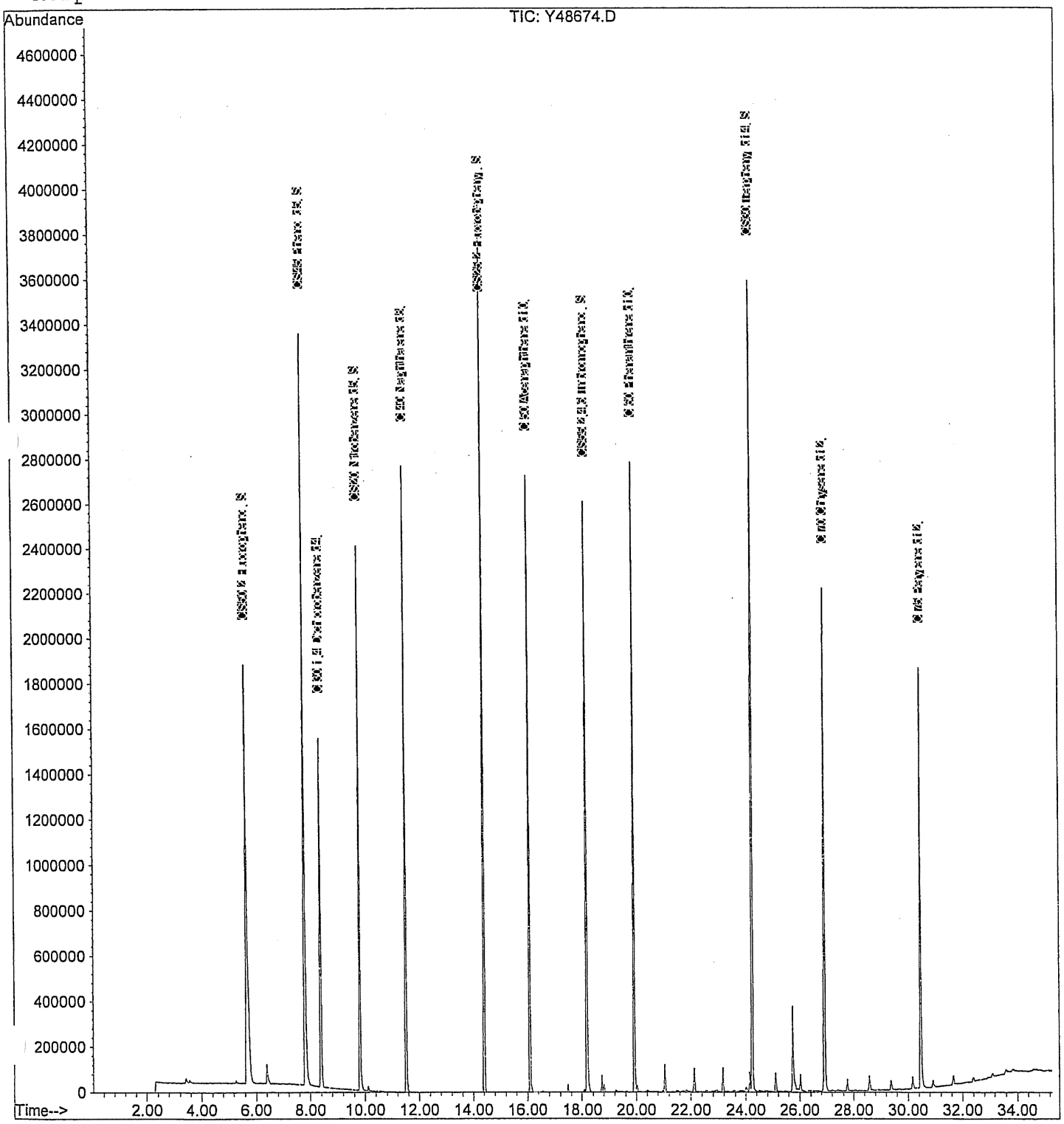
STL Buffalo

000075

Data File : D:\ELINK\INSTR2\DATA\Y010824\Y48674.D Vial: 15
Acq On : 24 Aug 2001 17:43 Operator: TM
Sample : A1792301 AS10008782 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 25 7:52 2001 Quant Results File: 8270C.RES

000076

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 24 09:00:32 2001
Response via : Initial Calibration



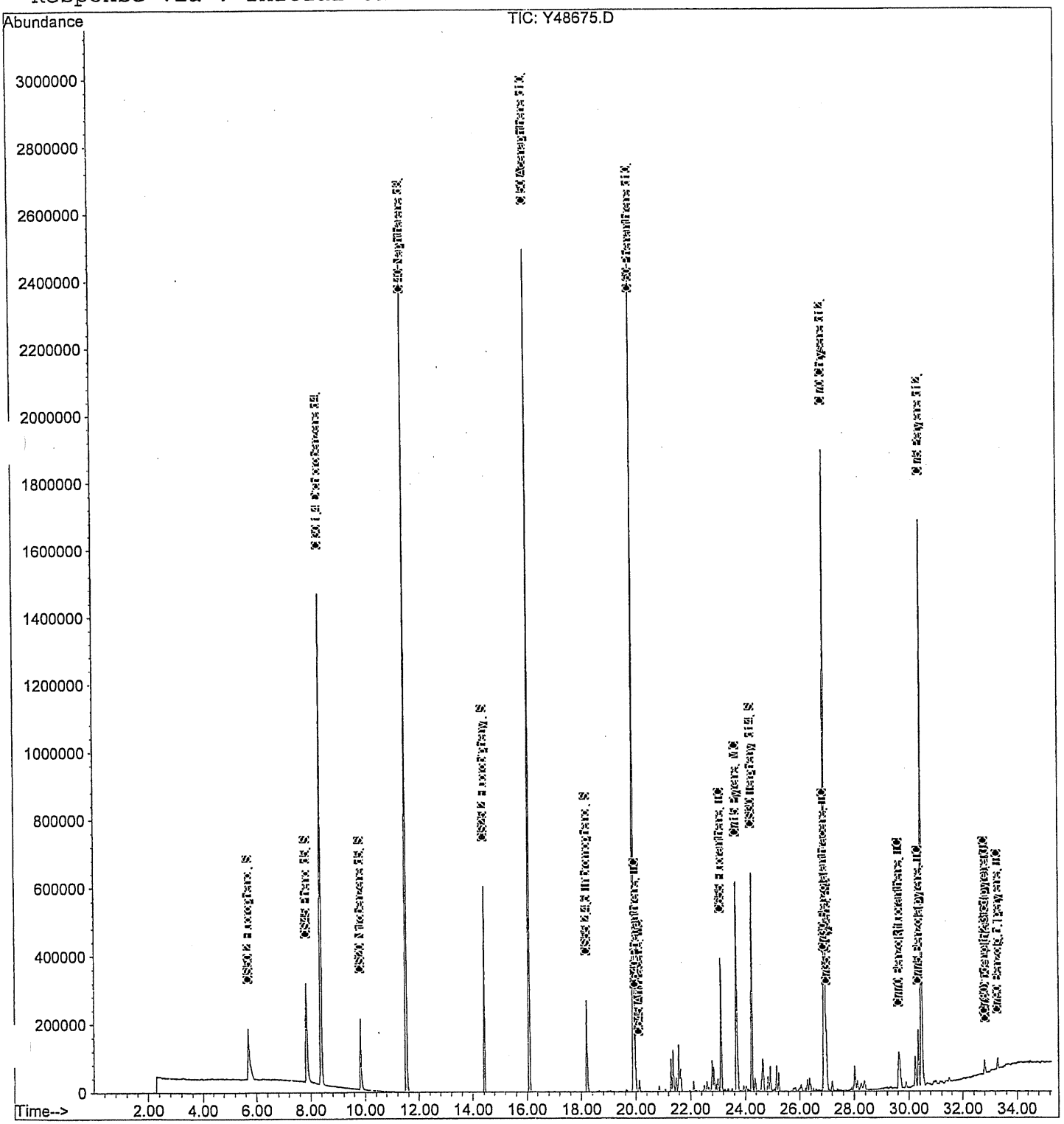
Data File : D:\ELINK\INSTR2\DATA\Y010824\Y48675.D
Acq On : 24 Aug 2001 18:26
Sample : A1792302 DF5 AS10008783
Misc :
MS Integration Params: rteint.p
Quant Time: Aug 25 7:52 2001

Vial: 16
Operator: [illegible]
Inst : I50Y-A
Multiplr: 1.00

000077

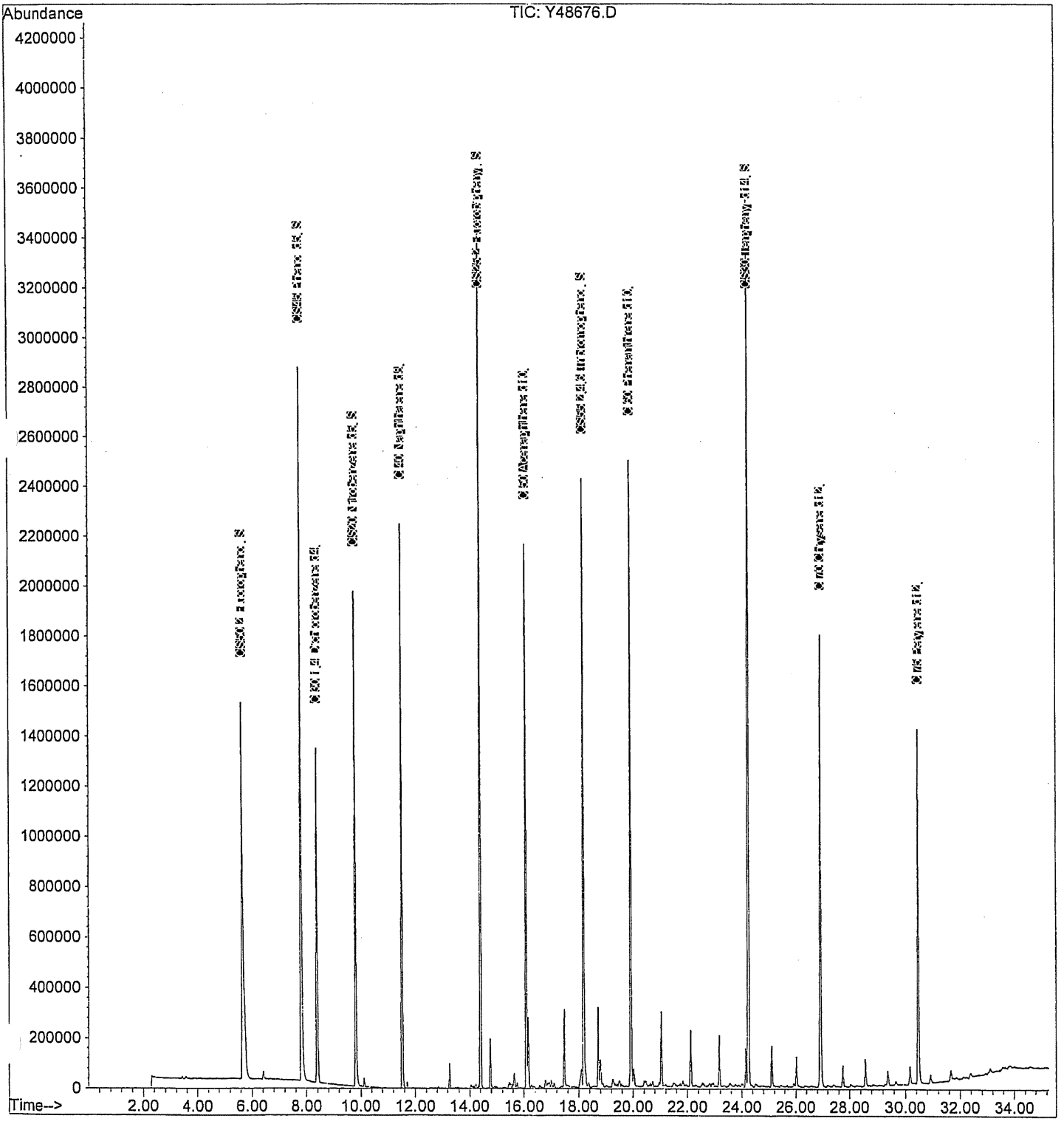
Quant Results File: 8270C.RES

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 24 09:00:32 2001
Response via : Initial Calibration



Data File : D:\ELINK\INSTR2\DATA\Y010824\Y48676.D Vial: 17
Acq On : 24 Aug 2001 19:09 Operator: PM
Sample : A1792303 AS10008784 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 25 7:53 2001 Quant Results File: 8270C.RES

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 24 09:00:32 2001
Response via : Initial Calibration

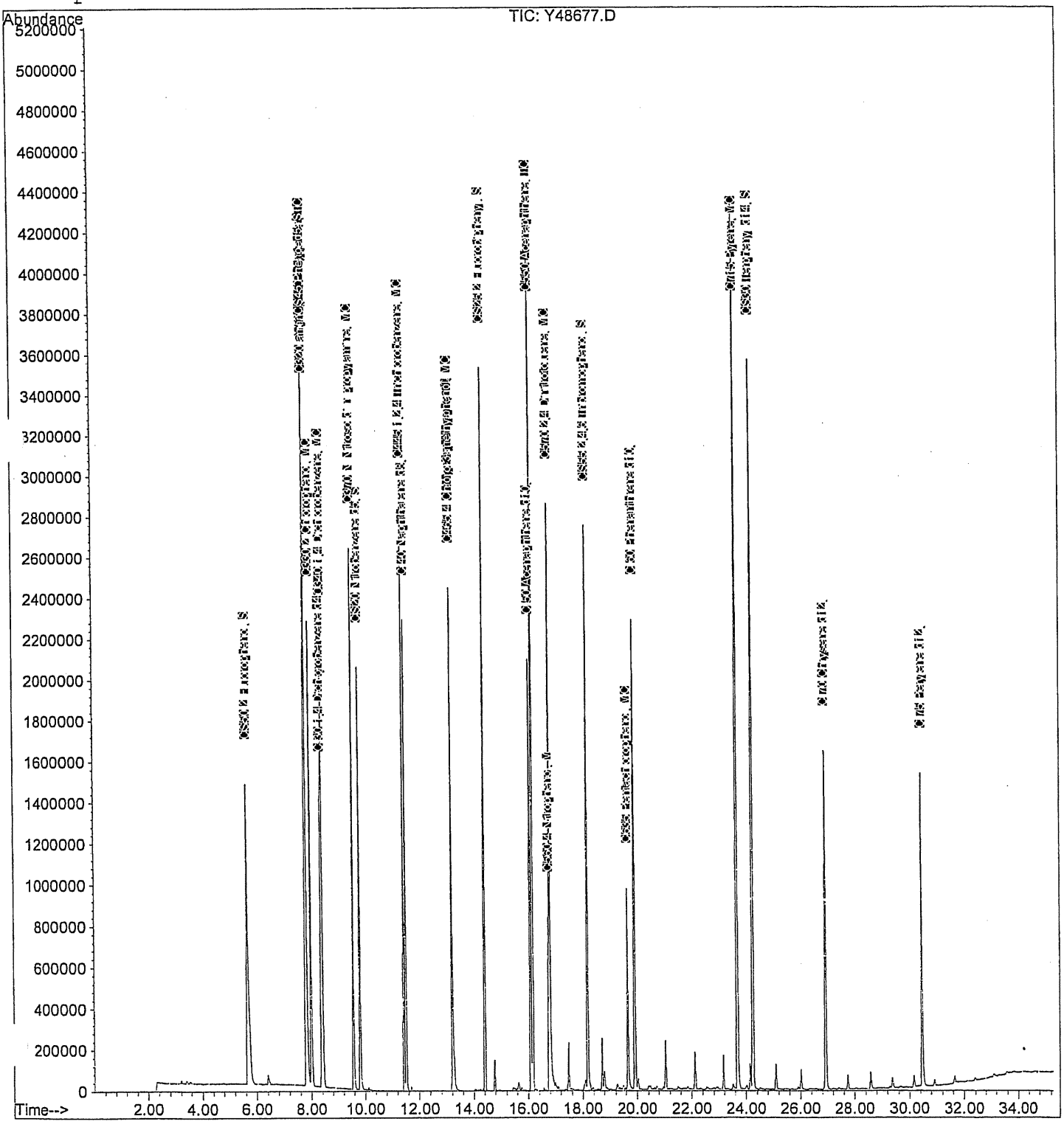


Quantitation Report

Data File : D:\ELINK\INSTR2\DATA\Y010824\Y48677.D Vial: 18
Acq On : 24 Aug 2001 19:52 Operator: PM
Sample : A1792303MS AS10008785 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 25 7:53 2001 Quant Results File: 8270C.RES

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 24 09:00:32 2001
Response via : Initial Calibration

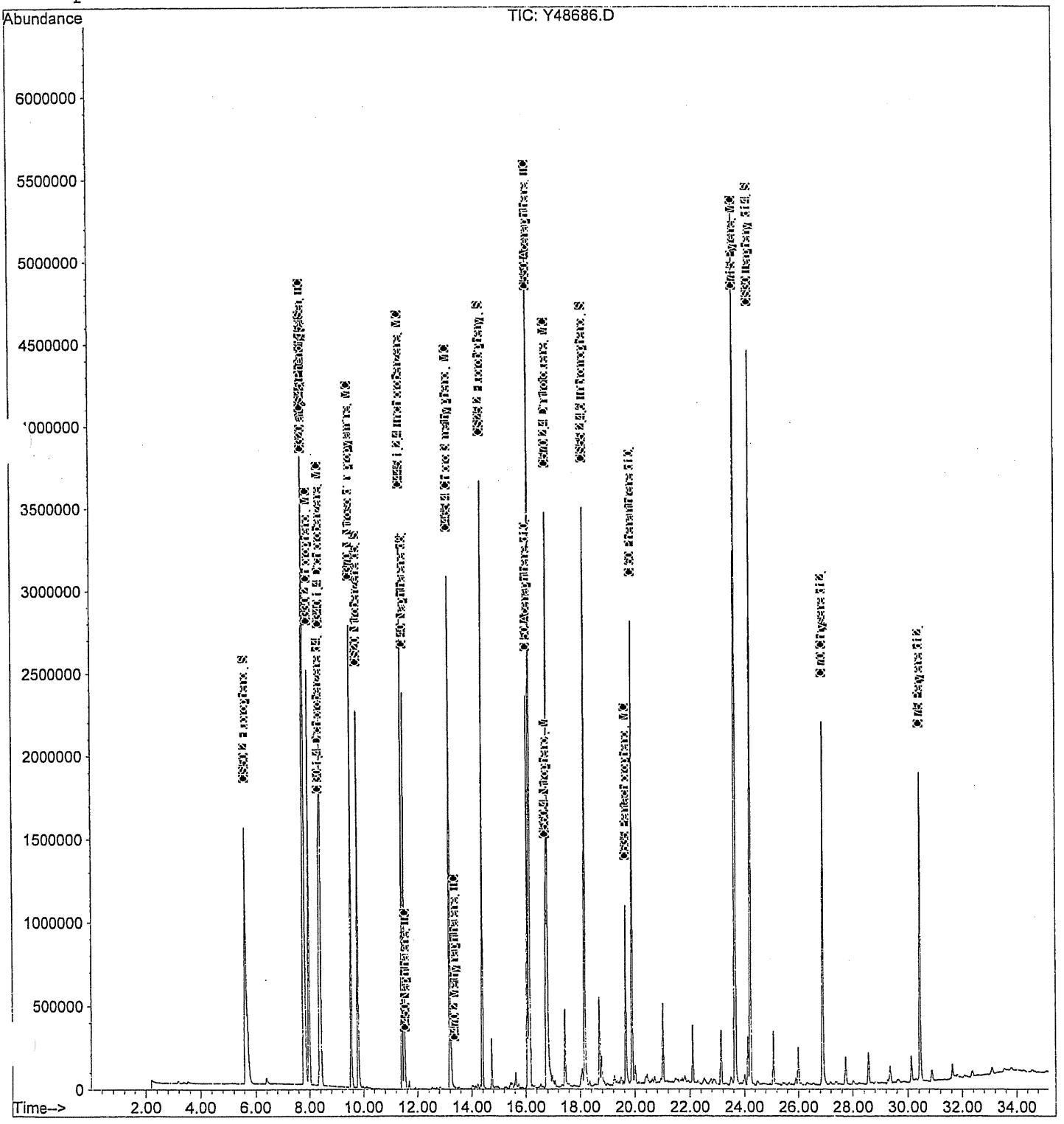
000079



Data File : D:\ELINK\INSTR2\DATA\Y010825\Y48686.D Vial: 8
Acq On : 25 Aug 2001 13:40 Operator: PM
Sample : A1792303SD AS10008785 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 27 6:45 2001 Quant Results File: 8270C.RES

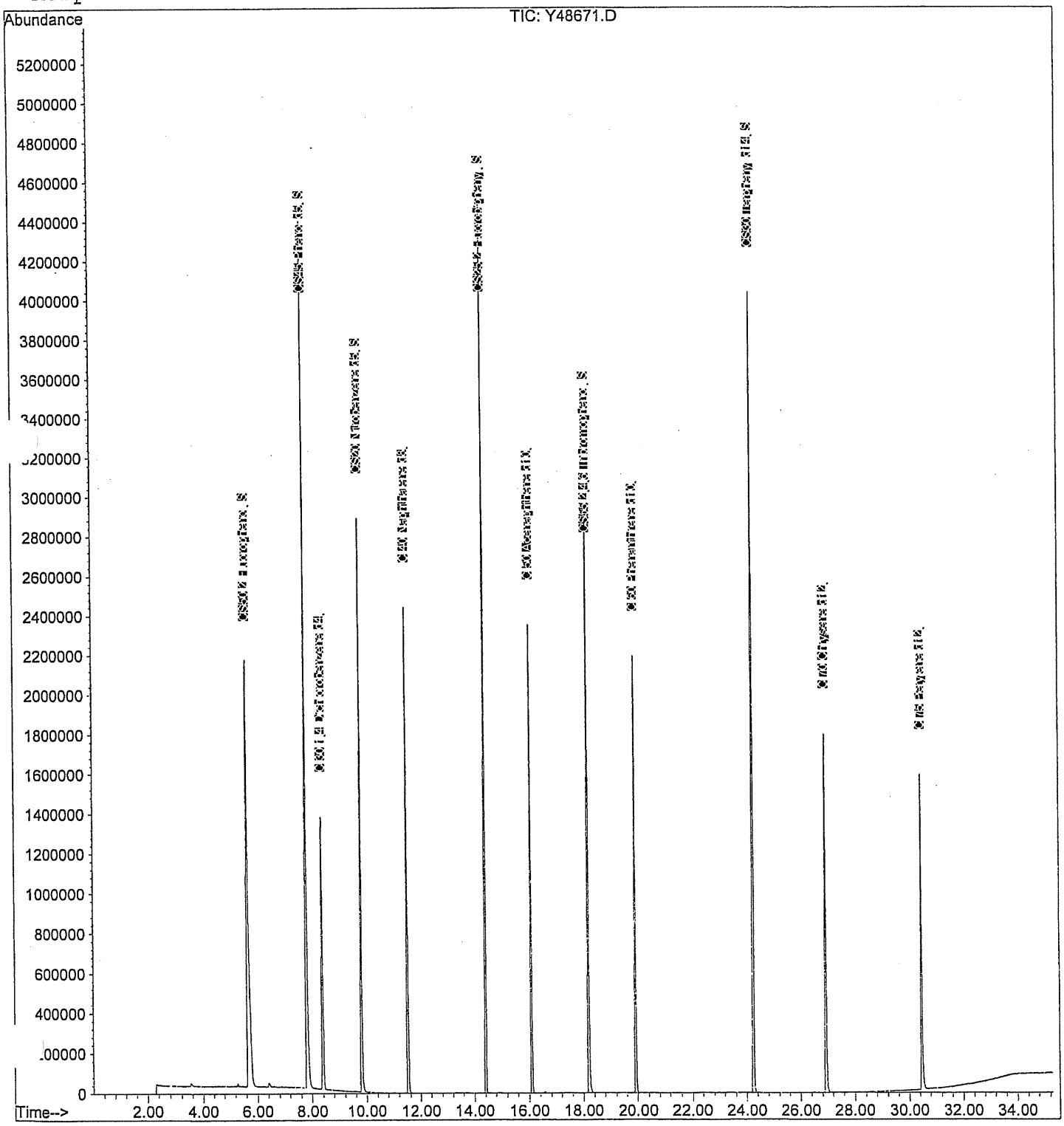
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Sat Aug 25 09:19:04 2001
Response via : Initial Calibration

000080



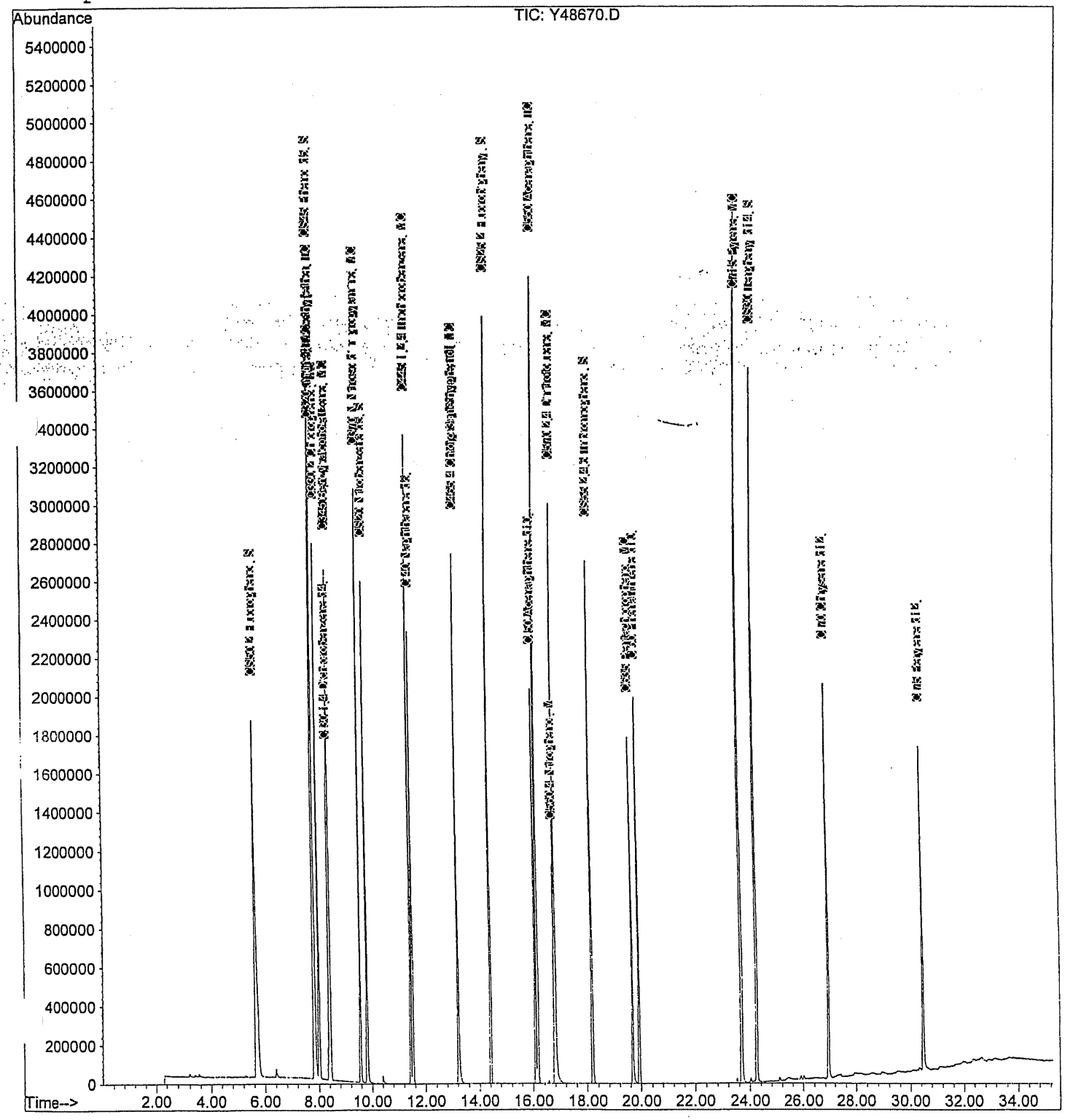
Data File : D:\ELINK\INSTR2\DATA\Y010824\Y48671.D Vial: 1
Acq On : 24 Aug 2001 15:33 Operator: PM
Sample : SBLK86 AS1008781 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 25 7:48 2001 Quant Results File: 8270C.RES

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 24 09:00:32 2001
Response via : Initial Calibration



Data File : D:\ELINK\INSTR2\DATA\Y010824\Y48670.D Vial: 12
Acq On : 24 Aug 2001 14:50 Operator: PM
Sample : MSB AS10008780 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 25 7:47 2001 Quant Results File: 8270C.RES

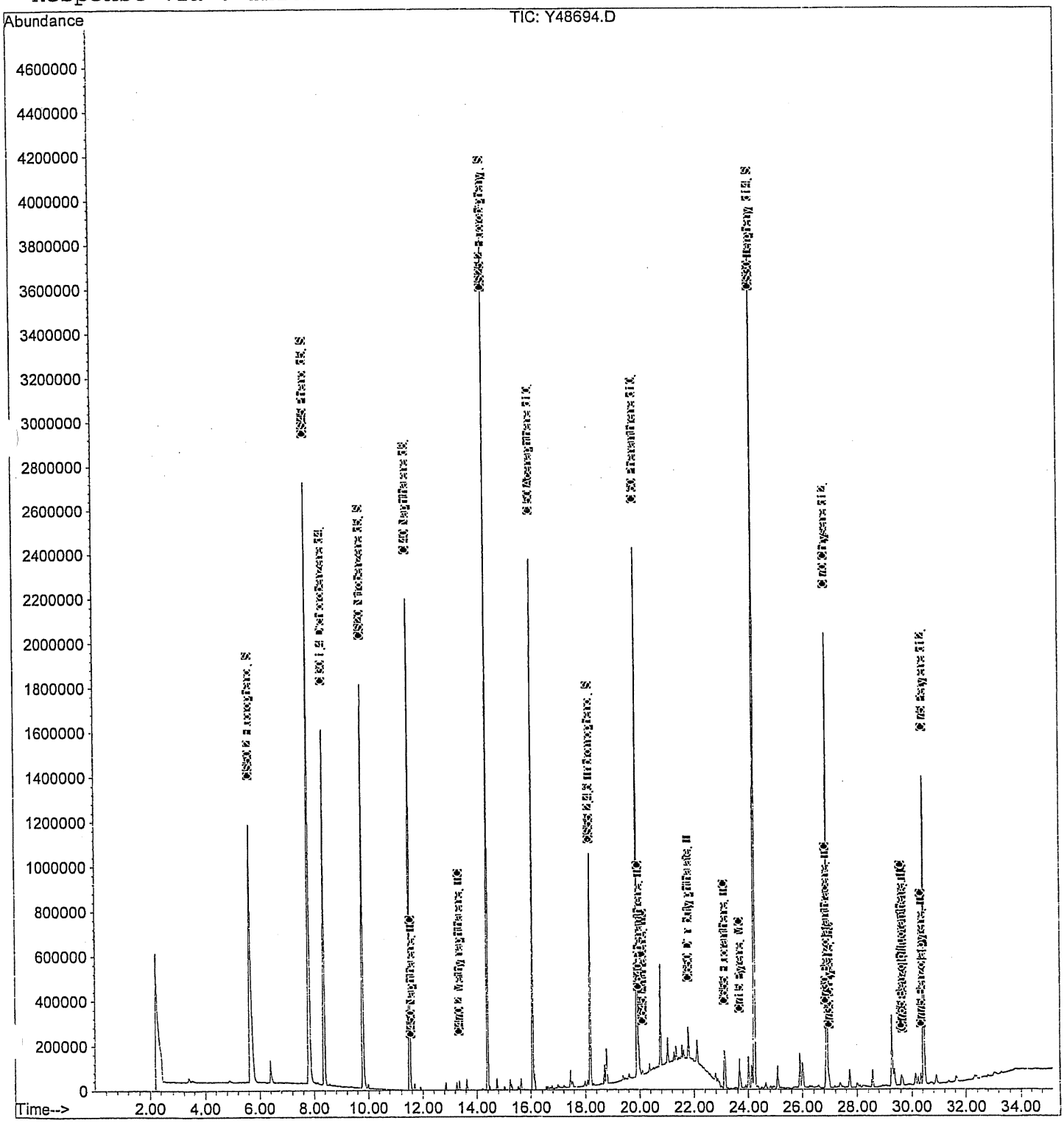
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 24 09:00:32 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\ELINK\INSTR2\DATA\Y010825\Y48694.D Vial: 18 000083
Acq On : 25 Aug 2001 19:24 Operator: PM
Sample : A1796301 AS10008801 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 27 8:22 2001 Quant Results File: 8270C.RES

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 17 09:53:23 2001
Response via : Initial Calibration

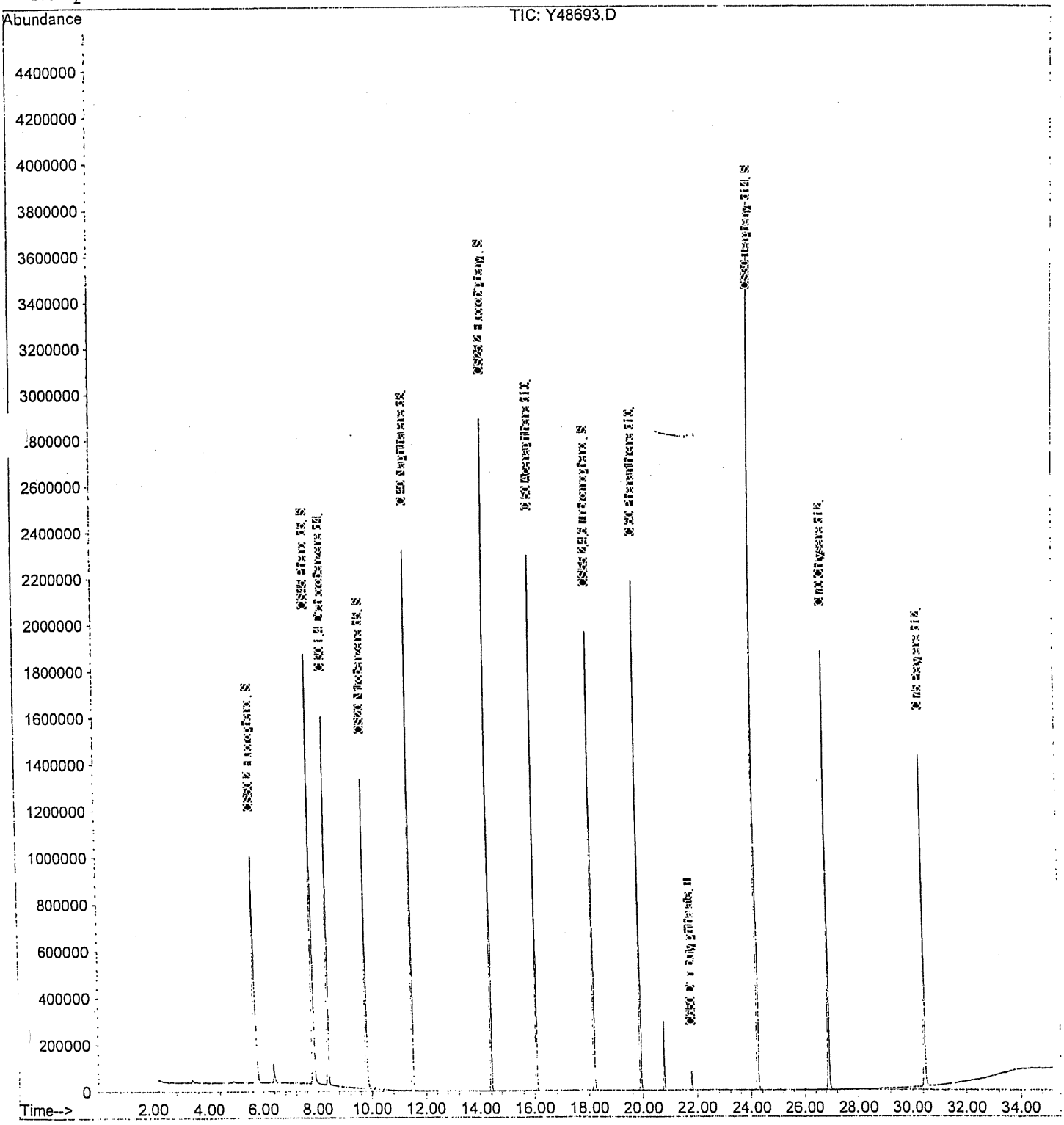


Data File : D:\ELINK\INSTR2\DATA\Y010825\Y48693.D
Acq On : 25 Aug 2001 18:41
Sample : SBLK88 AS10008800
Misc : 01-7929
MS Integration Params: rteint.p
Quant Time: Aug 27 6:48 2001

Vial: 15
Operator: PM
Inst : I50Y-A
Multiplr: 1.00

Quant Results File: 8270C.RES

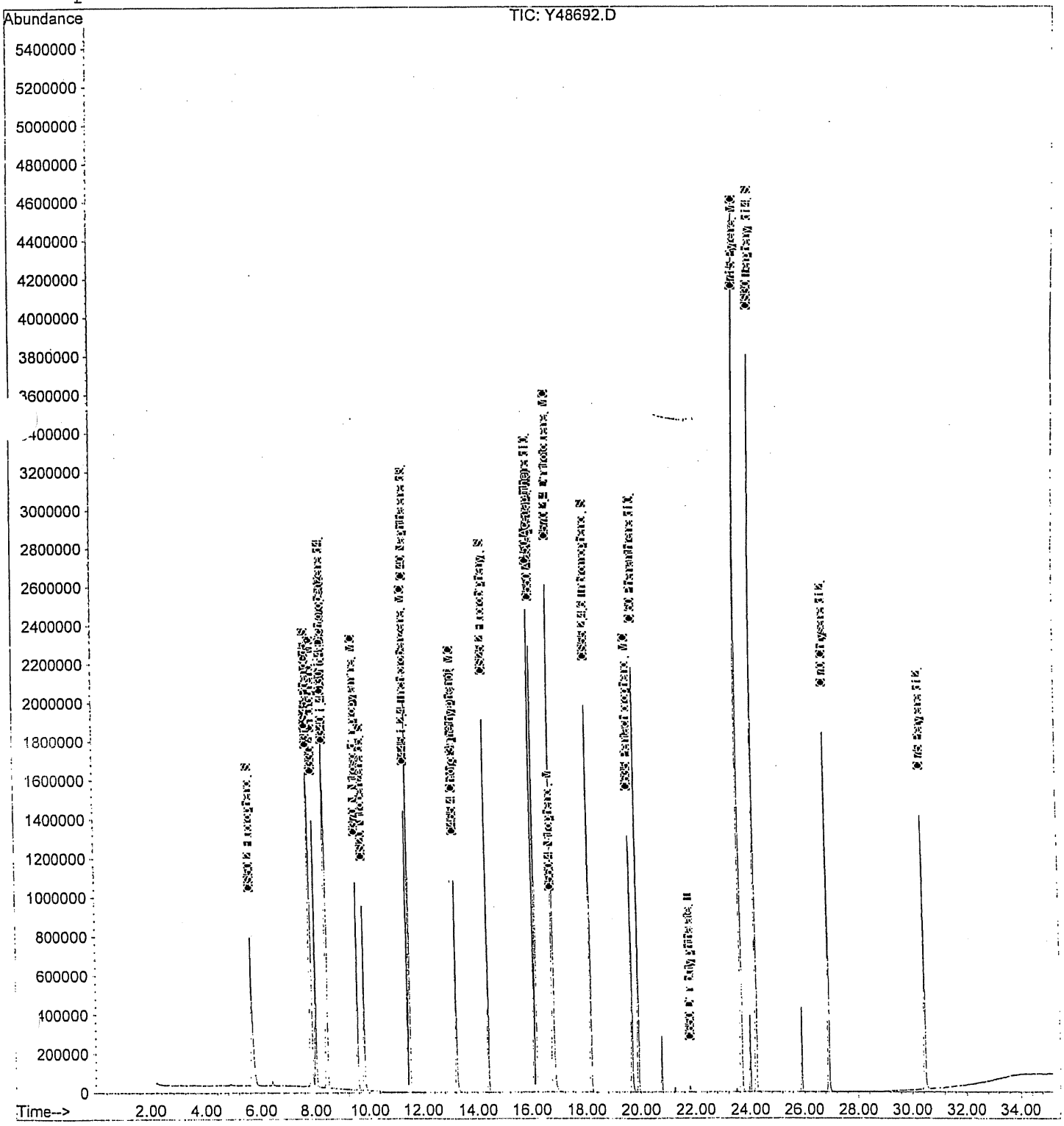
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Sat Aug 25 09:19:04 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\ELINK\INSTR2\DATA\Y010825\Y48692.D Vial: 14
Acq On : 25 Aug 2001 17:58 Operator: PM
Sample : MSB AS10008799 Inst : I50Y-A
Misc : 01-7929 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 27 6:48 2001 Quant Results File: 8270C.RES

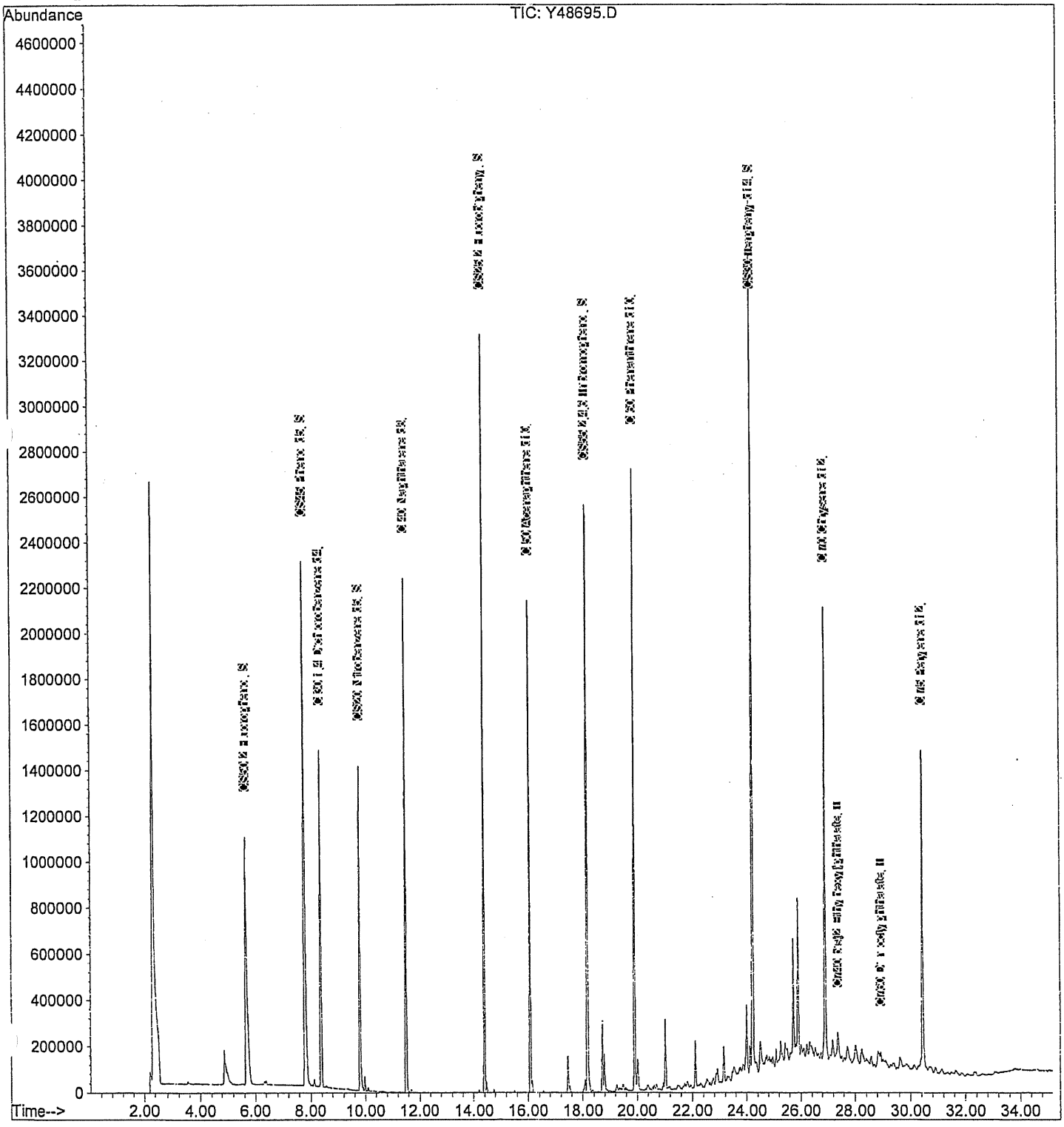
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Sat Aug 25 09:19:04 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\ELINK\INSTR2\DATA\Y010825\Y48695.D Vial: 000086
Acq On : 25 Aug 2001 20:07 Operator: PM
Sample : A1813201 AS10008802 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 27 6:49 2001 Quant Results File: 8270C.RES

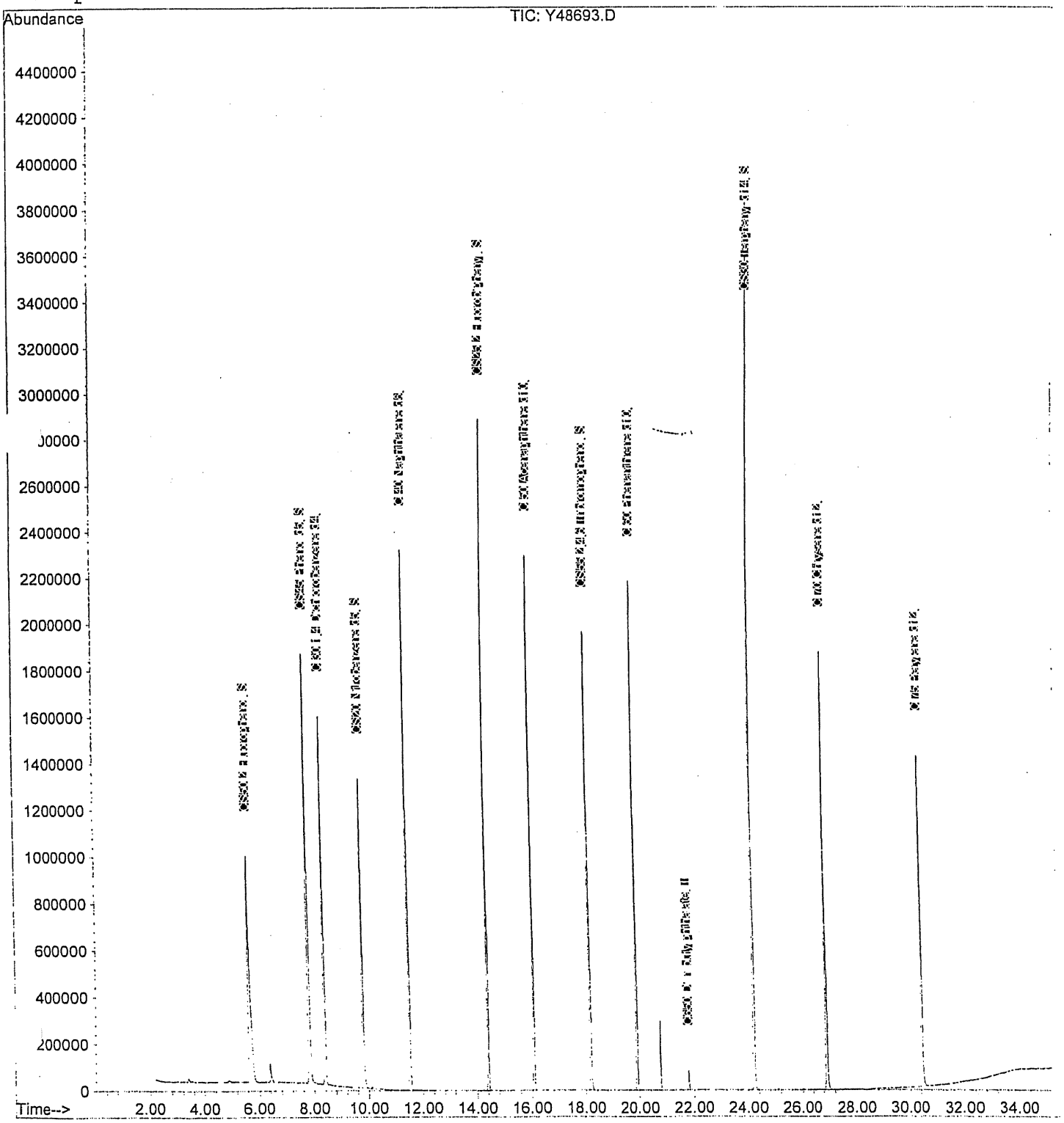
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 17 09:53:23 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\ELINK\INSTR2\DATA\Y010825\Y48693.D Vial: 15
Acq On : 25 Aug 2001 18:41 Operator: PM
Sample : SBLK88 AS10008800 Inst : I50Y-A
Misc : 01-7929 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 27 6:48 2001 Quant Results File: 8270C.RES

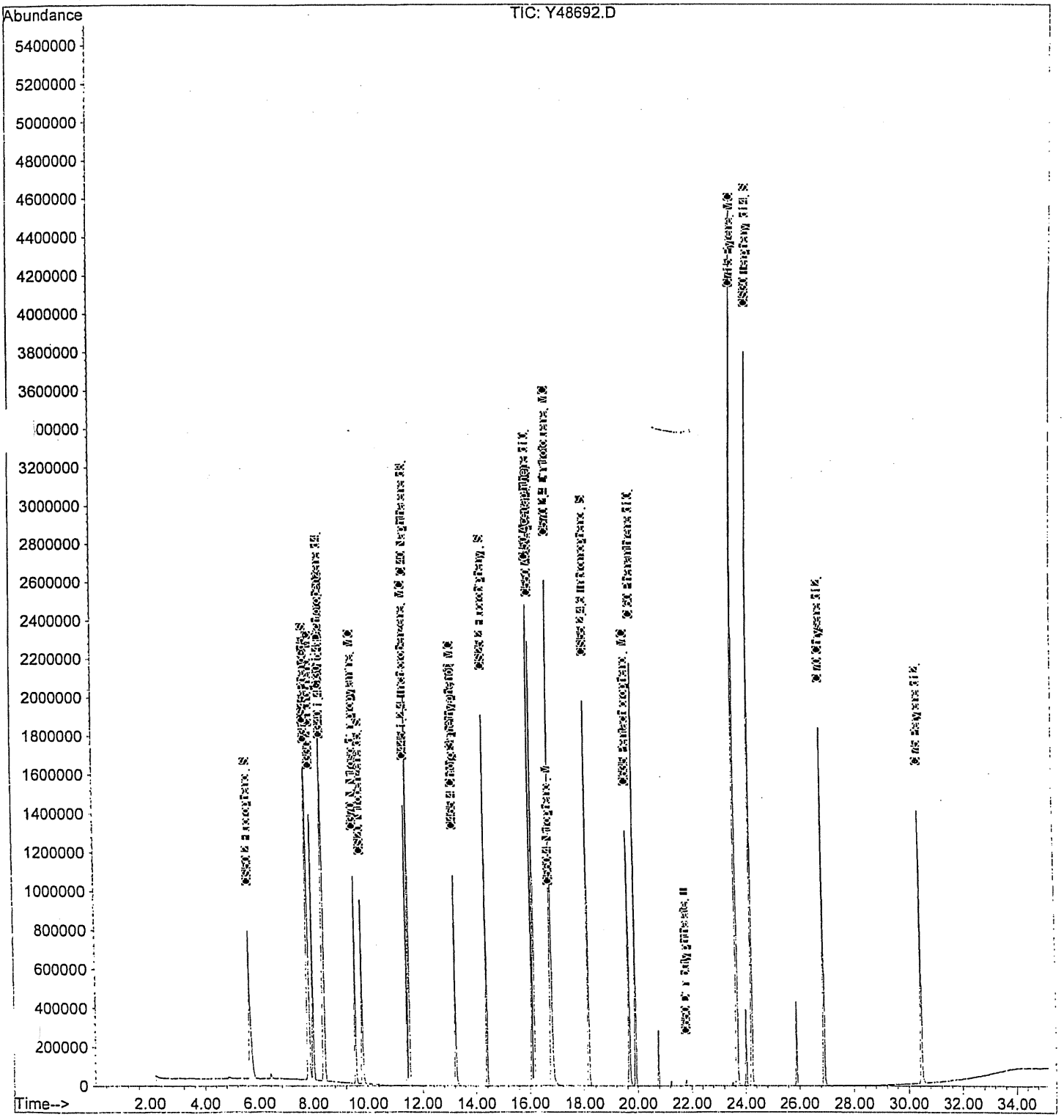
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Sat Aug 25 09:19:04 2001
Response via : Initial Calibration



Data File : D:\ELINK\INSTR2\DATA\Y010825\Y48692.D Vial: 14
Acq On : 25 Aug 2001 17:58 Operator: PM
Sample : MSB AS10008799 Inst : I50Y-A
Misc : 01-7929 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 27 6:48 2001 Quant Results File: 8270C.RES

000088

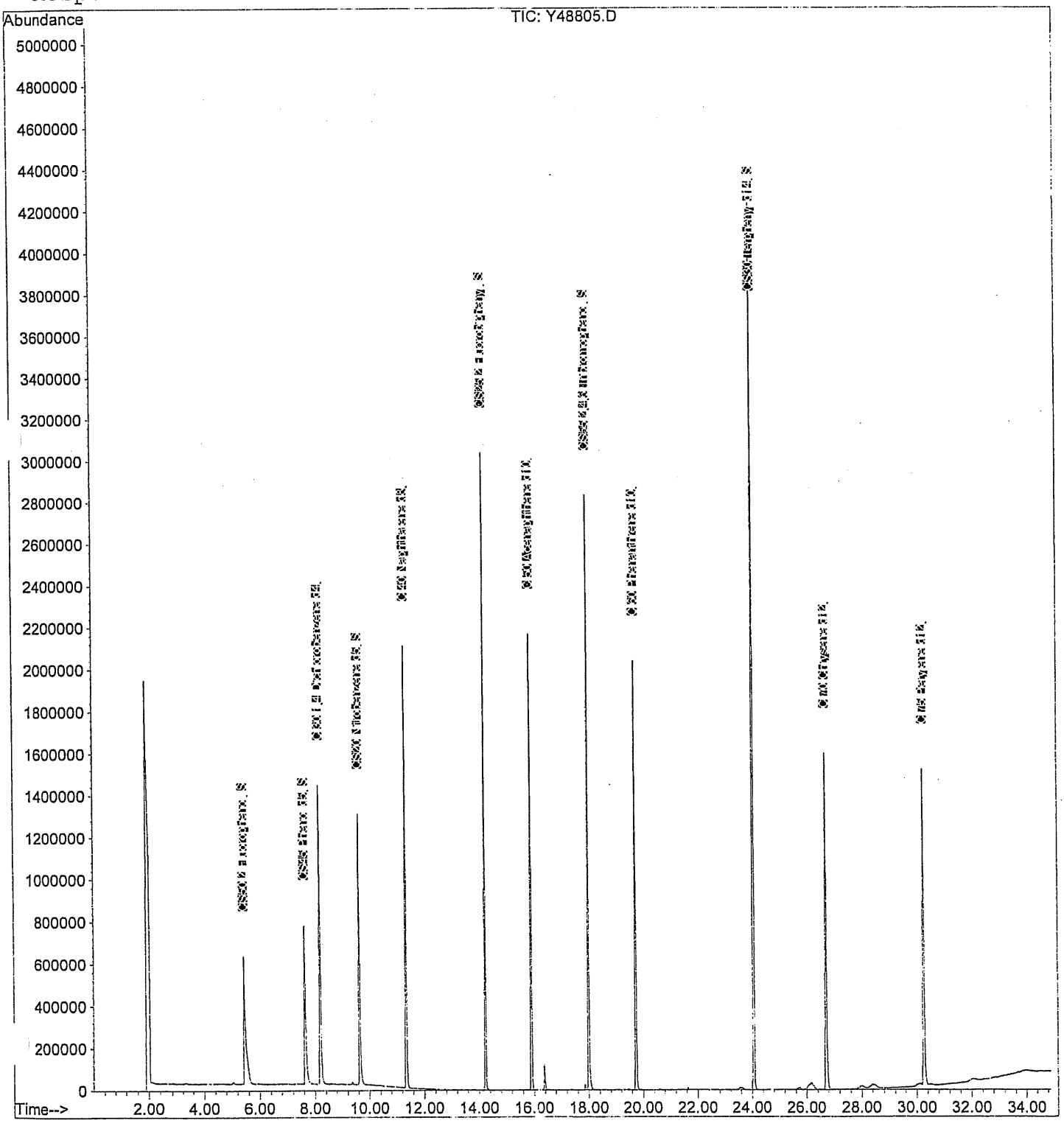
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Sat Aug 25 09:19:04 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\ELINK\INSTR2\DATA\Y010907\Y48805.D Vial: 200089
Acq On : 7 Sep 2001 09:05 Operator: PM
Sample : A1836502 AW10011913 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 7 10:43 2001 Quant Results File: 8270C.RES

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Sep 07 09:01:26 2001
Response via : Initial Calibration

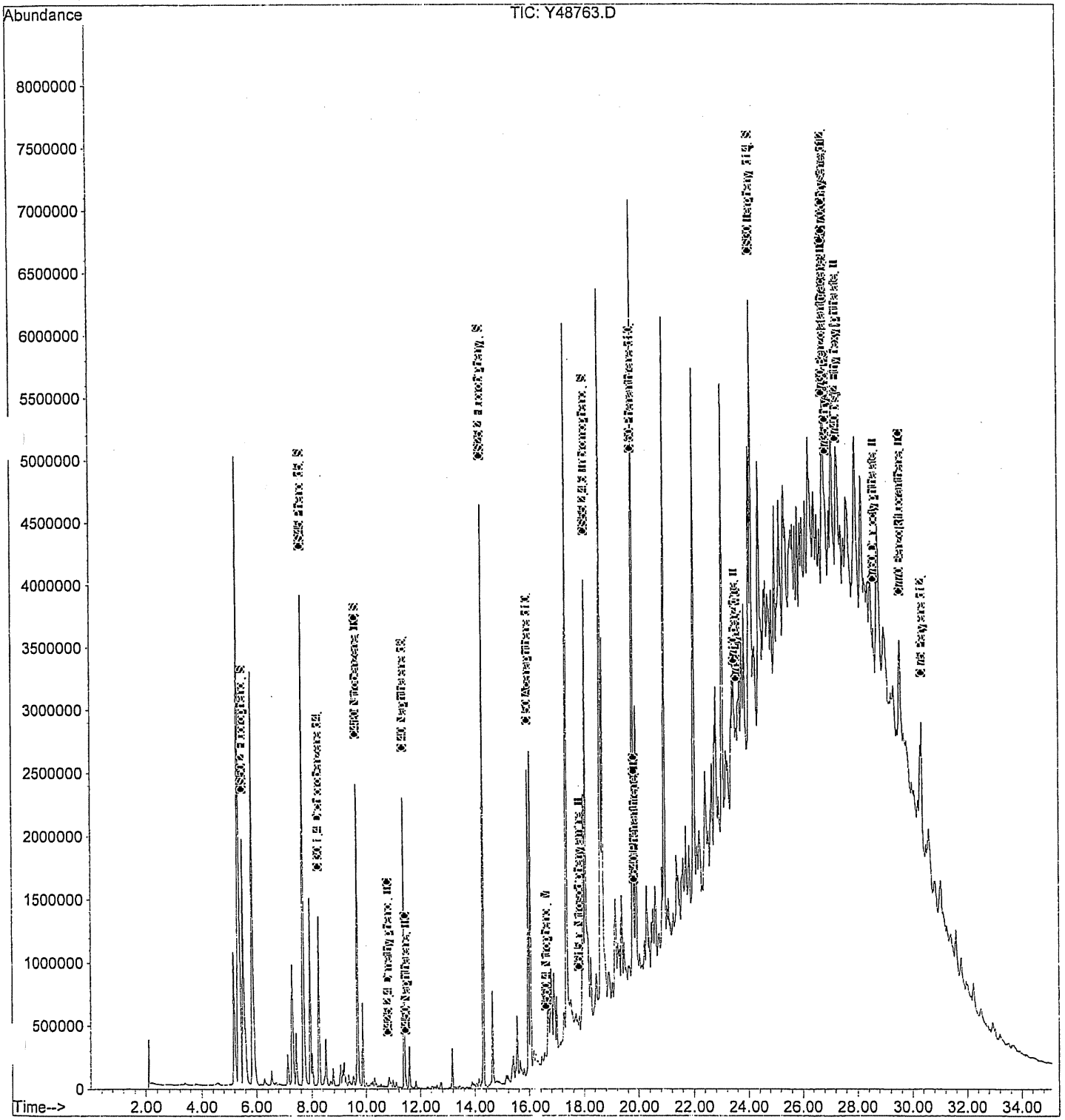


Quantitation Report

000090

Data File : D:\ELINK\INSTR2\DATA\Y010831\Y48763.D Vial: 14
Acq On : 31 Aug 2001 18:09 Operator: PM
Sample : A1836504 AS10008952 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 4 5:59 2001 Quant Results File: 8270C.RES

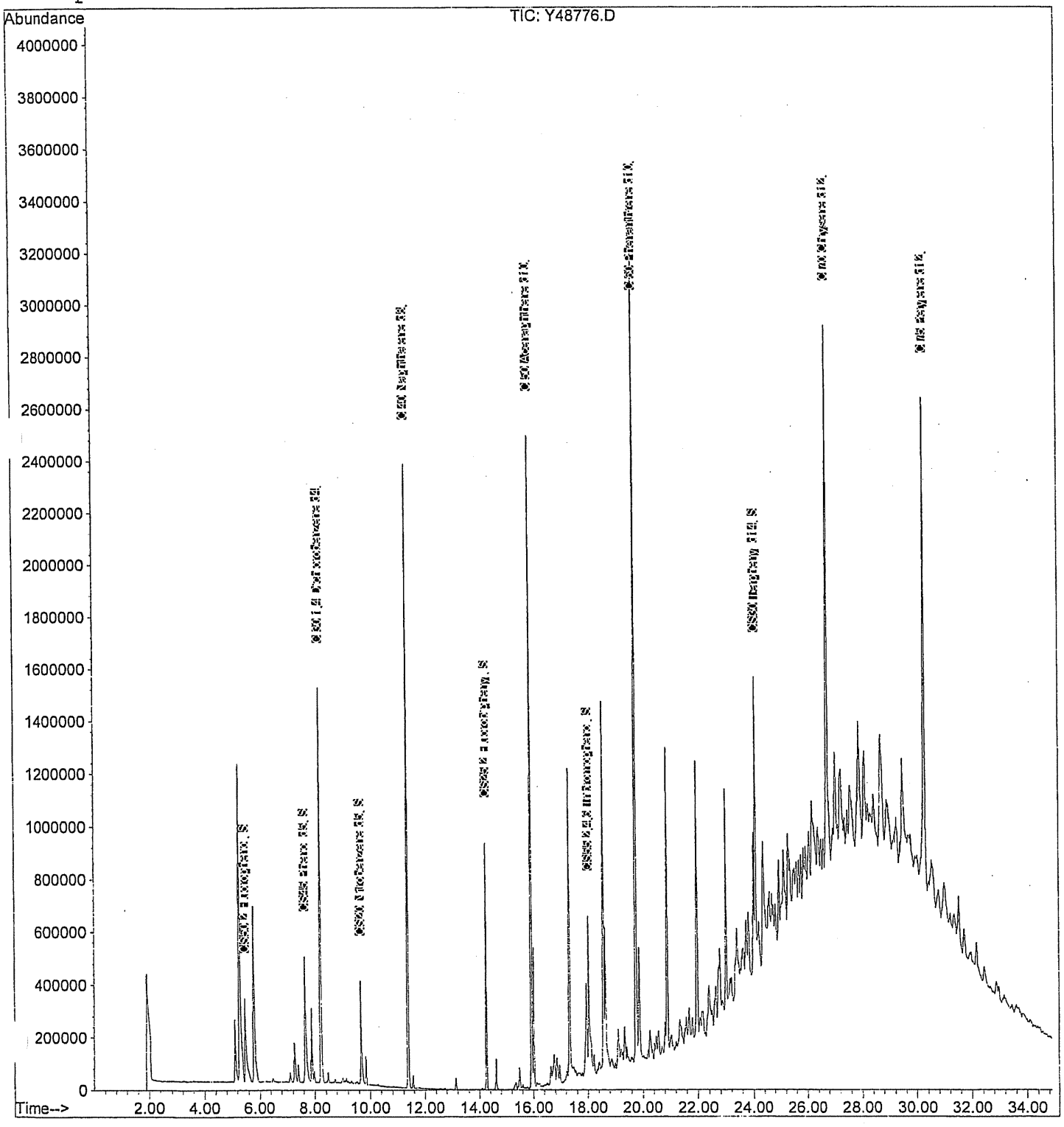
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 31 09:27:01 2001
Response via : Initial Calibration



000091

Data File : D:\ELINK\INSTR2\DATA\Y010904\Y48776.D Vial: 9
Acq On : 4 Sep 2001 13:53 Operator: PM
Sample : A1836504RI DF5 AS10008952 Inst : I50Y-A
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 4 14:33 2001 Quant Results File: 8270C.RES

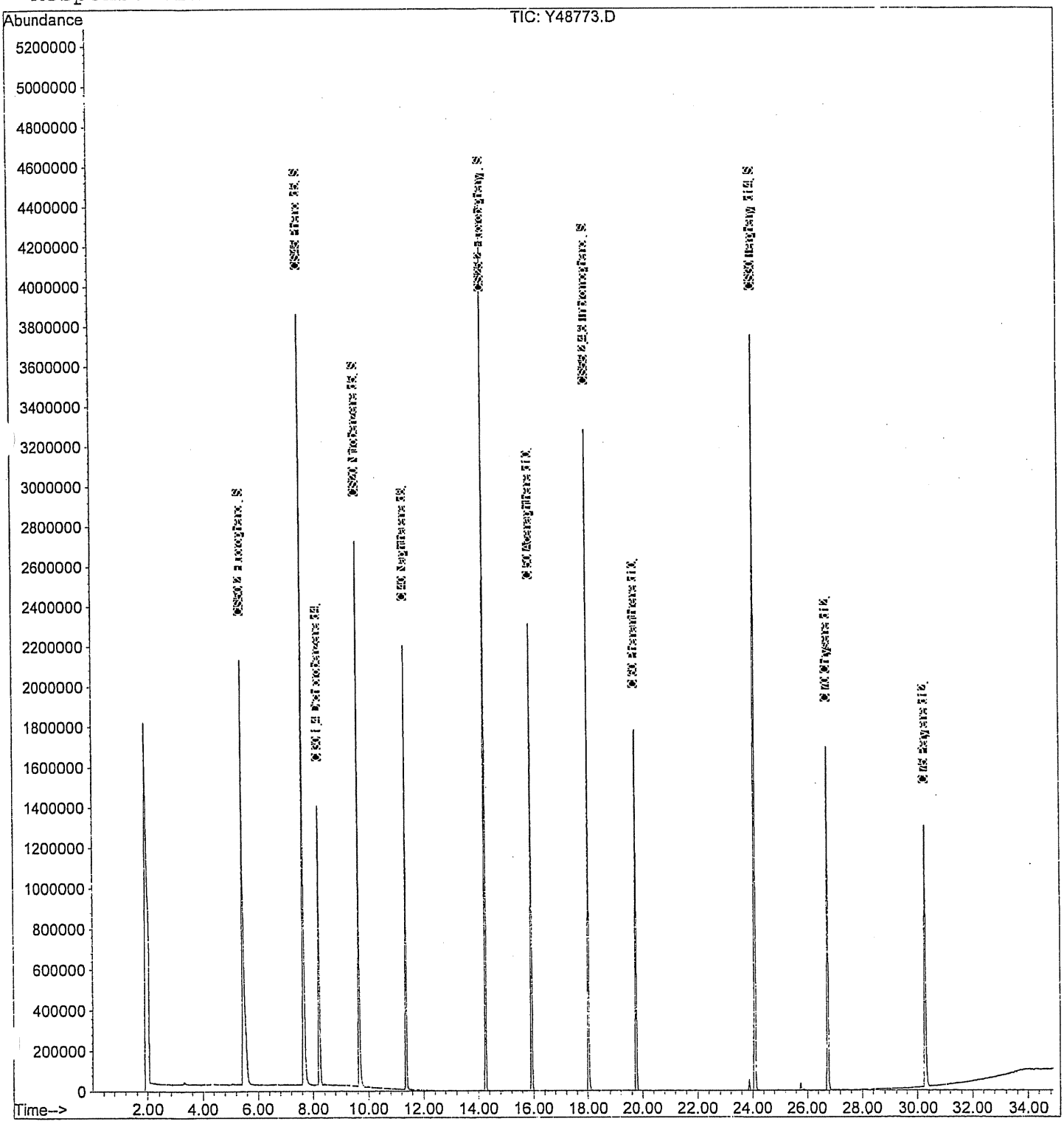
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 31 09:27:01 2001
Response via : Initial Calibration



000092

Data File : D:\ELINK\INSTR2\DATA\Y010904\Y48773.D Vial: 6
Acq On : 4 Sep 2001 11:44 Operator: PM
Sample : SBLK92 AS10008945 Inst : I50Y-A
Misc : 01-8365 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 4 12:41 2001 Quant Results File: 8270C.RES

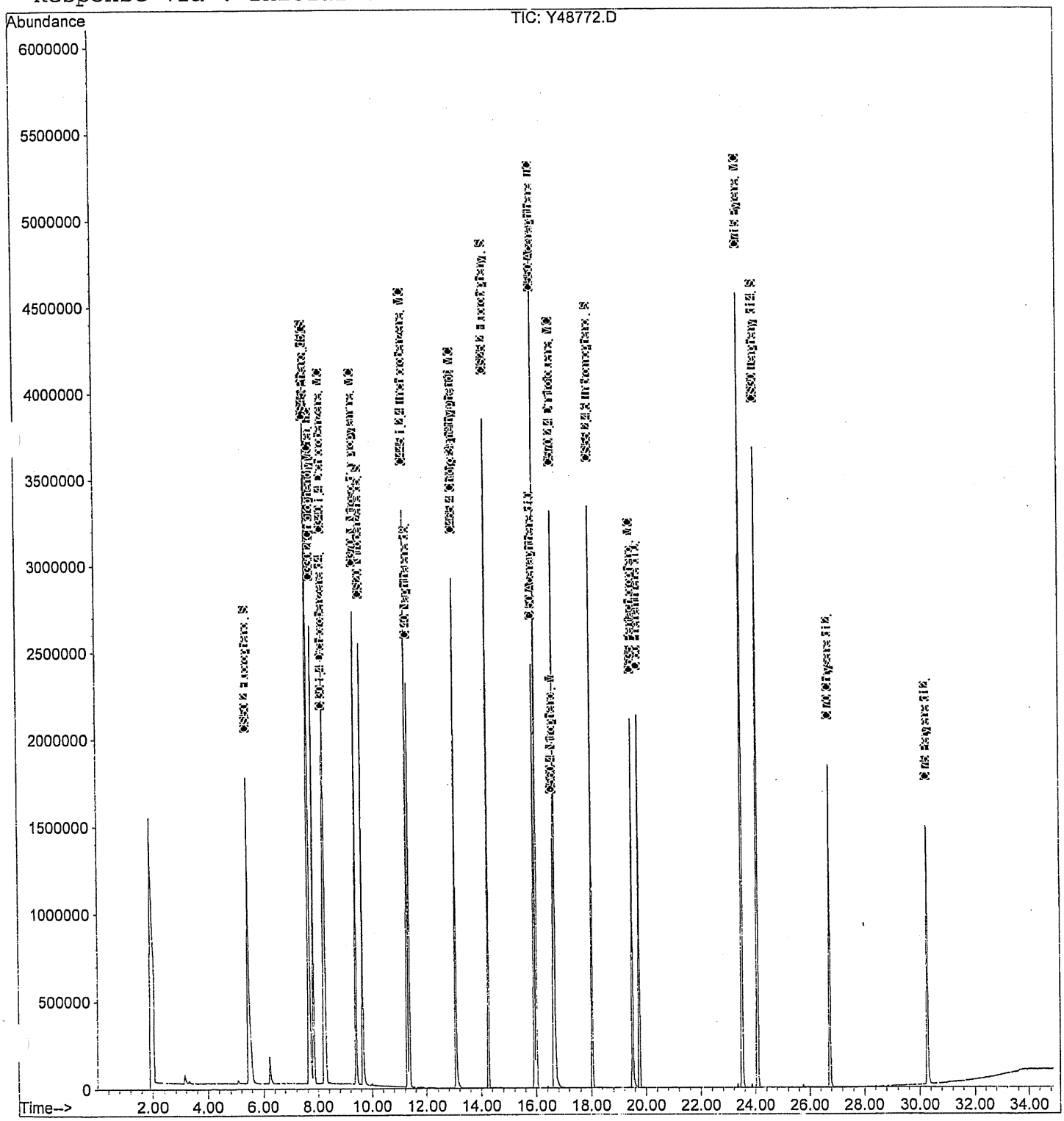
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 31 09:27:01 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\ELINK\INSTR2\DATA\Y010904\Y48772.D Vial: 5 000093
Acq On : 4 Sep 2001 11:01 Operator: PM
Sample : MSB AS10008944 Inst : I50Y-A
Misc : 01-8365 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 4 12:41 2001 Quant Results File: 8270C.RES

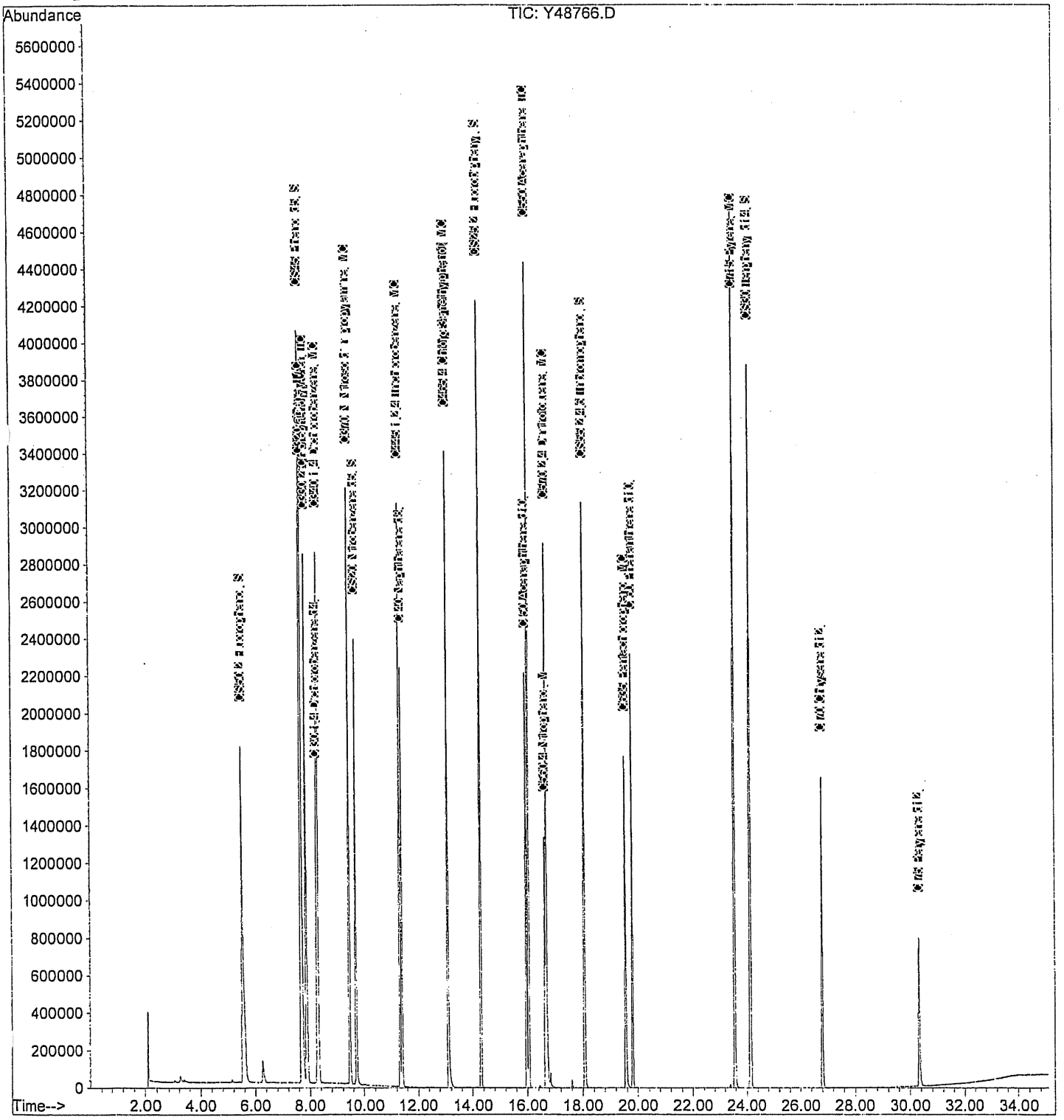
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 31 09:27:01 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\ELINK\INSTR2\DATA\Y010831\Y48766.D Vial: 17 000094
Acq On : 31 Aug 2001 20:18 Operator: PM
Sample : MSBD Inst : I50Y-A
Misc : 01-8365 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 4 6:01 2001 Quant Results File: 8270C.RES

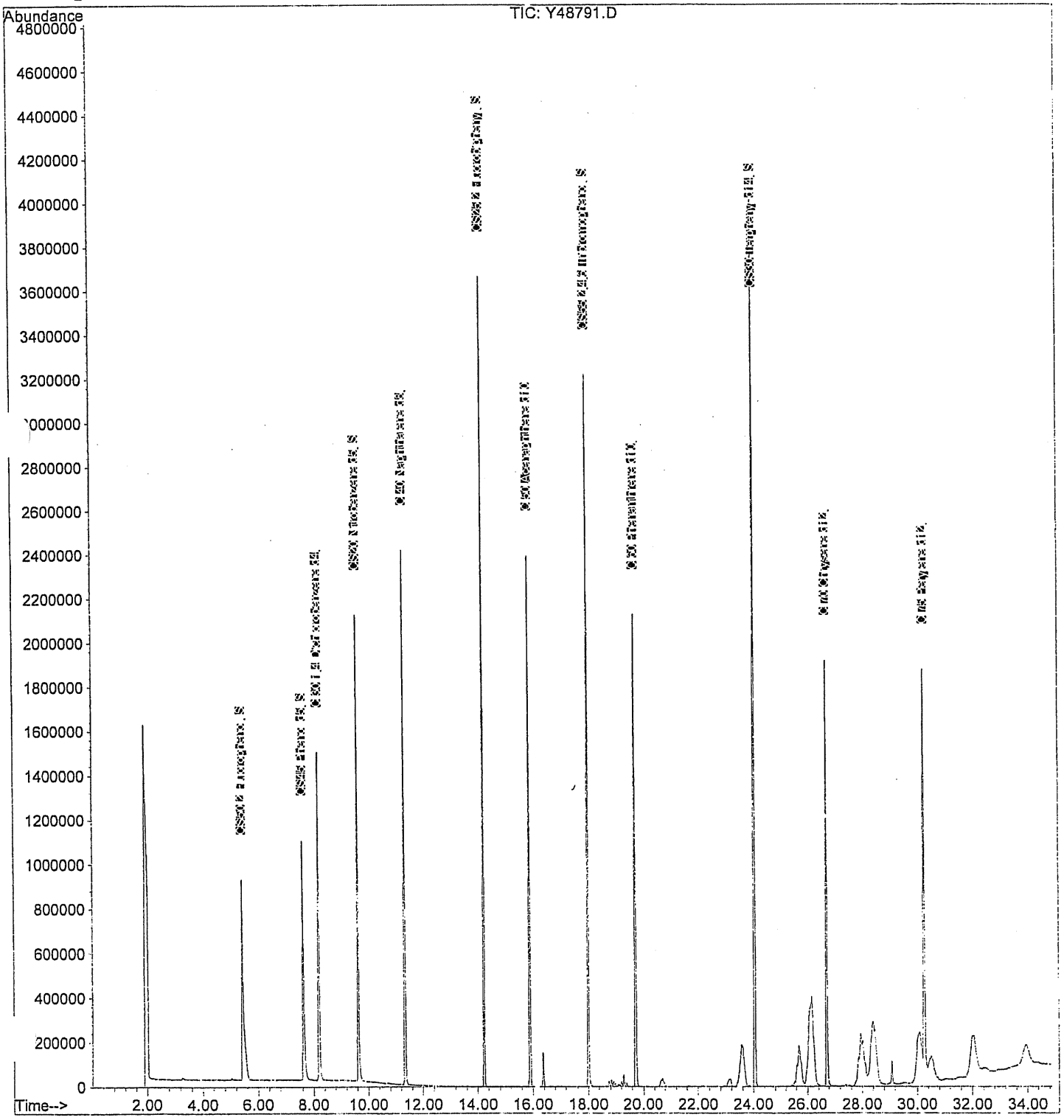
Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Fri Aug 31 09:27:01 2001
Response via : Initial Calibration



Quantitation Report

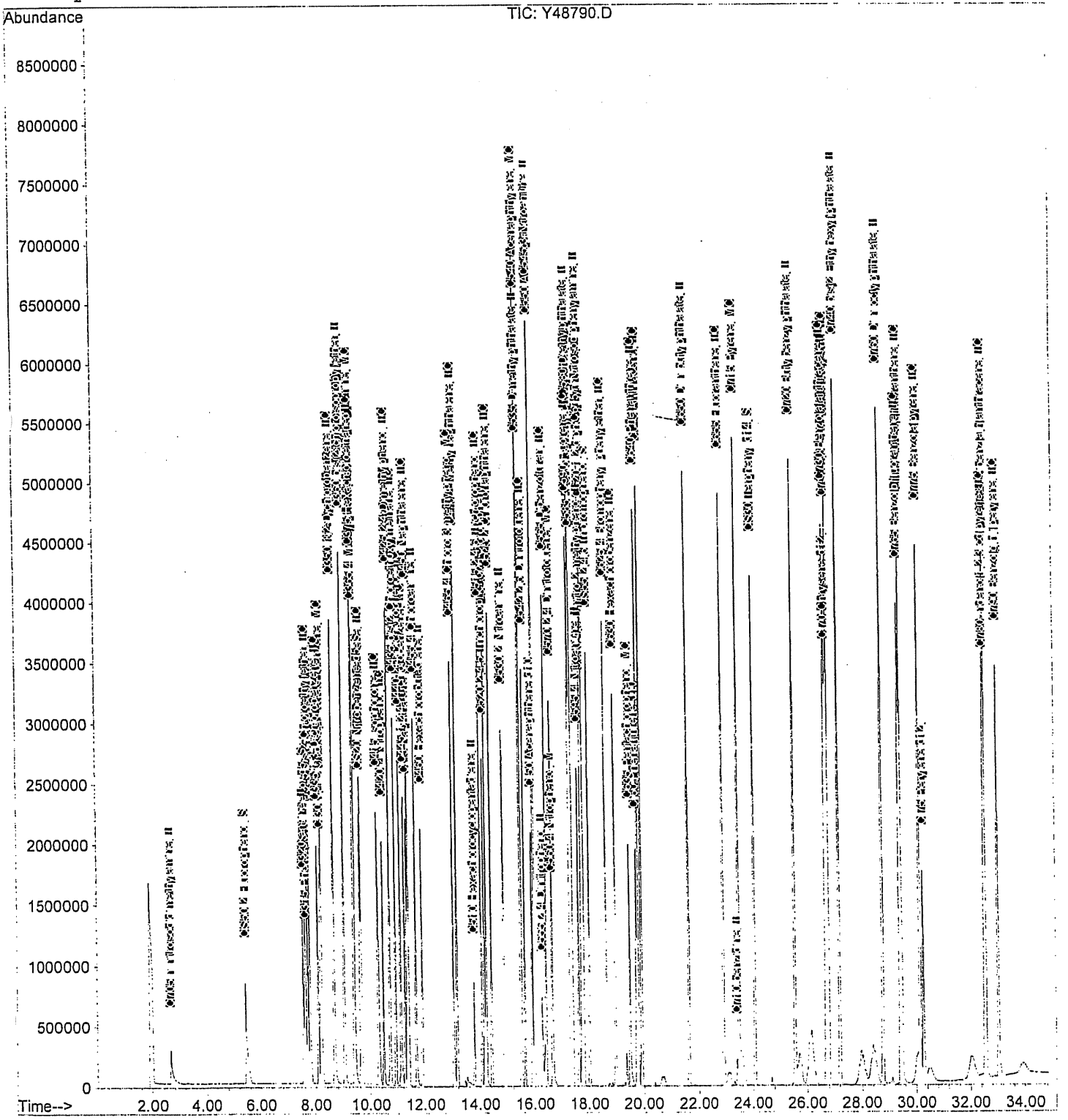
Data File : D:\ELINK\INSTR2\DATA\Y010905\Y48791.D Vial: 6
Acq On : 5 Sep 2001 11:24 Operator: PM
Sample : SBLK94 AW10011903 Inst : I50Y-A
Misc : 01-8365/58/90/7400/24 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 5 12:33 2001 Quant Results File: 8270C.RES

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Wed Sep 05 08:27:40 2001
Response via : Initial Calibration



Data File : D:\ELINK\INSTR2\DATA\Y010905\Y48790.D Vial: 5
Acq On : 5 Sep 2001 10:41 Operator: PM
Sample : MSB AW10011902 Inst : I50Y-A
Misc : 01-8365/58/90/7400/24 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 5 12:33 2001 Quant Results File: 8270C.RES

Method : D:\ELINK\INSTR2\QUANT\8270C.M (RTE Integrator)
Title : 8270 BNA Calibration
Last Update : Wed Sep 05 08:27:40 2001
Response via : Initial Calibration



Client ID Job No Sample Date	Lab ID	GB-27-0-1 A01-7963 08/17/2001	A1796301	GB-33-3 A01-7923 08/15/2001	A1792302	GB-35-16 A01-7923 08/15/2001	A1792303	GB-37-3-4 A01-7923 08/15/2001	A1792301
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Aluminum - Total	MG/KG	17700	24.0	17700	24.5	20400	28.1	20000	23.9
Antimony - Total	MG/KG	ND	12.0	ND	12.3	ND	14.0	ND	12.0
Arsenic - Total	MG/KG	10.2	1.2	5.9	1.2	2.1	1.4	5.3	1.2
Barium - Total	MG/KG	155	1.2	125	1.2	145	1.4	133	1.2
Beryllium - Total	MG/KG	3.9	0.60	0.86	0.61	0.98	0.70	0.93	0.60
Cadmium - Total	MG/KG	ND	0.60	ND	0.61	ND	0.70	0.60	0.60
Calcium - Total	MG/KG	128000	1200	7260	123	46300	140	37400	120
Chromium - Total	MG/KG	5.8	2.4	23.5	2.4	28.0	2.8	25.0	2.4
Cobalt - Total	MG/KG	13.4	2.4	13.9	2.4	13.9	2.8	11.9	2.4
Copper - Total	MG/KG	8.3	2.4	22.2	2.4	20.6	2.8	20.3	2.4
Iron - Total	MG/KG	10100	18.0	28100	18.4	30400	21.1	28000	17.9
Lead - Total	MG/KG	ND	6.0	13.0	6.1	10.9	7.0	9.3	6.0
Magnesium - Total	MG/KG	4500	24.0	8820	24.5	16000	28.1	12800	23.9
Manganese - Total	MG/KG	1170	1.2	746	1.2	553	1.4	594	1.2
Mercury - Total	MG/KG	ND	0.12	ND	0.12	ND	0.14	ND	0.12
Nickel - Total	MG/KG	9.2	2.4	31.6	2.4	31.8	2.8	29.3	2.4
Potassium - Total	MG/KG	1770	240	2180	245	4660	281	2890	239
Selenium - Total	MG/KG	ND	3.6	ND	3.7	ND	4.2	ND	3.6
Silver - Total	MG/KG	ND	1.2	ND	1.2	ND	1.4	ND	1.2
Sodium - Total	MG/KG	512	120	136	123	254	140	128	120
Thallium - Total	MG/KG	ND	7.2	ND	7.4	ND	8.4	ND	7.2
Vanadium - Total	MG/KG	7.7	1.2	32.7	1.2	35.8	1.4	32.9	1.2
Zinc - Total	MG/KG	10.5	1.2	68.5	1.2	65.8	1.4	61.1	1.2

NA = Not Applicable ND = Not Detected

Client ID		GB-32-R							
Job No	Lab ID	A01-8365	A1836502						
Sample Date		08/28/2001							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Aluminum - Total	MG/L	ND	0.20	NA		NA		NA	
Antimony - Total	MG/L	ND	0.020	NA		NA		NA	
Arsenic - Total	MG/L	ND	0.0070	NA		NA		NA	
Barium - Total	MG/L	0.0084	0.0010	NA		NA		NA	
Beryllium - Total	MG/L	ND	0.0050	NA		NA		NA	
Cadmium - Total	MG/L	ND	0.0010	NA		NA		NA	
Calcium - Total	MG/L	ND	0.50	NA		NA		NA	
Chromium - Total	MG/L	ND	0.0020	NA		NA		NA	
Cobalt - Total	MG/L	ND	0.0050	NA		NA		NA	
Copper - Total	MG/L	ND	0.010	NA		NA		NA	
Iron - Total	MG/L	0.20	0.050	NA		NA		NA	
Lead - Total	MG/L	ND	0.010	NA		NA		NA	
Magnesium - Total	MG/L	0.20	0.20	NA		NA		NA	
Manganese - Total	MG/L	ND	0.0030	NA		NA		NA	
Mercury - Total	MG/L	ND	0.00020	NA		NA		NA	
Nickel - Total	MG/L	ND	0.010	NA		NA		NA	
Potassium - Total	MG/L	ND	0.50	NA		NA		NA	
Selenium - Total	MG/L	ND	0.010	NA		NA		NA	
Silver - Total	MG/L	ND	0.0030	NA		NA		NA	
Sodium - Total	MG/L	ND	1.0	NA		NA		NA	
Thallium - Total	MG/L	ND	0.020	NA		NA		NA	
Vanadium - Total	MG/L	ND	0.0050	NA		NA		NA	
Zinc - Total	MG/L	ND	0.020	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Client ID Job No Sample Date	Lab ID	GB-25-4-7 A01-8219 08/23/2001	A1821901	MW-7-22 A01-8133 08/22/2001	A1813301	MW-7-32 A01-8133 08/22/2001	A1813302	MW-8-16-18 A01-7933 08/14/2001	A1793301
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Total Organic Carbon	MG/KG	18700	100	6520	100	7680	100	6050	100

NA = Not Applicable ND = Not Detected

Chronology and QC Summary Package

Client ID		Trip Blank		Trip Blank					
Job No	Lab ID	A01-7923	A1792304	A01-8365	A1836505				
Sample Date		08/15/2001		08/28/2001					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	17 J	25	6.0 J	25	NA		NA	
Benzene	UG/L	ND	5.0	ND	5.0	NA		NA	
Bromodichloromethane	UG/L	ND	5.0	ND	5.0	NA		NA	
Bromoform	UG/L	ND	5.0	ND	5.0	NA		NA	
Bromomethane	UG/L	ND	10	ND	10	NA		NA	
2-Butanone	UG/L	ND	10	ND	10	NA		NA	
Carbon Disulfide	UG/L	16	5.0	ND	5.0	NA		NA	
Carbon Tetrachloride	UG/L	ND	5.0	ND	5.0	NA		NA	
Chlorobenzene	UG/L	ND	5.0	ND	5.0	NA		NA	
Chloroethane	UG/L	ND	10	ND	10	NA		NA	
Chloroform	UG/L	ND	5.0	ND	5.0	NA		NA	
Chloromethane	UG/L	ND	10	ND	10	NA		NA	
Dibromochloromethane	UG/L	ND	5.0	ND	5.0	NA		NA	
1,1-Dichloroethane	UG/L	ND	5.0	ND	5.0	NA		NA	
1,2-Dichloroethane	UG/L	ND	5.0	ND	5.0	NA		NA	
1,1-Dichloroethene	UG/L	ND	5.0	ND	5.0	NA		NA	
1,2-Dichloroethene (Total)	UG/L	ND	5.0	ND	5.0	NA		NA	
1,2-Dichloropropane	UG/L	ND	5.0	ND	5.0	NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	NA		NA	
Ethylbenzene	UG/L	ND	5.0	ND	5.0	NA		NA	
2-Hexanone	UG/L	ND	10	ND	10	NA		NA	
Methylene chloride	UG/L	3.1 BJ	5.0	ND	5.0	NA		NA	
4-Methyl-2-pentanone	UG/L	ND	10	ND	10	NA		NA	
Styrene	UG/L	ND	5.0	ND	5.0	NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	ND	5.0	NA		NA	
Tetrachloroethene	UG/L	ND	5.0	ND	5.0	NA		NA	
Toluene	UG/L	ND	5.0	ND	5.0	NA		NA	
1,1,1-Trichloroethane	UG/L	ND	5.0	ND	5.0	NA		NA	
1,1,2-Trichloroethane	UG/L	ND	5.0	ND	5.0	NA		NA	
Trichloroethene	UG/L	ND	5.0	ND	5.0	NA		NA	
Vinyl acetate	UG/L	ND	10	ND	10	NA		NA	
Vinyl chloride	UG/L	ND	5.0	ND	5.0	NA		NA	
Total Xylenes	UG/L	ND	15	ND	15	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	96	50-200	91	50-200	NA		NA	
1,4-Difluorobenzene	%	97	50-200	94	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	106	50-200	90	50-200	NA		NA	
Toluene-D8	%	92	77-115	105	77-115	NA		NA	
p-Bromofluorobenzene	%	78	77-112	105	77-112	NA		NA	
1,2-Dichloroethane-D4	%	90	84-126	103	84-126	NA		NA	

NA = Not Applicable ND = Not Detected

Date: 09/15/2
Time: 11:17:4C

ERM - GRE' 'OS. SITE
GREIF L SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		VBLK09		VBLK10		VBLK13		VBLK13	
Job No	Lab ID	A01-8365	A1836511	A01-7923	A1792305	A01-8132	A1813209	A01-8218	A1821804
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	3100	ND	25	88	25	88	25
Benzene	UG/KG	ND	620	ND	5	ND	5	ND	5
Bromodichloromethane	UG/KG	ND	620	ND	5	ND	5	ND	5
Bromoform	UG/KG	ND	620	ND	5	ND	5	ND	5
Bromomethane	UG/KG	ND	1200	ND	10	ND	10	ND	10
2-Butanone	UG/KG	ND	3100	ND	25	ND	25	ND	25
Carbon Disulfide	UG/KG	ND	620	ND	5	ND	5	ND	5
Carbon Tetrachloride	UG/KG	ND	620	ND	5	ND	5	ND	5
Chlorobenzene	UG/KG	ND	620	ND	5	ND	5	ND	5
Chloroethane	UG/KG	ND	1200	ND	10	ND	10	ND	10
Chloroform	UG/KG	ND	620	ND	5	ND	5	ND	5
Chloromethane	UG/KG	ND	1200	ND	10	ND	10	ND	10
Dibromochloromethane	UG/KG	ND	620	ND	5	ND	5	ND	5
1,1-Dichloroethane	UG/KG	ND	620	ND	5	ND	5	ND	5
1,2-Dichloroethane	UG/KG	ND	620	ND	5	ND	5	ND	5
1,1-Dichloroethene	UG/KG	ND	620	ND	5	ND	5	ND	5
1,2-Dichloroethene (Total)	UG/KG	ND	1200	ND	10	ND	10	ND	10
1,2-Dichloropropane	UG/KG	ND	620	ND	5	ND	5	ND	5
cis-1,3-Dichloropropene	UG/KG	ND	620	ND	5	ND	5	ND	5
trans-1,3-Dichloropropene	UG/KG	ND	620	ND	5	ND	5	ND	5
Ethylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	5
2-Hexanone	UG/KG	ND	1200	ND	10	ND	10	ND	10
Methylene chloride	UG/KG	ND	620	5	5	4 J	5	4 J	5
4-Methyl-2-pentanone	UG/KG	ND	3100	ND	25	ND	25	ND	25
Styrene	UG/KG	ND	620	ND	5	ND	5	ND	5
1,1,2,2-Tetrachloroethane	UG/KG	ND	620	ND	5	ND	5	ND	5
Tetrachloroethene	UG/KG	ND	620	ND	5	ND	5	ND	5
Toluene	UG/KG	ND	620	ND	5	ND	5	ND	5
1,1,1-Trichloroethane	UG/KG	ND	620	ND	5	ND	5	ND	5
1,1,2-Trichloroethane	UG/KG	ND	620	ND	5	ND	5	ND	5
Trichloroethene	UG/KG	ND	620	ND	5	ND	5	ND	5
Vinyl acetate	UG/KG	ND	1200	ND	10	ND	10	ND	10
Vinyl chloride	UG/KG	ND	1200	ND	10	ND	10	ND	10
Total Xylenes	UG/KG	ND	1900	ND	15	ND	15	ND	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	92	50-200	107	50-200	77	50-200	77	50-200
1,4-Difluorobenzene	%	96	50-200	109	50-200	78	50-200	78	50-200
1,4-Dichlorobenzene-D4	%	76	50-200	125	50-200	58	50-200	58	50-200
Toluene-D8	%	108	77-117	96	77-117	91	77-117	91	77-117
p-Bromofluorobenzene	%	101	62-126	83	62-126	81	62-126	81	62-126
1,2-Dichloroethane-D4	%	110	69-130	88	69-130	95	69-130	95	69-130

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		VBLK14		VBLK17		VBLK19		VBLK19	
Job No / Lab ID		A01-8132	A1813207	A01-8365	A1836507	A01-8218	A1821808	A01-8365	A1836509
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	36	25	19 J	25	11 J	25	11 J	25
Benzene	UG/KG	ND	5	ND	5	ND	5	ND	5
Bromodichloromethane	UG/KG	ND	5	ND	5	ND	5	ND	5
Bromoform	UG/KG	ND	5	ND	5	ND	5	ND	5
Bromomethane	UG/KG	ND	10	ND	10	ND	10	ND	10
2-Butanone	UG/KG	ND	25	ND	25	ND	25	ND	25
Carbon Disulfide	UG/KG	ND	5	ND	5	ND	5	ND	5
Carbon Tetrachloride	UG/KG	ND	5	ND	5	ND	5	ND	5
Chlorobenzene	UG/KG	ND	5	ND	5	ND	5	ND	5
Chloroethane	UG/KG	ND	10	ND	10	ND	10	ND	10
Chloroform	UG/KG	ND	5	ND	5	ND	5	ND	5
Chloromethane	UG/KG	ND	10	ND	10	ND	10	ND	10
Dibromochloromethane	UG/KG	ND	5	ND	5	ND	5	ND	5
1,1-Dichloroethane	UG/KG	ND	5	ND	5	ND	5	ND	5
1,2-Dichloroethane	UG/KG	ND	5	ND	5	ND	5	ND	5
1,1-Dichloroethene	UG/KG	ND	5	ND	5	ND	5	ND	5
1,2-Dichloroethene (Total)	UG/KG	ND	10	ND	10	ND	10	ND	10
1,2-Dichloropropane	UG/KG	ND	5	ND	5	ND	5	ND	5
cis-1,3-Dichloropropene	UG/KG	ND	5	ND	5	ND	5	ND	5
trans-1,3-Dichloropropene	UG/KG	ND	5	ND	5	ND	5	ND	5
Ethylbenzene	UG/KG	ND	5	ND	5	ND	5	ND	5
2-Hexanone	UG/KG	ND	10	ND	10	ND	10	ND	10
Methylene chloride	UG/KG	7	5	ND	5	ND	5	ND	5
4-Methyl-2-pentanone	UG/KG	ND	25	ND	25	ND	25	ND	25
Styrene	UG/KG	ND	5	ND	5	ND	5	ND	5
1,1,2,2-Tetrachloroethane	UG/KG	ND	5	ND	5	ND	5	ND	5
Tetrachloroethene	UG/KG	ND	5	ND	5	ND	5	ND	5
Toluene	UG/KG	ND	5	ND	5	ND	5	ND	5
1,1,1-Trichloroethane	UG/KG	ND	5	ND	5	ND	5	ND	5
1,1,2-Trichloroethane	UG/KG	ND	5	ND	5	ND	5	ND	5
Trichloroethene	UG/KG	ND	5	ND	5	ND	5	ND	5
Vinyl acetate	UG/KG	ND	10	ND	10	ND	10	ND	10
Vinyl chloride	UG/KG	ND	10	ND	10	ND	10	ND	10
Total Xylenes	UG/KG	ND	15	ND	15	ND	15	ND	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	73	50-200	81	50-200	85	50-200	85	50-200
1,4-Difluorobenzene	%	71	50-200	84	50-200	89	50-200	89	50-200
1,4-Dichlorobenzene-D4	%	58	50-200	58	50-200	67	50-200	67	50-200
Toluene-D8	%	91	77-117	90	77-117	90	77-117	90	77-117
p-Bromofluorobenzene	%	78	62-126	79	62-126	83	62-126	83	62-126
1,2-Dichloroethane-D4	%	93	69-130	99	69-130	102	69-130	102	69-130

NA = Not Applicable ND = Not Detected

Date: 09/15/
Time: 11:17:

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METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID Job No Lab ID Sample Date		VBLK22 A01-7963 A1796302		VBLK58 A01-7963 A1796304		VBLK66 A01-8132 A1813211		VBLK66 A01-8218 A1821806	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	14 J	25	ND	3100	ND	3100	ND	3100
Benzene	UG/KG	ND	5	ND	620	ND	620	ND	620
Bromodichloromethane	UG/KG	ND	5	ND	620	ND	620	ND	620
Bromoform	UG/KG	ND	5	ND	620	ND	620	ND	620
Bromomethane	UG/KG	ND	10	ND	1200	ND	1200	ND	1200
2-Butanone	UG/KG	ND	25	ND	3100	ND	3100	ND	3100
Carbon Disulfide	UG/KG	ND	5	ND	620	ND	620	ND	620
Carbon Tetrachloride	UG/KG	ND	5	ND	620	ND	620	ND	620
Chlorobenzene	UG/KG	ND	5	ND	620	ND	620	ND	620
Chloroethane	UG/KG	ND	10	ND	1200	ND	1200	ND	1200
Chloroform	UG/KG	ND	5	ND	620	ND	620	ND	620
Chloromethane	UG/KG	ND	10	ND	1200	ND	1200	ND	1200
Dibromochloromethane	UG/KG	ND	5	ND	620	ND	620	ND	620
1,1-Dichloroethane	UG/KG	ND	5	ND	620	ND	620	ND	620
1,2-Dichloroethane	UG/KG	ND	5	ND	620	ND	620	ND	620
1,1-Dichloroethene	UG/KG	ND	5	ND	620	ND	620	ND	620
1,2-Dichloroethene (Total)	UG/KG	ND	10	ND	1200	ND	1200	ND	1200
1,2-Dichloropropane	UG/KG	ND	5	ND	620	ND	620	ND	620
cis-1,3-Dichloropropene	UG/KG	ND	5	ND	620	ND	620	ND	620
trans-1,3-Dichloropropene	UG/KG	ND	5	ND	620	ND	620	ND	620
Ethylbenzene	UG/KG	ND	5	ND	620	ND	620	ND	620
2-Hexanone	UG/KG	ND	10	ND	1200	ND	1200	ND	1200
Methylene chloride	UG/KG	6	5	ND	620	ND	620	ND	620
4-Methyl-2-pentanone	UG/KG	ND	25	ND	3100	ND	3100	ND	3100
Styrene	UG/KG	ND	5	ND	620	ND	620	ND	620
1,1,2,2-Tetrachloroethane	UG/KG	ND	5	ND	620	ND	620	ND	620
Tetrachloroethene	UG/KG	ND	5	ND	620	ND	620	ND	620
Toluene	UG/KG	ND	5	ND	620	ND	620	ND	620
1,1,1-Trichloroethane	UG/KG	ND	5	ND	620	ND	620	ND	620
1,1,2-Trichloroethane	UG/KG	ND	5	ND	620	ND	620	ND	620
Trichloroethene	UG/KG	ND	5	ND	620	ND	620	ND	620
Vinyl acetate	UG/KG	ND	10	ND	1200	ND	1200	ND	1200
Vinyl chloride	UG/KG	ND	10	ND	1200	ND	1200	ND	1200
Total Xylenes	UG/KG	ND	15	ND	1900	ND	1900	ND	1900
IS/SURROGATE(S)									
Chlorobenzene-D5	%	79	50-200	81	50-200	92	50-200	92	50-200
1,4-Difluorobenzene	%	79	50-200	84	50-200	94	50-200	94	50-200
1,4-Dichlorobenzene-D4	%	68	50-200	77	50-200	85	50-200	85	50-200
Toluene-D8	%	92	77-117	107	77-117	106	77-117	106	77-117
p-Bromofluorobenzene	%	81	62-126	105	62-126	106	62-126	106	62-126
1,2-Dichloroethane-D4	%	91	69-130	104	69-130	114	69-130	114	69-130

NA = Not Applicable ND = Not Detected

STL Buffalo

000104

Date: 09/15/
Time: 11:17:4[illegible]

ERM - GR[illegible]ROS. SITE
GREIF BROS. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		VBLK10		vblk67		vblk71			
Job No	Lab ID	A01-7923	A1792307	A01-8365	A1836513	A01-8365	A1836515		
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	ND	25	ND	25	NA	
Benzene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Bromodichloromethane	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Bromoform	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Bromomethane	UG/L	ND	10	ND	10	ND	10	NA	
2-Butanone	UG/L	ND	10	ND	10	ND	10	NA	
Carbon Disulfide	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Carbon Tetrachloride	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Chlorobenzene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Chloroethane	UG/L	ND	10	ND	10	ND	10	NA	
Chloroform	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Chloromethane	UG/L	ND	10	ND	10	ND	10	NA	
Dibromochloromethane	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,1-Dichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,2-Dichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,1-Dichloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,2-Dichloroethene (Total)	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,2-Dichloropropane	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
cis-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
trans-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Ethylbenzene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
2-Hexanone	UG/L	ND	10	ND	10	ND	10	NA	
Methylene chloride	UG/L	4.7 J	5.0	ND	5.0	ND	5.0	NA	
4-Methyl-2-pentanone	UG/L	ND	10	ND	10	ND	10	NA	
Styrene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Tetrachloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Toluene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,1,1-Trichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,1,2-Trichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Trichloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Vinyl acetate	UG/L	ND	10	ND	10	ND	10	NA	
Vinyl chloride	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Total Xylenes	UG/L	ND	15	ND	15	ND	15	NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	107	50-200	93	50-200	95	50-200	NA	
1,4-Difluorobenzene	%	109	50-200	97	50-200	98	50-200	NA	
1,4-Dichlorobenzene-D4	%	125	50-200	92	50-200	98	50-200	NA	
Toluene-D8	%	96	77-115	105	77-115	106	77-115	NA	
p-Bromofluorobenzene	%	83	77-112	109	77-112	104	77-112	NA	
1,2-Dichloroethane-D4	%	88	84-126	109	84-126	103	84-126	NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/15/[illegible]01
Time: 11:17

ERM - GP[illegible] BROS. SITE
GREE[illegible] S. SITE
METHOD 8260 - [illegible] VOLATILE ORGANICS

Rept: AN0326

Client ID		GB-35-16 MS		GB-35-16 SD		MSB		MSB	
Job No	Lab ID	A01-7923	A1792303MS	A01-7923	A1792303SD	A01-7923	A1792306	A01-8365	A1836508
Sample Date		08/15/2001		08/15/2001					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	14 J	33	14 J	33	200	25	16 BJ	25
Benzene	UG/KG	56	7	60	7	50	5	49	5
Bromodichloromethane	UG/KG	ND	7	ND	7	48	5	ND	5
Bromoform	UG/KG	ND	7	ND	7	45	5	ND	5
Bromomethane	UG/KG	ND	13	ND	13	62	10	ND	10
2-Butanone	UG/KG	ND	33	ND	33	220	25	ND	25
Carbon Disulfide	UG/KG	ND	7	ND	7	42	5	ND	5
Carbon Tetrachloride	UG/KG	ND	7	ND	7	46	5	ND	5
Chlorobenzene	UG/KG	48	7	55	7	48	5	52	5
Chloroethane	UG/KG	ND	13	ND	13	49	10	ND	10
Chloroform	UG/KG	ND	7	ND	7	46	5	ND	5
Chloromethane	UG/KG	ND	13	ND	13	45	10	ND	10
Dibromochloromethane	UG/KG	ND	7	ND	7	47	5	ND	5
1,1-Dichloroethane	UG/KG	ND	7	ND	7	46	5	ND	5
1,2-Dichloroethane	UG/KG	ND	7	ND	7	48	5	ND	5
1,1-Dichloroethene	UG/KG	52	7	55	7	44	5	54	5
1,2-Dichloroethene (Total)	UG/KG	ND	13	ND	13	ND	10	ND	10
1,2-Dichloropropane	UG/KG	ND	7	ND	7	48	5	ND	5
cis-1,3-Dichloropropene	UG/KG	ND	7	ND	7	50	5	ND	5
trans-1,3-Dichloropropene	UG/KG	ND	7	ND	7	50	5	ND	5
Ethylbenzene	UG/KG	ND	7	1 J	7	52	5	ND	5
2-Hexanone	UG/KG	ND	13	ND	13	240	10	ND	10
Methylene chloride	UG/KG	6 BJ	7	8 B	7	40 B	5	ND	5
4-Methyl-2-pentanone	UG/KG	ND	33	ND	33	240	25	ND	25
Styrene	UG/KG	ND	7	ND	7	54	5	ND	5
1,1,2,2-Tetrachloroethane	UG/KG	ND	7	ND	7	45	5	ND	5
Tetrachloroethene	UG/KG	ND	7	ND	7	48	5	ND	5
Toluene	UG/KG	62	7	68	7	51	5	55	5
1,1,1-Trichloroethane	UG/KG	ND	7	ND	7	47	5	ND	5
1,1,2-Trichloroethane	UG/KG	ND	7	ND	7	47	5	ND	5
Trichloroethene	UG/KG	48	7	50	7	46	5	49	5
Vinyl acetate	UG/KG	ND	13	ND	13	250	10	ND	10
Vinyl chloride	UG/KG	ND	13	ND	13	44	10	ND	10
Total Xylenes	UG/KG	2 J	20	2 J	20	ND	15	ND	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	106	50-200	93	50-200	116	50-200	100	50-200
1,4-Difluorobenzene	%	116	50-200	103	50-200	116	50-200	113	50-200
1,4-Dichlorobenzene-D4	%	138	50-200	123	50-200	172	50-200	74	50-200
Toluene-D8	%	90	77-117	93	77-117	98	77-117	90	77-117
p-Bromofluorobenzene	%	86	62-126	86	62-126	98	62-126	80	62-126
1,2-Dichloroethane-D4	%	73	69-130	75	69-130	85	69-130	83	69-130

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/15/
Time: 11:17

ERM - GP BROS. SITE
GREIF . SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		MSB		MSB		Matrix Spike Blank		Matrix Spike Blank	
Job No	Lab ID	A01-8365	A1836510	A01-8365	A1836512	A01-7963	A1796303	A01-7963	A1796305
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	220 B	25	45000	3100	200 B	25	50000	3100
Benzene	UG/KG	48	5	6300	620	48	5	6300	620
Bromodichloromethane	UG/KG	51	5	6500	620	46	5	6400	620
Bromoform	UG/KG	48	5	6500	620	46	5	6600	620
Bromomethane	UG/KG	55	10	5200	1200	44	10	5100	1200
2-Butanone	UG/KG	220	25	48000	3100	230	25	48000	3100
Carbon Disulfide	UG/KG	35	5	8400	620	40	5	ND	620
Carbon Tetrachloride	UG/KG	48	5	6400	620	42	5	6400	620
Chlorobenzene	UG/KG	48	5	6300	620	47	5	6200	620
Chloroethane	UG/KG	49	10	5700	1200	43	10	5900	1200
Chloroform	UG/KG	48	5	6200	620	44	5	6300	620
Chloromethane	UG/KG	45	10	5500	1200	39	10	5000	1200
Dibromochloromethane	UG/KG	49	5	6500	620	47	5	6500	620
1,1-Dichloroethane	UG/KG	46	5	6700	620	44	5	6500	620
1,2-Dichloroethane	UG/KG	52	5	6100	620	47	5	6300	620
1,1-Dichloroethene	UG/KG	46	5	6100	620	39	5	6100	620
1,2-Dichloroethene (Total)	UG/KG	97	10	12000	1200	90	10	12000	1200
1,2-Dichloropropane	UG/KG	48	5	6500	620	47	5	6200	620
cis-1,3-Dichloropropene	UG/KG	50	5	6800	620	48	5	6300	620
trans-1,3-Dichloropropene	UG/KG	51	5	6800	620	50	5	6500	620
Ethylbenzene	UG/KG	51	5	6200	620	50	5	6300	620
2-Hexanone	UG/KG	240	10	52000	1200	260	10	51000	1200
Methylene chloride	UG/KG	38	5	6100	620	36 B	5	6100	620
4-Methyl-2-pentanone	UG/KG	240	25	52000	3100	260	25	52000	3100
Styrene	UG/KG	53	5	6700	620	54	5	6600	620
1,1,2,2-Tetrachloroethane	UG/KG	44	5	6000	620	47	5	6100	620
Tetrachloroethene	UG/KG	46	5	6100	620	45	5	6100	620
Toluene	UG/KG	49	5	6400	620	49	5	6200	620
1,1,1-Trichloroethane	UG/KG	48	5	6200	620	43	5	6100	620
1,1,2-Trichloroethane	UG/KG	47	5	5900	620	48	5	6200	620
Trichloroethene	UG/KG	46	5	6300	620	45	5	6300	620
Vinyl acetate	UG/KG	230	10	31000	1200	220	10	ND	1200
Vinyl chloride	UG/KG	44	10	5200	1200	40	10	5500	1200
Total Xylenes	UG/KG	150	15	19000	1900	150	15	19000	1900
IS/SURROGATE(S)									
Chlorobenzene-D5	%	110	50-200	101	50-200	96	50-200	90	50-200
1,4-Difluorobenzene	%	116	50-200	102	50-200	95	50-200	90	50-200
1,4-Dichlorobenzene-D4	%	105	50-200	97	50-200	100	50-200	88	50-200
Toluene-D8	%	95	77-117	107	77-117	98	77-117	107	77-117
p-Bromofluorobenzene	%	102	62-126	106	62-126	98	62-126	109	62-126
1,2-Dichloroethane-D4	%	86	69-130	98	69-130	83	69-130	103	69-130

000107

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/15,
Time: 11:17:4

ERM - GF IROS. SITE
GREIF S. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID Job No Lab ID Sample Date		Matrix Spike Blank A01-8132 A1813208		Matrix Spike Blank A01-8132 A1813210		Matrix Spike Blank A01-8132 A1813212		Matrix Spike Blank A01-8218 A1821805	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	69 B	25	110 B	25	29000	3100	110 B	25
Benzene	UG/KG	49	5	52	5	6600	620	52	5
Bromodichloromethane	UG/KG	ND	5	ND	5	6800	620	ND	5
Bromoform	UG/KG	ND	5	ND	5	6600	620	ND	5
Bromomethane	UG/KG	ND	10	ND	10	5500	1200	ND	10
2-Butanone	UG/KG	8 J	25	9 J	25	30000	3100	9 J	25
Carbon Disulfide	UG/KG	ND	5	ND	5	7100	620	ND	5
Carbon Tetrachloride	UG/KG	ND	5	ND	5	7300	620	ND	5
Chlorobenzene	UG/KG	51	5	54	5	6600	620	54	5
Chloroethane	UG/KG	ND	10	ND	10	6500	1200	ND	10
Chloroform	UG/KG	ND	5	ND	5	6800	620	ND	5
Chloromethane	UG/KG	ND	10	ND	10	6200	1200	ND	10
Dibromochloromethane	UG/KG	ND	5	ND	5	6800	620	ND	5
1,1-Dichloroethane	UG/KG	ND	5	ND	5	7300	620	ND	5
1,2-Dichloroethane	UG/KG	ND	5	ND	5	6800	620	ND	5
1,1-Dichloroethene	UG/KG	50	5	57	5	6600	620	57	5
1,2-Dichloroethene (Total)	UG/KG	ND	10	ND	10	13000	1200	ND	10
1,2-Dichloropropane	UG/KG	ND	5	ND	5	6600	620	ND	5
cis-1,3-Dichloropropene	UG/KG	ND	5	ND	5	6900	620	ND	5
trans-1,3-Dichloropropene	UG/KG	ND	5	ND	5	7000	620	ND	5
Ethylbenzene	UG/KG	ND	5	ND	5	6600	620	ND	5
2-Hexanone	UG/KG	ND	10	ND	10	31000	1200	ND	10
Methylene chloride	UG/KG	6 B	5	4 BJ	5	6600	620	4 BJ	5
4-Methyl-2-pentanone	UG/KG	ND	25	ND	25	32000	3100	ND	25
Styrene	UG/KG	ND	5	ND	5	6900	620	ND	5
1,1,2,2-Tetrachloroethane	UG/KG	ND	5	ND	5	5900	620	ND	5
Tetrachloroethene	UG/KG	ND	5	ND	5	6700	620	ND	5
Toluene	UG/KG	54	5	57	5	6600	620	57	5
1,1,1-Trichloroethane	UG/KG	ND	5	ND	5	6700	620	ND	5
1,1,2-Trichloroethane	UG/KG	ND	5	ND	5	6200	620	ND	5
Trichloroethene	UG/KG	50	5	53	5	6600	620	53	5
Vinyl acetate	UG/KG	ND	10	ND	10	34000	1200	ND	10
Vinyl chloride	UG/KG	ND	10	ND	10	6200	1200	ND	10
Total Xylenes	UG/KG	ND	15	ND	15	20000	1900	ND	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	85	50-200	91	50-200	99	50-200	91	50-200
1,4-Difluorobenzene	%	88	50-200	98	50-200	101	50-200	98	50-200
1,4-Dichlorobenzene-D4	%	71	50-200	69	50-200	98	50-200	69	50-200
Toluene-D8	%	91	77-117	87	77-117	108	77-117	87	77-117
p-Bromofluorobenzene	%	82	62-126	82	62-126	107	62-126	82	62-126
1,2-Dichloroethane-D4	%	81	69-130	86	69-130	110	69-130	86	69-130

NA = Not Applicable ND = Not Detected

STL Buffalo

000108

Date: 09/15/
Time: 11:17:

ERM - GR ROS. SITE
GREIF . SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID Job No Lab ID Sample Date		Matrix Spike Blank A01-8218 A1821807		Matrix Spike Blank A01-8218 A1821809		Matrix Spike Blk Dup A01-7963 A1796306			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	29000	3100	220 B	25	30000	3100	NA	
Benzene	UG/KG	6600	620	48	5	6000	620	NA	
Bromodichloromethane	UG/KG	6800	620	51	5	6000	620	NA	
Bromoform	UG/KG	6600	620	48	5	6300	620	NA	
Bromomethane	UG/KG	5500	1200	55	10	6200	1200	NA	
2-Butanone	UG/KG	30000	3100	220	25	29000	3100	NA	
Carbon Disulfide	UG/KG	7100	620	35	5	6600	620	NA	
Carbon Tetrachloride	UG/KG	7300	620	48	5	6000	620	NA	
Chlorobenzene	UG/KG	6600	620	48	5	6000	620	NA	
Chloroethane	UG/KG	6500	1200	49	10	6000	1200	NA	
Chloroform	UG/KG	6800	620	48	5	6000	620	NA	
Chloromethane	UG/KG	6200	1200	45	10	5600	1200	NA	
Dibromochloromethane	UG/KG	6800	620	49	5	6400	620	NA	
1,1-Dichloroethane	UG/KG	7300	620	46	5	6000	620	NA	
1,2-Dichloroethane	UG/KG	6800	620	52	5	6100	620	NA	
1,1-Dichloroethene	UG/KG	6600	620	46	5	5900	620	NA	
1,2-Dichloroethene (Total)	UG/KG	13000	1200	97	10	12000	1200	NA	
1,2-Dichloropropane	UG/KG	6600	620	48	5	6000	620	NA	
cis-1,3-Dichloropropene	UG/KG	6900	620	50	5	6100	620	NA	
trans-1,3-Dichloropropene	UG/KG	7000	620	51	5	6300	620	NA	
Ethylbenzene	UG/KG	6600	620	51	5	6100	620	NA	
2-Hexanone	UG/KG	31000	1200	240	10	31000	1200	NA	
Methylene chloride	UG/KG	6600	620	38	5	5800	620	NA	
4-Methyl-2-pentanone	UG/KG	32000	3100	240	25	32000	3100	NA	
Styrene	UG/KG	6900	620	53	5	6300	620	NA	
1,1,2,2-Tetrachloroethane	UG/KG	5900	620	44	5	6000	620	NA	
Tetrachloroethene	UG/KG	6700	620	46	5	6000	620	NA	
Toluene	UG/KG	6600	620	49	5	6100	620	NA	
1,1,1-Trichloroethane	UG/KG	6700	620	48	5	6000	620	NA	
1,1,2-Trichloroethane	UG/KG	6200	620	47	5	6200	620	NA	
Trichloroethene	UG/KG	6600	620	46	5	6000	620	NA	
Vinyl acetate	UG/KG	34000	1200	230	10	30000	1200	NA	
Vinyl chloride	UG/KG	6200	1200	44	10	6000	1200	NA	
Total Xylenes	UG/KG	20000	1900	150	15	18000	1900	NA	
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	99	50-200	110	50-200	90	50-200	NA	
1,4-Difluorobenzene	%	101	50-200	116	50-200	92	50-200	NA	
1,4-Dichlorobenzene-D4	%	98	50-200	105	50-200	87	50-200	NA	
Toluene-D8	%	108	77-117	95	77-117	108	77-117	NA	
p-Bromofluorobenzene	%	107	62-126	102	62-126	108	62-126	NA	
1,2-Dichloroethane-D4	%	110	69-130	86	69-130	103	69-130	NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/15/
Time: 11:17:4

ERM - GR ROS. SITE
GREIF . . SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Dept: AN0326

Client ID		MSB		msb		msb			
Job No	Lab ID	A01-7923	A1792308	A01-8365	A1836514	A01-8365	A1836516		
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	200	25	220	25	360	25	NA	
Benzene	UG/L	50	5.0	48	5.0	51	5.0	NA	
Bromodichloromethane	UG/L	48	5.0	50	5.0	54	5.0	NA	
Bromoform	UG/L	45	5.0	51	5.0	53	5.0	NA	
Bromomethane	UG/L	62	10	35	10	52	10	NA	
2-Butanone	UG/L	220	10	240	10	380	10	NA	
Carbon Disulfide	UG/L	42	5.0	53	5.0	67	5.0	NA	
Carbon Tetrachloride	UG/L	46	5.0	51	5.0	53	5.0	NA	
Chlorobenzene	UG/L	48	5.0	48	5.0	52	5.0	NA	
Chloroethane	UG/L	49	10	46	10	52	10	NA	
Chloroform	UG/L	46	5.0	49	5.0	52	5.0	NA	
Chloromethane	UG/L	45	10	44	10	52	10	NA	
Dibromochloromethane	UG/L	47	5.0	50	5.0	54	5.0	NA	
1,1-Dichloroethane	UG/L	46	5.0	52	5.0	53	5.0	NA	
1,2-Dichloroethane	UG/L	48	5.0	48	5.0	53	5.0	NA	
1,1-Dichloroethene	UG/L	44	5.0	48	5.0	48	5.0	NA	
1,2-Dichloroethene (Total)	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
1,2-Dichloropropane	UG/L	48	5.0	50	5.0	54	5.0	NA	
cis-1,3-Dichloropropene	UG/L	50	5.0	52	5.0	55	5.0	NA	
trans-1,3-Dichloropropene	UG/L	50	5.0	53	5.0	54	5.0	NA	
Ethylbenzene	UG/L	52	5.0	50	5.0	51	5.0	NA	
2-Hexanone	UG/L	240	10	260	10	410	10	NA	
Methylene chloride	UG/L	40 B	5.0	48	5.0	51	5.0	NA	
4-Methyl-2-pentanone	UG/L	240	10	260	10	420	10	NA	
Styrene	UG/L	54	5.0	55	5.0	55	5.0	NA	
1,1,2,2-Tetrachloroethane	UG/L	45	5.0	43	5.0	53	5.0	NA	
Tetrachloroethene	UG/L	48	5.0	47	5.0	51	5.0	NA	
Toluene	UG/L	51	5.0	48	5.0	52	5.0	NA	
1,1,1-Trichloroethane	UG/L	47	5.0	48	5.0	52	5.0	NA	
1,1,2-Trichloroethane	UG/L	47	5.0	46	5.0	50	5.0	NA	
Trichloroethene	UG/L	46	5.0	49	5.0	51	5.0	NA	
Vinyl acetate	UG/L	250	10	260	10	260	10	NA	
Vinyl chloride	UG/L	44	5.0	43	5.0	50	5.0	NA	
Total Xylenes	UG/L	ND	15	ND	15	ND	15	NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	116	50-200	99	50-200	101	50-200	NA	
1,4-Difluorobenzene	%	116	50-200	100	50-200	101	50-200	NA	
1,4-Dichlorobenzene-D4	%	172	50-200	104	50-200	97	50-200	NA	
Toluene-D8	%	98	77-115	106	77-115	107	77-115	NA	
p-Bromofluorobenzene	%	98	77-112	114 *	77-112	105	77-112	NA	
1,2-Dichloroethane-D4	%	85	84-126	102	84-126	102	84-126	NA	

000110

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		S BLANK		S BLANK		SBLK			
Job No	Lab ID	A01-7923	A1B0756602	A01-7963	A1B0761502	A01-8365	A1B0781102		
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	ND	320	ND	330	ND	330	NA	
Acenaphthylene	UG/KG	ND	320	ND	330	ND	330	NA	
Anthracene	UG/KG	ND	320	ND	330	ND	330	NA	
Benzo(a)anthracene	UG/KG	ND	320	ND	330	ND	330	NA	
Benzo(b)fluoranthene	UG/KG	ND	320	ND	330	ND	330	NA	
Benzo(k)fluoranthene	UG/KG	ND	320	ND	330	ND	330	NA	
Benzo(ghi)perylene	UG/KG	ND	320	ND	330	ND	330	NA	
Benzo(a)pyrene	UG/KG	ND	320	ND	330	ND	330	NA	
Benzoic acid	UG/KG	ND	1600	ND	1600	ND	1600	NA	
Benzyl alcohol	UG/KG	ND	320	ND	330	ND	330	NA	
Bis(2-chloroethoxy) methane	UG/KG	ND	320	ND	330	ND	330	NA	
Bis(2-chloroethyl) ether	UG/KG	ND	320	ND	330	ND	330	NA	
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	320	ND	330	ND	330	NA	
Bis(2-ethylhexyl) phthalate	UG/KG	ND	320	ND	330	ND	330	NA	
4-Bromophenyl phenyl ether	UG/KG	ND	320	ND	330	ND	330	NA	
Butyl benzyl phthalate	UG/KG	ND	320	ND	330	ND	330	NA	
4-Chloroaniline	UG/KG	ND	320	ND	330	ND	330	NA	
4-Chloro-3-methylphenol	UG/KG	ND	320	ND	330	ND	330	NA	
2-Chloronaphthalene	UG/KG	ND	320	ND	330	ND	330	NA	
2-Chlorophenol	UG/KG	ND	320	ND	330	ND	330	NA	
4-Chlorophenyl phenyl ether	UG/KG	ND	320	ND	330	ND	330	NA	
Chrysene	UG/KG	ND	320	ND	330	ND	330	NA	
Dibenzo(a,h)anthracene	UG/KG	ND	320	ND	330	ND	330	NA	
Dibenzofuran	UG/KG	ND	320	ND	330	ND	330	NA	
Di-n-butyl phthalate	UG/KG	ND	320	75 J	330	ND	330	NA	
1,2-Dichlorobenzene	UG/KG	ND	320	ND	330	ND	330	NA	
1,3-Dichlorobenzene	UG/KG	ND	320	ND	330	ND	330	NA	
1,4-Dichlorobenzene	UG/KG	ND	320	ND	330	ND	330	NA	
3,3'-Dichlorobenzidine	UG/KG	ND	650	ND	660	ND	650	NA	
2,4-Dichlorophenol	UG/KG	ND	320	ND	330	ND	330	NA	
Diethyl phthalate	UG/KG	ND	320	ND	330	ND	330	NA	
2,4-Dimethylphenol	UG/KG	ND	320	ND	330	ND	330	NA	
Dimethyl phthalate	UG/KG	ND	320	ND	330	ND	330	NA	
4,6-Dinitro-2-methylphenol	UG/KG	ND	1600	ND	1600	ND	1600	NA	
2,4-Dinitrophenol	UG/KG	ND	1600	ND	1600	ND	1600	NA	
2,4-Dinitrotoluene	UG/KG	ND	320	ND	330	ND	330	NA	
2,6-Dinitrotoluene	UG/KG	ND	320	ND	330	ND	330	NA	
Di-n-octyl phthalate	UG/KG	ND	320	ND	330	ND	330	NA	
Fluoranthene	UG/KG	ND	320	ND	330	ND	330	NA	
Fluorene	UG/KG	ND	320	ND	330	ND	330	NA	
Hexachlorobenzene	UG/KG	ND	320	ND	330	ND	330	NA	
Hexachlorobutadiene	UG/KG	ND	320	ND	330	ND	330	NA	
Hexachlorocyclopentadiene	UG/KG	ND	320	ND	330	ND	330	NA	

NA = Not Applicable ND = Not Detected

Client ID		S BLANK		S BLANK		SBLK			
Job No	Lab ID	A01-7923	A1B0756602	A01-7963	A1B0761502	A01-8365	A1B0781102		
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/KG	ND	320	ND	330	ND	330	NA	
Indeno(1,2,3-cd)pyrene	UG/KG	ND	320	ND	330	ND	330	NA	
Isophorone	UG/KG	ND	320	ND	330	ND	330	NA	
2-Methylnaphthalene	UG/KG	ND	320	ND	330	ND	330	NA	
2-Methylphenol	UG/KG	ND	320	ND	330	ND	330	NA	
4-Methylphenol	UG/KG	ND	320	ND	330	ND	330	NA	
Naphthalene	UG/KG	ND	320	ND	330	ND	330	NA	
2-Nitroaniline	UG/KG	ND	1600	ND	1600	ND	1600	NA	
3-Nitroaniline	UG/KG	ND	1600	ND	1600	ND	1600	NA	
4-Nitroaniline	UG/KG	ND	1600	ND	1600	ND	1600	NA	
Nitrobenzene	UG/KG	ND	320	ND	330	ND	330	NA	
2-Nitrophenol	UG/KG	ND	320	ND	330	ND	330	NA	
4-Nitrophenol	UG/KG	ND	1600	ND	1600	ND	1600	NA	
N-nitrosodiphenylamine	UG/KG	ND	320	ND	330	ND	330	NA	
N-Nitroso-Di-n-propylamine	UG/KG	ND	320	ND	330	ND	330	NA	
Pentachlorophenol	UG/KG	ND	1600	ND	1600	ND	1600	NA	
Phenanthrene	UG/KG	ND	320	ND	330	ND	330	NA	
Phenol	UG/KG	ND	320	ND	330	ND	330	NA	
Pyrene	UG/KG	ND	320	ND	330	ND	330	NA	
1,2,4-Trichlorobenzene	UG/KG	ND	320	ND	330	ND	330	NA	
2,4,5-Trichlorophenol	UG/KG	ND	780	ND	800	ND	790	NA	
2,4,6-Trichlorophenol	UG/KG	ND	320	ND	330	ND	330	NA	
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	95	50-200	100	50-200	94	50-200	NA	
Naphthalene-D8	%	92	50-200	100	50-200	89	50-200	NA	
Acenaphthene-D10	%	89	50-200	98	50-200	92	50-200	NA	
Phenanthrene-D10	%	90	50-200	96	50-200	92	50-200	NA	
Chrysene-D12	%	92	50-200	93	50-200	89	50-200	NA	
Perylene-D12	%	89	50-200	75	50-200	82	50-200	NA	
Nitrobenzene-D5	%	86	16-120	46	16-120	86	16-120	NA	
2-Fluorobiphenyl	%	91	32-120	58	32-120	98	32-120	NA	
p-Terphenyl-d14	%	89	35-133	85	35-133	96	35-133	NA	
Phenol-D5	%	92	29-120	47	29-120	89	29-120	NA	
2-Fluorophenol	%	91	23-120	43	23-120	82	23-120	NA	
2,4,6-Tribromophenol	%	95	37-135	68	37-135	105	37-135	NA	

NA = Not Applicable ND = Not Detected

Date: 09/15/
Time: 11:18:5

ERM - GR ROS. SITE
GREIF S. SITE
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Rept: AN0326

Client ID		Method Blank							
Job No	Lab ID	A01-8365	A1B0782302						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/L	ND	10	NA		NA		NA	
Acenaphthylene	UG/L	ND	10	NA		NA		NA	
Anthracene	UG/L	ND	10	NA		NA		NA	
Benzo(a)anthracene	UG/L	ND	10	NA		NA		NA	
Benzo(b)fluoranthene	UG/L	ND	10	NA		NA		NA	
Benzo(k)fluoranthene	UG/L	ND	10	NA		NA		NA	
Benzo(ghi)perylene	UG/L	ND	10	NA		NA		NA	
Benzo(a)pyrene	UG/L	ND	10	NA		NA		NA	
Benzoic acid	UG/L	ND	50	NA		NA		NA	
Benzyl alcohol	UG/L	ND	20	NA		NA		NA	
Bis(2-chloroethoxy) methane	UG/L	ND	10	NA		NA		NA	
Bis(2-chloroethyl) ether	UG/L	ND	10	NA		NA		NA	
2,2'-Oxybis(1-Chloropropane)	UG/L	ND	10	NA		NA		NA	
Bis(2-ethylhexyl) phthalate	UG/L	ND	10	NA		NA		NA	
4-Bromophenyl phenyl ether	UG/L	ND	10	NA		NA		NA	
Butyl benzyl phthalate	UG/L	ND	10	NA		NA		NA	
4-Chloroaniline	UG/L	ND	10	NA		NA		NA	
4-Chloro-3-methylphenol	UG/L	ND	10	NA		NA		NA	
2-Chloronaphthalene	UG/L	ND	10	NA		NA		NA	
2-Chlorophenol	UG/L	ND	10	NA		NA		NA	
4-Chlorophenyl phenyl ether	UG/L	ND	10	NA		NA		NA	
Chrysene	UG/L	ND	10	NA		NA		NA	
Dibenzo(a,h)anthracene	UG/L	ND	10	NA		NA		NA	
Dibenzofuran	UG/L	ND	10	NA		NA		NA	
Di-n-butyl phthalate	UG/L	ND	10	NA		NA		NA	
1,2-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
1,3-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
1,4-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
3,3'-Dichlorobenzidine	UG/L	ND	20	NA		NA		NA	
2,4-Dichlorophenol	UG/L	ND	10	NA		NA		NA	
Diethyl phthalate	UG/L	ND	10	NA		NA		NA	
2,4-Dimethylphenol	UG/L	ND	10	NA		NA		NA	
Dimethyl phthalate	UG/L	ND	10	NA		NA		NA	
4,6-Dinitro-2-methylphenol	UG/L	ND	50	NA		NA		NA	
2,4-Dinitrophenol	UG/L	ND	50	NA		NA		NA	
2,4-Dinitrotoluene	UG/L	ND	10	NA		NA		NA	
2,6-Dinitrotoluene	UG/L	ND	10	NA		NA		NA	
Di-n-octyl phthalate	UG/L	ND	10	NA		NA		NA	
Fluoranthene	UG/L	ND	10	NA		NA		NA	
Fluorene	UG/L	ND	10	NA		NA		NA	
Hexachlorobenzene	UG/L	ND	10	NA		NA		NA	
Hexachlorobutadiene	UG/L	ND	10	NA		NA		NA	
Hexachlorocyclopentadiene	UG/L	ND	10	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

000113

Client ID Job No Lab ID Sample Date		Method Blank A01-8365 A1B0782302							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/L	ND	10	NA		NA		NA	
Indeno(1,2,3-cd)pyrene	UG/L	ND	10	NA		NA		NA	
Isophorone	UG/L	ND	10	NA		NA		NA	
2-Methylnaphthalene	UG/L	ND	10	NA		NA		NA	
2-Methylphenol	UG/L	ND	10	NA		NA		NA	
4-Methylphenol	UG/L	ND	10	NA		NA		NA	
Naphthalene	UG/L	ND	10	NA		NA		NA	
2-Nitroaniline	UG/L	ND	50	NA		NA		NA	
3-Nitroaniline	UG/L	ND	50	NA		NA		NA	
4-Nitroaniline	UG/L	ND	50	NA		NA		NA	
Nitrobenzene	UG/L	ND	10	NA		NA		NA	
2-Nitrophenol	UG/L	ND	10	NA		NA		NA	
4-Nitrophenol	UG/L	ND	50	NA		NA		NA	
N-nitrosodiphenylamine	UG/L	ND	10	NA		NA		NA	
N-Nitroso-Di-n-propylamine	UG/L	ND	10	NA		NA		NA	
Pentachlorophenol	UG/L	ND	50	NA		NA		NA	
Phenanthrene	UG/L	ND	10	NA		NA		NA	
Phenol	UG/L	ND	10	NA		NA		NA	
Pyrene	UG/L	ND	10	NA		NA		NA	
1,2,4-Trichlorobenzene	UG/L	ND	10	NA		NA		NA	
2,4,5-Trichlorophenol	UG/L	ND	10	NA		NA		NA	
2,4,6-Trichlorophenol	UG/L	ND	10	NA		NA		NA	
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	110	50-200	NA		NA		NA	
Naphthalene-D8	%	106	50-200	NA		NA		NA	
Acenaphthene-D10	%	102	50-200	NA		NA		NA	
Phenanthrene-D10	%	102	50-200	NA		NA		NA	
Chrysene-D12	%	103	50-200	NA		NA		NA	
Perylene-D12	%	103	50-200	NA		NA		NA	
Nitrobenzene-D5	%	65	24-120	NA		NA		NA	
2-Fluorobiphenyl	%	73	33-120	NA		NA		NA	
p-Terphenyl-d14	%	85	24-130	NA		NA		NA	
Phenol-D5	%	27	10-120	NA		NA		NA	
2-Fluorophenol	%	38	10-120	NA		NA		NA	
2,4,6-Tribromophenol	%	103	24-143	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Client ID		GB-35-16 MS		GB-35-16 SD		Matrix Spike Blank		Matrix Spike Blank	
Job No / Lab ID		A01-7923 / A1792303MS		A01-7923 / A1792303SD		A01-7923 / A1B0756601		A01-7963 / A1B0761501	
Sample Date		08/15/2001		08/15/2001					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	4000	450	4300	440	2900	320	1400	330
Acenaphthylene	UG/KG	ND	450	ND	440	ND	320	ND	330
Anthracene	UG/KG	ND	450	ND	440	ND	320	ND	330
Benzo(a)anthracene	UG/KG	ND	450	ND	440	ND	320	ND	330
Benzo(b)fluoranthene	UG/KG	ND	450	ND	440	ND	320	ND	330
Benzo(k)fluoranthene	UG/KG	ND	450	ND	440	ND	320	ND	330
Benzo(ghi)perylene	UG/KG	ND	450	ND	440	ND	320	ND	330
Benzo(a)pyrene	UG/KG	ND	450	ND	440	ND	320	ND	330
Benzoic acid	UG/KG	ND	2200	ND	2100	ND	1600	ND	1600
Benzyl alcohol	UG/KG	ND	450	ND	440	ND	320	ND	330
Bis(2-chloroethoxy) methane	UG/KG	ND	450	ND	440	ND	320	ND	330
Bis(2-chloroethyl) ether	UG/KG	ND	450	ND	440	ND	320	ND	330
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	450	ND	440	ND	320	ND	330
Bis(2-ethylhexyl) phthalate	UG/KG	ND	450	ND	440	ND	320	ND	330
4-Bromophenyl phenyl ether	UG/KG	ND	450	ND	440	ND	320	ND	330
Butyl benzyl phthalate	UG/KG	ND	450	ND	440	ND	320	ND	330
4-Chloroaniline	UG/KG	ND	450	ND	440	ND	320	ND	330
4-Chloro-3-methylphenol	UG/KG	3900	450	4100	440	2900	320	1100	330
2-Chloronaphthalene	UG/KG	ND	450	ND	440	ND	320	ND	330
2-Chlorophenol	UG/KG	3200	450	3200	440	2600	320	1100	330
4-Chlorophenyl phenyl ether	UG/KG	ND	450	ND	440	ND	320	ND	330
Chrysene	UG/KG	ND	450	ND	440	ND	320	ND	330
Dibenzo(a,h)anthracene	UG/KG	ND	450	ND	440	ND	320	ND	330
Dibenzofuran	UG/KG	ND	450	ND	440	ND	320	ND	330
Di-n-butyl phthalate	UG/KG	ND	450	ND	440	ND	320	32 BJ	330
1,2-Dichlorobenzene	UG/KG	ND	450	ND	440	ND	320	ND	330
1,3-Dichlorobenzene	UG/KG	ND	450	ND	440	ND	320	ND	330
1,4-Dichlorobenzene	UG/KG	2900	450	3100	440	2500	320	1000	330
3,3'-Dichlorobenzidine	UG/KG	ND	900	ND	880	ND	640	ND	650
2,4-Dichlorophenol	UG/KG	ND	450	ND	440	ND	320	ND	330
Diethyl phthalate	UG/KG	ND	450	ND	440	ND	320	ND	330
2,4-Dimethylphenol	UG/KG	ND	450	ND	440	ND	320	ND	330
Dimethyl phthalate	UG/KG	ND	450	ND	440	ND	320	ND	330
4,6-Dinitro-2-methylphenol	UG/KG	ND	2200	ND	2100	ND	1600	ND	1600
2,4-Dinitrophenol	UG/KG	ND	2200	ND	2100	ND	1600	ND	1600
2,4-Dinitrotoluene	UG/KG	3900	450	4500	440	2800	320	2200	330
2,6-Dinitrotoluene	UG/KG	ND	450	ND	440	ND	320	ND	330
Di-n-octyl phthalate	UG/KG	ND	450	ND	440	ND	320	ND	330
Fluoranthene	UG/KG	ND	450	ND	440	ND	320	ND	330
Fluorene	UG/KG	ND	450	ND	440	ND	320	ND	330
Hexachlorobenzene	UG/KG	ND	450	ND	440	ND	320	ND	330
Hexachlorobutadiene	UG/KG	ND	450	ND	440	ND	320	ND	330
Hexachlorocyclopentadiene	UG/KG	ND	450	ND	440	ND	320	ND	330

NA = Not Applicable ND = Not Detected

Client ID Job No Lab ID Sample Date		GB-35-16 MS A01-7923 A1792303MS 08/15/2001		GB-35-16 SD A01-7923 A1792303SD 08/15/2001		Matrix Spike Blank A01-7923 A1B0756601		Matrix Spike Blank A01-7963 A1B0761501	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/KG	ND	450	ND	440	ND	320	ND	330
Indeno(1,2,3-cd)pyrene	UG/KG	ND	450	ND	440	ND	320	ND	330
Isophorone	UG/KG	ND	450	ND	440	ND	320	ND	330
2-Methylnaphthalene	UG/KG	ND	450	25 J	440	ND	320	ND	330
2-Methylphenol	UG/KG	ND	450	ND	440	ND	320	ND	330
4-Methylphenol	UG/KG	ND	450	ND	440	ND	320	ND	330
Naphthalene	UG/KG	ND	450	61 J	440	ND	320	ND	330
2-Nitroaniline	UG/KG	ND	2200	ND	2100	ND	1600	ND	1600
3-Nitroaniline	UG/KG	ND	2200	ND	2100	ND	1600	ND	1600
4-Nitroaniline	UG/KG	ND	2200	ND	2100	ND	1600	ND	1600
Nitrobenzene	UG/KG	ND	450	ND	440	ND	320	ND	330
2-Nitrophenol	UG/KG	ND	450	ND	440	ND	320	ND	330
4-Nitrophenol	UG/KG	3600	2200	4900	2100	2700	1600	2100	1600
N-nitrosodiphenylamine	UG/KG	ND	450	ND	440	ND	320	ND	330
N-Nitroso-Di-n-propylamine	UG/KG	3700	450	3600	440	2900	320	1100	330
Pentachlorophenol	UG/KG	2600	2200	2500	2100	3100	1600	2400	1600
Phenanthrene	UG/KG	ND	450	ND	440	ND	320	ND	330
Phenol	UG/KG	3300	450	3300	440	2600	320	1100	330
Pyrene	UG/KG	4300	450	4600	440	2900	320	2900	330
1,2,4-Trichlorobenzene	UG/KG	3100	450	3400	440	2500	320	1100	330
2,4,5-Trichlorophenol	UG/KG	ND	1100	ND	1100	ND	780	ND	790
2,4,6-Trichlorophenol	UG/KG	ND	450	ND	440	ND	320	ND	330
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	83	50-200	90	50-200	87	50-200	101	50-200
Naphthalene-D8	%	82	50-200	91	50-200	87	50-200	101	50-200
Acenaphthene-D10	%	81	50-200	90	50-200	85	50-200	100	50-200
Phenanthrene-D10	%	82	50-200	90	50-200	85	50-200	96	50-200
Chrysene-D12	%	84	50-200	91	50-200	93	50-200	92	50-200
Perylene-D12	%	81	50-200	92	50-200	95	50-200	76	50-200
Nitrobenzene-D5	%	67	16-120	72	16-120	77	16-120	30	16-120
2-Fluorobiphenyl	%	80	32-120	88	32-120	86	32-120	37	32-120
p-Terphenyl-d14	%	87	35-133	92	35-133	82	35-133	81	35-133
Phenol-D5	%	72	29-120	73	29-120	81	29-120	33	29-120
2-Fluorophenol	%	65	23-120	68	23-120	80	23-120	29	23-120
2,4,6-Tribromophenol	%	95	37-135	104	37-135	94	37-135	62	37-135

NA = Not Applicable ND = Not Detected

Client ID Job No Lab ID Sample Date		Matrix Spike Blank A01-8365 A1B0781101		Matrix Spike Blk Dup A01-8365 A1B0781103					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	2900	320	2800	330	NA		NA	
Acenaphthylene	UG/KG	ND	320	ND	330	NA		NA	
Anthracene	UG/KG	ND	320	ND	330	NA		NA	
Benzo(a)anthracene	UG/KG	ND	320	ND	330	NA		NA	
Benzo(b)fluoranthene	UG/KG	ND	320	ND	330	NA		NA	
Benzo(k)fluoranthene	UG/KG	ND	320	ND	330	NA		NA	
Benzo(ghi)perylene	UG/KG	ND	320	ND	330	NA		NA	
Benzo(a)pyrene	UG/KG	ND	320	ND	330	NA		NA	
Benzoic acid	UG/KG	ND	1600	ND	1600	NA		NA	
Benzyl alcohol	UG/KG	ND	320	ND	330	NA		NA	
Bis(2-chloroethoxy) methane	UG/KG	ND	320	ND	330	NA		NA	
Bis(2-chloroethyl) ether	UG/KG	ND	320	ND	330	NA		NA	
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	320	ND	330	NA		NA	
Bis(2-ethylhexyl) phthalate	UG/KG	ND	320	ND	330	NA		NA	
4-Bromophenyl phenyl ether	UG/KG	ND	320	ND	330	NA		NA	
Butyl benzyl phthalate	UG/KG	ND	320	ND	330	NA		NA	
4-Chloroaniline	UG/KG	ND	320	ND	330	NA		NA	
4-Chloro-3-methylphenol	UG/KG	2900	320	2900	330	NA		NA	
2-Chloronaphthalene	UG/KG	ND	320	ND	330	NA		NA	
2-Chlorophenol	UG/KG	2400	320	2500	330	NA		NA	
4-Chlorophenyl phenyl ether	UG/KG	ND	320	ND	330	NA		NA	
Chrysene	UG/KG	ND	320	ND	330	NA		NA	
Dibenzo(a,h)anthracene	UG/KG	ND	320	ND	330	NA		NA	
Dibenzofuran	UG/KG	ND	320	ND	330	NA		NA	
Di-n-butyl phthalate	UG/KG	ND	320	ND	330	NA		NA	
1,2-Dichlorobenzene	UG/KG	ND	320	ND	330	NA		NA	
1,3-Dichlorobenzene	UG/KG	ND	320	ND	330	NA		NA	
1,4-Dichlorobenzene	UG/KG	2200	320	2400	330	NA		NA	
3,3'-Dichlorobenzidine	UG/KG	ND	650	ND	650	NA		NA	
2,4-Dichlorophenol	UG/KG	ND	320	ND	330	NA		NA	
Diethyl phthalate	UG/KG	ND	320	ND	330	NA		NA	
2,4-Dimethylphenol	UG/KG	ND	320	ND	330	NA		NA	
Dimethyl phthalate	UG/KG	ND	320	ND	330	NA		NA	
4,6-Dinitro-2-methylphenol	UG/KG	ND	1600	ND	1600	NA		NA	
2,4-Dinitrophenol	UG/KG	ND	1600	ND	1600	NA		NA	
2,4-Dinitrotoluene	UG/KG	3100	320	2600	330	NA		NA	
2,6-Dinitrotoluene	UG/KG	ND	320	ND	330	NA		NA	
Di-n-octyl phthalate	UG/KG	ND	320	ND	330	NA		NA	
Fluoranthene	UG/KG	ND	320	ND	330	NA		NA	
Fluorene	UG/KG	ND	320	ND	330	NA		NA	
Hexachlorobenzene	UG/KG	ND	320	ND	330	NA		NA	
Hexachlorobutadiene	UG/KG	ND	320	ND	330	NA		NA	
Hexachlorocyclopentadiene	UG/KG	ND	320	ND	330	NA		NA	

Date: 09/15/
Time: 11:18:31

ERM - GR ROS. SITE
GREIF BROS. SITE
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Rept: AN0326

Client ID Job No Lab ID Sample Date		Matrix Spike Blank A01-8365 A1B0781101		Matrix Spike Blk Dup A01-8365 A1B0781103					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/KG	ND	320	ND	330	NA		NA	
Indeno(1,2,3-cd)pyrene	UG/KG	ND	320	ND	330	NA		NA	
Isophorone	UG/KG	ND	320	ND	330	NA		NA	
2-Methylnaphthalene	UG/KG	ND	320	ND	330	NA		NA	
2-Methylphenol	UG/KG	ND	320	ND	330	NA		NA	
4-Methylphenol	UG/KG	ND	320	ND	330	NA		NA	
Naphthalene	UG/KG	ND	320	ND	330	NA		NA	
2-Nitroaniline	UG/KG	ND	1600	ND	1600	NA		NA	
3-Nitroaniline	UG/KG	ND	1600	ND	1600	NA		NA	
4-Nitroaniline	UG/KG	ND	1600	ND	1600	NA		NA	
Nitrobenzene	UG/KG	ND	320	ND	330	NA		NA	
2-Nitrophenol	UG/KG	ND	320	ND	330	NA		NA	
4-Nitrophenol	UG/KG	3200	1600	2800	1600	NA		NA	
N-nitrosodiphenylamine	UG/KG	ND	320	ND	330	NA		NA	
N-Nitroso-Di-n-propylamine	UG/KG	3000	320	3000	330	NA		NA	
Pentachlorophenol	UG/KG	3600	1600	2800	1600	NA		NA	
Phenanthrene	UG/KG	ND	320	ND	330	NA		NA	
Phenol	UG/KG	2500	320	2500	330	NA		NA	
Pyrene	UG/KG	3200	320	3200	330	NA		NA	
1,2,4-Trichlorobenzene	UG/KG	2400	320	2400	330	NA		NA	
2,4,5-Trichlorophenol	UG/KG	ND	790	ND	790	NA		NA	
2,4,6-Trichlorophenol	UG/KG	ND	320	ND	330	NA		NA	
==========IS/SURROGATE(S)==========									
1,4-Dichlorobenzene-D4	%	98	50-200	101	50-200	NA		NA	
Naphthalene-D8	%	94	50-200	100	50-200	NA		NA	
Acenaphthene-D10	%	97	50-200	101	50-200	NA		NA	
Phenanthrene-D10	%	95	50-200	99	50-200	NA		NA	
Chrysene-D12	%	96	50-200	89	50-200	NA		NA	
Perylene-D12	%	88	50-200	51	50-200	NA		NA	
Nitrobenzene-D5	%	74	16-120	73	16-120	NA		NA	
2-Fluorobiphenyl	%	86	32-120	83	32-120	NA		NA	
p-Terphenyl-d14	%	88	35-133	93	35-133	NA		NA	
Phenol-D5	%	77	29-120	78	29-120	NA		NA	
2-Fluorophenol	%	71	23-120	73	23-120	NA		NA	
2,4,6-Tribromophenol	%	103	37-135	99	37-135	NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

000118

Client ID Job No Lab ID Sample Date		Matrix Spike Blank A01-8365 A1B0782301							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/L	88	10	NA		NA		NA	
Acenaphthylene	UG/L	87	10	NA		NA		NA	
Anthracene	UG/L	100	10	NA		NA		NA	
Benzo(a)anthracene	UG/L	110	10	NA		NA		NA	
Benzo(b)fluoranthene	UG/L	110	10	NA		NA		NA	
Benzo(k)fluoranthene	UG/L	96	10	NA		NA		NA	
Benzo(ghi)perylene	UG/L	96	10	NA		NA		NA	
Benzo(a)pyrene	UG/L	100	10	NA		NA		NA	
Benzoic acid	UG/L	0.5 J	50	NA		NA		NA	
Benzyl alcohol	UG/L	72	20	NA		NA		NA	
Bis(2-chloroethoxy) methane	UG/L	80	10	NA		NA		NA	
Bis(2-chloroethyl) ether	UG/L	68	10	NA		NA		NA	
2,2'-Oxybis(1-Chloropropane)	UG/L	71	10	NA		NA		NA	
Bis(2-ethylhexyl) phthalate	UG/L	120	10	NA		NA		NA	
4-Bromophenyl phenyl ether	UG/L	110	10	NA		NA		NA	
Butyl benzyl phthalate	UG/L	120	10	NA		NA		NA	
4-Chloroaniline	UG/L	76	10	NA		NA		NA	
4-Chloro-3-methylphenol	UG/L	95	10	NA		NA		NA	
2-Chloronaphthalene	UG/L	87	10	NA		NA		NA	
2-Chlorophenol	UG/L	62	10	NA		NA		NA	
4-Chlorophenyl phenyl ether	UG/L	97	10	NA		NA		NA	
Chrysene	UG/L	110	10	NA		NA		NA	
Dibenzo(a,h)anthracene	UG/L	98	10	NA		NA		NA	
Dibenzofuran	UG/L	90	10	NA		NA		NA	
Di-n-butyl phthalate	UG/L	120	10	NA		NA		NA	
1,2-Dichlorobenzene	UG/L	56	10	NA		NA		NA	
1,3-Dichlorobenzene	UG/L	51	10	NA		NA		NA	
1,4-Dichlorobenzene	UG/L	52	10	NA		NA		NA	
3,3'-Dichlorobenzidine	UG/L	120	20	NA		NA		NA	
2,4-Dichlorophenol	UG/L	78	10	NA		NA		NA	
Diethyl phthalate	UG/L	100	10	NA		NA		NA	
2,4-Dimethylphenol	UG/L	82	10	NA		NA		NA	
Dimethyl phthalate	UG/L	99	10	NA		NA		NA	
4,6-Dinitro-2-methylphenol	UG/L	110	50	NA		NA		NA	
2,4-Dinitrophenol	UG/L	78	50	NA		NA		NA	
2,4-Dinitrotoluene	UG/L	99	10	NA		NA		NA	
2,6-Dinitrotoluene	UG/L	100	10	NA		NA		NA	
Di-n-octyl phthalate	UG/L	130	10	NA		NA		NA	
Fluoranthene	UG/L	110	10	NA		NA		NA	
Fluorene	UG/L	96	10	NA		NA		NA	
Hexachlorobenzene	UG/L	100	10	NA		NA		NA	
Hexachlorobutadiene	UG/L	57	10	NA		NA		NA	
Hexachlorocyclopentadiene	UG/L	72	10	NA		NA		NA	

000119

NA = Not Applicable ND = Not Detected

Client ID Job No Lab ID Sample Date		Matrix Spike Blank A01-8365 A1B0782301							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/L	53	10	NA		NA		NA	
Indeno(1,2,3-cd)pyrene	UG/L	96	10	NA		NA		NA	
Isophorone	UG/L	72	10	NA		NA		NA	
2-Methylnaphthalene	UG/L	79	10	NA		NA		NA	
2-Methylphenol	UG/L	63	10	NA		NA		NA	
4-Methylphenol	UG/L	64	10	NA		NA		NA	
Naphthalene	UG/L	67	10	NA		NA		NA	
2-Nitroaniline	UG/L	110	50	NA		NA		NA	
3-Nitroaniline	UG/L	95	50	NA		NA		NA	
4-Nitroaniline	UG/L	100	50	NA		NA		NA	
Nitrobenzene	UG/L	71	10	NA		NA		NA	
2-Nitrophenol	UG/L	72	10	NA		NA		NA	
4-Nitrophenol	UG/L	33 J	50	NA		NA		NA	
N-nitrosodiphenylamine	UG/L	100	10	NA		NA		NA	
N-Nitroso-Di-n-propylamine	UG/L	82	10	NA		NA		NA	
Pentachlorophenol	UG/L	110	50	NA		NA		NA	
Phenanthrene	UG/L	100	10	NA		NA		NA	
Phenol	UG/L	31	10	NA		NA		NA	
Pyrene	UG/L	110	10	NA		NA		NA	
1,2,4-Trichlorobenzene	UG/L	60	10	NA		NA		NA	
2,4,5-Trichlorophenol	UG/L	100	10	NA		NA		NA	
2,4,6-Trichlorophenol	UG/L	97	10	NA		NA		NA	
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	103	50-200	NA		NA		NA	
Naphthalene-D8	%	104	50-200	NA		NA		NA	
Acenaphthene-D10	%	99	50-200	NA		NA		NA	
Phenanthrene-D10	%	100	50-200	NA		NA		NA	
Chrysene-D12	%	94	50-200	NA		NA		NA	
Perylene-D12	%	103	50-200	NA		NA		NA	
Nitrobenzene-D5	%	67	24-120	NA		NA		NA	
2-Fluorobiphenyl	%	80	33-120	NA		NA		NA	
p-Terphenyl-d14	%	100	24-130	NA		NA		NA	
Phenol-D5	%	28	10-120	NA		NA		NA	
2-Fluorophenol	%	35	10-120	NA		NA		NA	
2,4,6-Tribromophenol	%	106	24-143	NA		NA		NA	

Client ID Job No Lab ID Sample Date		Method Blank A01-7963 A1B0740602 08/20/2001		Method Blank A01-7963 A1B0762402					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Manganese - Total	MG/KG	ND	1.0	NA		NA		NA	
Sodium - Total	MG/KG	ND	100	NA		NA		NA	
Calcium - Total	MG/KG	ND	100	NA		NA		NA	
Beryllium - Total	MG/KG	ND	0.50	NA		NA		NA	
Arsenic - Total	MG/KG	ND	1.0	NA		NA		NA	
Thallium - Total	MG/KG	ND	6.0	NA		NA		NA	
Aluminum - Total	MG/KG	ND	20.0	NA		NA		NA	
Antimony - Total	MG/KG	ND	10	NA		NA		NA	
Barium - Total	MG/KG	ND	1.0	NA		NA		NA	
Cadmium - Total	MG/KG	ND	0.50	NA		NA		NA	
Chromium - Total	MG/KG	ND	2.0	NA		NA		NA	
Cobalt - Total	MG/KG	ND	2.0	NA		NA		NA	
Copper - Total	MG/KG	ND	2.0	NA		NA		NA	
Iron - Total	MG/KG	ND	15.0	NA		NA		NA	
Lead - Total	MG/KG	ND	5.0	NA		NA		NA	
Magnesium - Total	MG/KG	ND	20.0	NA		NA		NA	
Mercury - Total	MG/KG	NA		ND	0.10	NA		NA	
Nickel - Total	MG/KG	ND	2.0	NA		NA		NA	
Potassium - Total	MG/KG	ND	200	NA		NA		NA	
Selenium - Total	MG/KG	ND	3.0	NA		NA		NA	
Silver - Total	MG/KG	ND	1.0	NA		NA		NA	
Vanadium - Total	MG/KG	ND	1.0	NA		NA		NA	
Zinc - Total	MG/KG	ND	1.0	NA		NA		NA	

000121

NA = Not Applicable ND = Not Detected

Client ID Job No Lab ID Sample Date		Method Blank A01-8365 A1B0778803		Method Blank A01-8365 A1B0779502					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Silver - Total	MG/L	NA		ND	0.0030	NA		NA	
Potassium - Total	MG/L	NA		ND	0.50	NA		NA	
Magnesium - Total	MG/L	NA		ND	0.20	NA		NA	
Copper - Total	MG/L	NA		ND	0.010	NA		NA	
Cobalt - Total	MG/L	NA		ND	0.0050	NA		NA	
Chromium - Total	MG/L	NA		ND	0.0020	NA		NA	
Calcium - Total	MG/L	NA		ND	0.50	NA		NA	
Beryllium - Total	MG/L	NA		ND	0.0050	NA		NA	
Zinc - Total	MG/L	NA		ND	0.020	NA		NA	
Vanadium - Total	MG/L	NA		ND	0.0050	NA		NA	
Thallium - Total	MG/L	NA		ND	0.020	NA		NA	
Selenium - Total	MG/L	NA		ND	0.010	NA		NA	
Aluminum - Total	MG/L	NA		ND	0.20	NA		NA	
Antimony - Total	MG/L	NA		ND	0.020	NA		NA	
Arsenic - Total	MG/L	NA		ND	0.0070	NA		NA	
Lead - Total	MG/L	NA		ND	0.010	NA		NA	
Barium - Total	MG/L	NA		ND	0.0010	NA		NA	
Cadmium - Total	MG/L	NA		ND	0.0010	NA		NA	
Iron - Total	MG/L	NA		ND	0.050	NA		NA	
Manganese - Total	MG/L	NA		ND	0.0030	NA		NA	
Mercury - Total	MG/L	ND	0.00020	NA		NA		NA	
Nickel - Total	MG/L	NA		ND	0.010	NA		NA	
Sodium - Total	MG/L	NA		ND	1.0	NA		NA	

NA = Not Applicable ND = Not Detected

Client ID Job No Sample Date	Lab ID	GB-35-16 MS A01-7923 08/15/2001	A1792303MS	GB-35-16 SD A01-7923 08/15/2001	A1792303SD	LCS A01-7963	A1B0762401	LCS CLP Soils A01-7963 08/20/2001	A1B0740601
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Aluminum - Total	MG/KG	23000	26.4	23400	26.4	NA		8680	20.1
Antimony - Total	MG/KG	.05965	13.2	.06191	13.2	NA		70.2	10.1
Arsenic - Total	MG/KG	25.1	1.3	25.1	1.3	NA		49.9	1.0
Barium - Total	MG/KG	144	1.3	151	1.3	NA		252	1.0
Beryllium - Total	MG/KG	23.3	0.66	23.6	0.66	NA		140	0.50
Cadmium - Total	MG/KG	22.6	0.66	22.9	0.66	NA		51.3	0.50
Calcium - Total	MG/KG	48200	132	50000	132	NA		10200	101
Chromium - Total	MG/KG	52.4	2.6	53.0	2.6	NA		28.8	2.0
Cobalt - Total	MG/KG	36.8	2.6	37.4	2.6	NA		41.0	2.0
Copper - Total	MG/KG	49.2	2.6	48.8	2.6	NA		122	2.0
Iron - Total	MG/KG	29900	19.8	31000	19.8	NA		12500	15.1
Lead - Total	MG/KG	35.4	6.6	35.2	6.6	NA		61.7	5.0
Magnesium - Total	MG/KG	18600	26.4	18200	26.4	NA		2730	20.1
Manganese - Total	MG/KG	548	1.3	576	1.3	NA		335	1.0
Mercury - Total	MG/KG	.076	0.13	.071	0.13	2.0	0.62	NA	
Nickel - Total	MG/KG	55.7	2.6	56.0	2.6	NA		94.3	2.0
Potassium - Total	MG/KG	6340	264	6370	264	NA		3130	201
Selenium - Total	MG/KG	21.4	4.0	21.4	4.0	NA		48.7	3.0
Silver - Total	MG/KG	5.9	1.3	6.0	1.3	NA		53.3	1.0
Sodium - Total	MG/KG	1510	132	1510	132	NA		697	101
Thallium - Total	MG/KG	24.6	7.9	26.4	7.9	NA		108	6.0
Vanadium - Total	MG/KG	61.1	1.3	62.4	1.3	NA		54.0	1.0
Zinc - Total	MG/KG	90.5	1.3	90.1	1.3	NA		74.5	1.0

NA = Not Applicable ND = Not Detected

Client ID Job No Lab ID Sample Date		LCS A01-8365 A1B0778801		LFB A01-8365 A1B0778802		LFB A01-8365 A1B0779501			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Arsenic - Total	MG/L	NA		NA		0.20	0.0070	NA	
Magnesium - Total	MG/L	NA		NA		9.6	0.20	NA	
Iron - Total	MG/L	NA		NA		0.41	0.050	NA	
Copper - Total	MG/L	NA		NA		0.19	0.010	NA	
Cobalt - Total	MG/L	NA		NA		0.20	0.0050	NA	
Barium - Total	MG/L	NA		NA		0.20	0.0010	NA	
Thallium - Total	MG/L	NA		NA		0.19	0.020	NA	
Selenium - Total	MG/L	NA		NA		0.19	0.010	NA	
Aluminum - Total	MG/L	NA		NA		9.4	0.20	NA	
Antimony - Total	MG/L	NA		NA		0.20	0.020	NA	
Beryllium - Total	MG/L	NA		NA		0.20	0.0050	NA	
Cadmium - Total	MG/L	NA		NA		0.19	0.0010	NA	
Calcium - Total	MG/L	NA		NA		9.9	0.50	NA	
Chromium - Total	MG/L	NA		NA		0.20	0.0020	NA	
Lead - Total	MG/L	NA		NA		0.19	0.010	NA	
Manganese - Total	MG/L	NA		NA		0.20	0.0030	NA	
Mercury - Total	MG/L	0.0068	0.00020	0.0069	0.00020	NA		NA	
Nickel - Total	MG/L	NA		NA		0.20	0.010	NA	
Potassium - Total	MG/L	NA		NA		9.8	0.50	NA	
Silver - Total	MG/L	NA		NA		0.051	0.0030	NA	
Sodium - Total	MG/L	NA		NA		9.8	1.0	NA	
Vanadium - Total	MG/L	NA		NA		0.20	0.0050	NA	
Zinc - Total	MG/L	NA		NA		0.19	0.020	NA	

NA = Not Applicable ND = Not Detected

SDG: 7923
Client Sample ID: GB-35-16 GB-35-16 MS GB-35-16 SD
Lab Sample ID: A1792303 A1792303MS A1792303SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			% RPD	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg		RPD	REC.
METHOD 8260 - TCL VOLATILE ORGANICS												
1,1-Dichloroethene	UG/KG	0	51.5	55.2	66.4	66.7	78	83	81	6	42.0	65-148
Trichloroethene	UG/KG	0	47.8	50.2	66.4	66.7	72	75	74	4	50.0	66-125
Benzene	UG/KG	0	56.3	59.6	66.4	66.7	85	89	87	4	25.0	71-120
Toluene	UG/KG	2.9	61.5	68.4	66.4	66.7	88	98	93	11	25.0	68-117
Chlorobenzene	UG/KG	0	48.2	54.6	66.4	66.7	73	82	78	12	25.0	72-120

000125

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK09 MSB
Lab Sample ID: A1836511 A1836512

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	6107	6250	98	65-148
Trichloroethene	UG/KG	6341	6250	101	66-125
Benzene	UG/KG	6271	6250	100	71-120
Toluene	UG/KG	6372	6250	102	68-117
Chlorobenzene	UG/KG	6303	6250	101	72-120

000126

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK10 MSB
Lab Sample ID: A1792305 A1792306

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	44.2	50.0	88	65-148
Trichloroethene	UG/KG	46.3	50.0	93	66-125
Benzene	UG/KG	49.5	50.0	99	71-120
Toluene	UG/KG	51.3	50.0	103	68-117
Chlorobenzene	UG/KG	48.4	50.0	97	72-120

000127

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK10 MSB
Lab Sample ID: A1792307 A1792308

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/L	44.2	50.0	88	65-143
Trichloroethene	UG/L	46.3	50.0	93	72-120
Benzene	UG/L	49.5	50.0	99	71-120
Toluene	UG/L	51.3	50.0	103	69-120
Chlorobenzene	UG/L	48.4	50.0	97	73-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK13 Matrix Spike Blank
Lab Sample ID: A1813209 A1813210

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	57.0	50.0	114	65-148
Trichloroethene	UG/KG	53.3	50.0	107	66-125
Benzene	UG/KG	52.0	50.0	104	71-120
Toluene	UG/KG	57.1	50.0	114	68-117
Chlorobenzene	UG/KG	54.5	50.0	109	72-120

000129

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK13 Matrix Spike Blank
Lab Sample ID: A1821804 A1821805

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	57.0	50.0	114	65-148
Trichloroethene	UG/KG	53.3	50.0	107	66-125
Benzene	UG/KG	52.0	50.0	104	71-120
Toluene	UG/KG	57.1	50.0	114	68-117
Chlorobenzene	UG/KG	54.5	50.0	109	72-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK14 Matrix Spike Blank
Lab Sample ID: A1813207 A1813208

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	49.9	50.0	100	65-148
Trichloroethene	UG/KG	50.0	50.0	100	66-125
Benzene	UG/KG	49.3	50.0	99	71-120
Toluene	UG/KG	54.1	50.0	108	68-117
Chlorobenzene	UG/KG	50.8	50.0	102	72-120

000131

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK17 MSB
Lab Sample ID: A1836507 A1836508

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	53.6	50.0	107	65-148
Trichloroethene	UG/KG	49.1	50.0	98	66-125
Benzene	UG/KG	48.9	50.0	98	71-120
Toluene	UG/KG	54.6	50.0	109	68-117
Chlorobenzene	UG/KG	51.5	50.0	103	72-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK19 Matrix Spike Blank
Lab Sample ID: A1821808 A1821809

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	45.5	50.0	91	65-148
Trichloroethene	UG/KG	45.8	50.0	92	66-125
Benzene	UG/KG	47.9	50.0	96	71-120
Toluene	UG/KG	48.9	50.0	98	68-117
Chlorobenzene	UG/KG	47.9	50.0	96	72-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK19 MSB
Lab Sample ID: A1836509 A1836510

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	45.5	50.0	91	65-148
Trichloroethene	UG/KG	45.8	50.0	92	66-125
Benzene	UG/KG	47.9	50.0	96	71-120
Toluene	UG/KG	48.9	50.0	98	68-117
Chlorobenzene	UG/KG	47.9	50.0	96	72-120

000134

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK22 Matrix Spike Blank
Lab Sample ID: A1796302 A1796303

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	38.7	50.0	77	65-148
Trichloroethene	UG/KG	45.0	50.0	90	66-125
Benzene	UG/KG	47.7	50.0	96	71-120
Toluene	UG/KG	48.7	50.0	97	68-117
Chlorobenzene	UG/KG	47.4	50.0	95	72-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK58 Matrix Spike Blank Matrix Spike Blk Dup
Lab Sample ID: A1796304 A1796305 A1796306

Analyte	Units of Measure	Concentration		Spike Amount		% Recovery			%	QC LIMITS	
		Spike Blank	Spike Blank Dup	SB	SBD	SB	SBD	Avg	RPD	RPD	REC.
METHOD 8260 - TCL VOLATILE ORGANICS											
1,1-Dichloroethene	UG/KG	6101	5869	6250	6250	98	94	96	4	42.0	65-148
Trichloroethene	UG/KG	6277	6055	6250	6250	100	97	99	3	50.0	66-125
Benzene	UG/KG	6274	6017	6250	6250	100	96	98	4	25.0	71-120
Toluene	UG/KG	6220	6082	6250	6250	100	97	99	3	25.0	68-117
Chlorobenzene	UG/KG	6167	6006	6250	6250	99	96	98	3	25.0	72-120

000136

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK66 Matrix Spike Blank
Lab Sample ID: A1813211 A1813212

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	6557	6250	105	65-148
Trichloroethene	UG/KG	6556	6250	105	66-125
Benzene	UG/KG	6585	6250	105	71-120
Toluene	UG/KG	6639	6250	106	68-117
Chlorobenzene	UG/KG	6581	6250	105	72-120

000137

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: VBLK66 Matrix Spike Blank
Lab Sample ID: A1821806 A1821807

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/KG	6557	6250	105	65-148
Trichloroethene	UG/KG	6556	6250	105	66-125
Benzene	UG/KG	6585	6250	105	71-120
Toluene	UG/KG	6639	6250	106	68-117
Chlorobenzene	UG/KG	6581	6250	105	72-120

000138

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: vblk67 msb
Lab Sample ID: A1836513 A1836514

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/L	48.4	50.0	97	65-143
Trichloroethene	UG/L	48.9	50.0	98	72-120
Benzene	UG/L	48.3	50.0	97	71-120
Toluene	UG/L	48.5	50.0	97	69-120
Chlorobenzene	UG/L	48.2	50.0	96	73-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: vblk71 msb
Lab Sample ID: A1836515 A1836516

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/L	48.3	50.0	97	65-143
Trichloroethene	UG/L	51.2	50.0	102	72-120
Benzene	UG/L	51.3	50.0	103	71-120
Toluene	UG/L	52.5	50.0	105	69-120
Chlorobenzene	UG/L	52.5	50.0	105	73-120

000140

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923

Client Sample ID:	GB-35-16	GB-35-16 MS	GB-35-16 SD
Lab Sample ID:	A1792303	A1792303MS	A1792303SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			%	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg	RPD	RPD	REC.
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS												
Phenol	UG/KG	0	3311	3263	4531	4435	73	74	74	1	35.0	28-12[illegible]
2-Chlorophenol	UG/KG	0	3199	3224	4531	4435	71	73	72	3	35.0	27-12[illegible]
1,4-Dichlorobenzene	UG/KG	0	2917	3100	4531	4435	64	70	67	9	35.0	31-12[illegible]
N-Nitroso-Di-n-propylamine	UG/KG	0	3662	3648	4531	4435	81	82	82	1	35.0	33-12[illegible]
1,2,4-Trichlorobenzene	UG/KG	0	3121	3382	4531	4435	69	76	73	10	35.0	32-12[illegible]
4-Chloro-3-methylphenol	UG/KG	0	3892	4064	4531	4435	86	92	89	7	35.0	35-12[illegible]
Acenaphthene	UG/KG	0	4049	4287	4531	4435	89	97	93	9	35.0	36-12[illegible]
4-Nitrophenol	UG/KG	0	3554	4933	4531	4435	78	111	95	35	35.0	30-12[illegible]
2,4-Dinitrotoluene	UG/KG	0	3870	4517	4531	4435	85	102	94	18	35.0	40-12[illegible]
Pentachlorophenol	UG/KG	0	2584	2535	4531	4435	57	57	57	0	35.0	33-12[illegible]
Pyrene	UG/KG	0	4333	4615	4531	4435	96	104	100	8	35.0	32-13[illegible]

000141

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: Method Blank
Lab Sample ID: A1B0782302

Matrix Spike Blank
A1B0782301

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS					
Phenol	UG/L	30.8	100	31	5-120
2-Chlorophenol	UG/L	62.0	100	62	27-120
1,4-Dichlorobenzene	UG/L	52.1	100	52	19-120
N-Nitroso-Di-n-propylamine	UG/L	81.6	100	82	33-120
1,2,4-Trichlorobenzene	UG/L	60.3	100	60	23-120
4-Chloro-3-methylphenol	UG/L	94.7	100	95	43-120
Acenaphthene	UG/L	88.1	100	88	36-120
4-Nitrophenol	UG/L	32.9	100	33	1-120
2,4-Dinitrotoluene	UG/L	99.4	100	99	49-120
Pentachlorophenol	UG/L	106	100	106	18-141
Pyrene	UG/L	106	100	106	47-126

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: S BLANK — Matrix Spike Blank
Lab Sample ID: A1B0756602 — A1B0756601

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS					
Phenol	UG/KG	2655	3257	82	28-120
2-Chlorophenol	UG/KG	2657	3257	82	27-120
1,4-Dichlorobenzene	UG/KG	2482	3257	76	31-120
N-Nitroso-Di-n-propylamine	UG/KG	2918	3257	90	33-120
1,2,4-Trichlorobenzene	UG/KG	2531	3257	78	32-120
4-Chloro-3-methylphenol	UG/KG	2929	3257	90	35-120
Acenaphthene	UG/KG	2901	3257	89	36-120
4-Nitrophenol	UG/KG	2677	3257	82	30-122
2,4-Dinitrotoluene	UG/KG	2845	3257	87	40-120
Pentachlorophenol	UG/KG	3121	3257	96	33-122
Pyrene	UG/KG	2910	3257	89	32-137

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: S BLANK
Lab Sample ID: A1B0761502

Matrix Spike Blank
A1B0761501

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS					
Phenol	UG/KG	1082	3305	33	28-120
2-Chlorophenol	UG/KG	1069	3305	32	27-120
1,4-Dichlorobenzene	UG/KG	1049	3305	32	31-120
N-Nitroso-Di-n-propylamine	UG/KG	1117	3305	34	33-120
1,2,4-Trichlorobenzene	UG/KG	1105	3305	33	32-120
4-Chloro-3-methylphenol	UG/KG	1144	3305	35	35-120
Acenaphthene	UG/KG	1395	3305	42	36-120
4-Nitrophenol	UG/KG	2146	3305	65	30-122
2,4-Dinitrotoluene	UG/KG	2185	3305	66	40-120
Pentachlorophenol	UG/KG	2397	3305	72	33-122
Pyrene	UG/KG	2917	3305	88	32-137

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: SBLK — Matrix Spike Blank — Matrix Spike Blk Dup
Lab Sample ID: A1B0781102 — A1B0781101 — A1B0781103

Analyte	Units of Measure	Concentration		Spike Amount		% Recovery			% RPD	QC LIMITS	
		Spike Blank	Spike Blank Dup	SB	SBD	SB	SBD	Avg		RPD	REC.
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS											
Phenol	UG/KG	2543	2547	3276	3307	78	77	78	1	35.0	28-120
2-Chlorophenol	UG/KG	2446	2491	3276	3307	75	75	75	0	35.0	27-120
1,4-Dichlorobenzene	UG/KG	2241	2361	3276	3307	68	71	70	4	35.0	31-120
N-Nitroso-Di-n-propylamine	UG/KG	2955	2986	3276	3307	90	90	90	0	35.0	33-120
1,2,4-Trichlorobenzene	UG/KG	2364	2404	3276	3307	72	73	73	1	35.0	32-120
4-Chloro-3-methylphenol	UG/KG	2916	2882	3276	3307	89	87	88	2	35.0	35-120
Acenaphthene	UG/KG	2945	2849	3276	3307	90	86	88	4	35.0	36-120
4-Nitrophenol	UG/KG	3225	2774	3276	3307	98	84	91	15	35.0	30-122
2,4-Dinitrotoluene	UG/KG	3097	2655	3276	3307	94	80	87	16	35.0	40-120
Pentachlorophenol	UG/KG	3628	2828	3276	3307	111	85	98	26	35.0	33-122
Pyrene	UG/KG	3186	3241	3276	3307	97	98	98	1	35.0	32-137

000145

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: GB-35-16 GB-35-16 MS GB-35-16 SD
Lab Sample ID: A1792303 A1792303MS A1792303SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			%	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg	RPD	RPD	REC.
TOTAL TAL METALS												
TOTAL ALUMINUM	MG/KG	19144	23029	23443	2636	2636	147 *	163 *	155	10	20.0	80-120
TOTAL ANTIMONY	MG/KG	0	7.87	8.16	6.5	6.5	119	123 *	121	4	20.0	80-120
TOTAL ARSENIC	MG/KG	1.93	25.09	25.11	26.3	26.3	87	87	87	0.	20.0	80-120
TOTAL BARIUM	MG/KG	136.2	144.2	151.4	6.5	6.5	121 *	230 *	176	62 *	20.0	80-120
TOTAL BERYLLIUM	MG/KG	0.922	23.32	23.58	26.3	26.3	84	85	85	1	20.0	80-120
TOTAL CADMIUM	MG/KG	0	22.59	22.91	26.3	26.3	85	86	86	1	20.0	80-120
TOTAL CALCIUM	MG/KG	43474	48166	50005	5273	5273	88	123 *	106	33 *	20.0	80-120
TOTAL CHROMIUM	MG/KG	26.28	52.36	53.02	26.3	26.3	98	101	100	2	20.0	80-120
TOTAL COBALT	MG/KG	13.07	36.76	37.38	26.3	26.3	89	92	91	2	20.0	80-120
TOTAL COPPER	MG/KG	19.36	49.21	48.82	26.3	26.3	113	111	112	1	20.0	80-120
TOTAL IRON	MG/KG	28518	29920	31030	1318	1318	106	190 *	148	57 *	20.0	80-120
TOTAL LEAD	MG/KG	10.22	35.43	35.18	26.3	26.3	95	94	95	1	20.0	80-120
TOTAL MAGNESIUM	MG/KG	15066	18559	18200	2636	2636	132 *	118	125	11	20.0	80-120
TOTAL MANGANESE	MG/KG	519.0	548.4	575.9	26.3	26.3	111	215 *	163	64 *	20.0	80-120
TOTAL MERCURY	MG/KG	0	0.00819	0.00765	0.045	0.045	18 *	17 *	18	7	20.0	80-120
TOTAL NICKEL	MG/KG	29.85	55.69	56.01	26.3	26.3	98	99	99	1	20.0	80-120
TOTAL POTASSIUM	MG/KG	4375	6336	6373	2636	2636	74 *	75 *	75	2	20.0	80-120
TOTAL SELENIUM	MG/KG	0	21.43	21.43	26.3	26.3	81	81	81	0	20.0	80-120
TOTAL SILVER	MG/KG	0	5.89	5.95	6.5	6.5	89	90	90	1	20.0	80-120
TOTAL SODIUM	MG/KG	238.6	1514	1513	1318	1318	96	96	96	0.	20.0	80-120
TOTAL THALLIUM	MG/KG	0	24.55	26.41	26.3	26.3	93	100	97	7	20.0	80-120
TOTAL VANADIUM	MG/KG	33.54	61.10	62.38	26.3	26.3	104	109	107	4	20.0	80-120
TOTAL ZINC	MG/KG	61.76	90.47	90.13	26.3	26.3	108	107	108	1	20.0	80-120

000146

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SDG: 7923
Client Sample ID: Method Blank LFB
Lab Sample ID: A1B0779502 A1B0779501

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
TOTAL TAL METALS					
TOTAL ALUMINUM	MG/L	9.38	10	93	80-120
TOTAL ANTIMONY	MG/L	0.198	0.20	99	80-120
TOTAL ARSENIC	MG/L	0.197	0.20	98	80-120
TOTAL BARIUM	MG/L	0.196	0.20	98	80-120
TOTAL BERYLLIUM	MG/L	0.197	0.20	98	80-120
TOTAL CADMIUM	MG/L	0.194	0.20	97	80-120
TOTAL CALCIUM	MG/L	9.91	10	99	80-120
TOTAL CHROMIUM	MG/L	0.198	0.20	99	80-120
TOTAL COBALT	MG/L	0.196	0.20	98	80-120
TOTAL COPPER	MG/L	0.191	0.20	95	80-120
TOTAL IRON	MG/L	0.407	0.40	101	80-120
TOTAL LEAD	MG/L	0.194	0.20	97	80-120
TOTAL MAGNESIUM	MG/L	9.63	10	96	80-120
TOTAL MANGANESE	MG/L	0.196	0.20	98	80-120
TOTAL NICKEL	MG/L	0.196	0.20	98	80-120
TOTAL POTASSIUM	MG/L	9.81	10	98	80-120
TOTAL SELENIUM	MG/L	0.190	0.20	95	80-120
TOTAL SILVER	MG/L	0.0507	0.050	101	80-120
TOTAL SODIUM	MG/L	9.82	10	98	80-120
TOTAL THALLIUM	MG/L	0.190	0.20	95	80-120
TOTAL VANADIUM	MG/L	0.197	0.20	98	80-120
TOTAL ZINC	MG/L	0.194	0.20	97	80-120

0001447

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-23-15 A01-8218 A1821803	GB-24-16 A01-8218 A1821801	GB-24-16 RI A01-8218 A1821801RI	GB-25-9-10 A01-8218 A1821802	GB-25-9-10 DL A01-8218 A1821802DL
Sample Date	08/23/2001 13:15	08/22/2001 16:45	08/22/2001 16:45	08/23/2001 10:10	08/23/2001 10:10
Received Date	08/24/2001 13:15	08/24/2001 13:15	08/24/2001 13:15	08/24/2001 13:15	08/24/2001 13:15
Extraction Date					
Analysis Date	08/29/2001 01:53	08/29/2001 00:50	09/05/2001 00:00	08/29/2001 01:21	08/29/2001 20:26
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	SOIL LOW	SOIL LOW	SOIL LOW	SOIL LOW	SOIL MED
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	5.19 GRAMS	5.18 GRAMS	5.01 GRAMS	5.06 GRAMS	4.01 GRAMS
% Dry	71.44	70.97	70.97	77.24	77.24

000148

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-26-2 A01-8132 A1813202	GB-27-0-1 A01-7963 A1796301	GB-27-0-1 DL A01-7963 A1796301DL	GB-28-16 A01-8132 A1813203	GB-29-8-9 A01-8132 A1813204
Sample Date	08/21/2001 09:20	08/17/2001 11:40	08/17/2001 11:40	08/20/2001 15:50	08/20/2001 12:00
Received Date	08/22/2001 15:25	08/17/2001 12:50	08/17/2001 12:50	08/22/2001 15:25	08/22/2001 15:25
Extraction Date					
Analysis Date	08/29/2001 13:55	08/22/2001 09:58	08/24/2001 07:30	08/29/2001 03:58	08/29/2001 04:29
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	SOIL LOW	SOIL LOW	SOIL MED	SOIL LOW	SOIL LOW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	5.14 GRAMS	5.05 GRAMS	4.08 GRAMS	5.03 GRAMS	5.08 GRAMS
% Dry	86.73	83.05	83.05	77.65	80.46

000149

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-30-8-9 A01-8132 A1813201	GB-30-8-9 DL A01-8132 A1813201DL	GB-31-6-7 A01-8132 A1813205	GB-32-16 A01-8365 A1836501	GB-32-R A01-8365 A1836502
Sample Date	08/21/2001 15:00	08/21/2001 15:00	08/22/2001 12:15	08/28/2001 11:00	
Received Date	08/22/2001 15:25	08/22/2001 15:25	08/22/2001 15:25	08/29/2001 09:40	
Extraction Date					
Analysis Date	08/29/2001 02:55	08/29/2001 21:26	08/29/2001 21:56	08/31/2001 07:12	
Extraction HT Met?	-	-	-	-	NA
Analytical HT Met?	YES	YES	YES	YES	
Sample Matrix	SOIL LOW	SOIL MED	SOIL MED	SOIL LOW	
Dilution Factor	1.0	1.0	1.0	1.0	
Sample wt/vol	5.09 GRAMS	4.04 GRAMS	4.07 GRAMS	5.1 GRAMS	
% Dry	81.02	81.02	82.84	72.56	

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-30-8-9 A01-8132 A1813201	GB-30-8-9 DL A01-8132 A1813201DL	GB-31-6-7 A01-8132 A1813205	GB-32-16 A01-8365 A1836501	GB-32-R A01-8365 A1836502
Sample Date					08/28/2001 11:00
Received Date					08/29/2001 09:40
Extraction Date					
Analysis Date					09/06/2001 18:29
Extraction HT Met?	NA	NA	NA	NA	-
Analytical HT Met?					YES
Sample Matrix					WATER
Dilution Factor					1.0
Sample wt/vol					0.005 LITERS
% Dry					

000150

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-33-3 A01-7923 A1792302	GB-34-3 A01-8365 A1836504	GB-34-3 DL A01-8365 A1836504DL	GB-35-16 A01-7923 A1792303	GB-36-5 A01-8365 A1836506
Sample Date	08/15/2001 11:30	08/28/2001 15:15	08/28/2001 15:15	08/15/2001 12:30	08/28/2001 12:00
Received Date	08/16/2001 08:55	08/29/2001 09:40	08/29/2001 09:40	08/16/2001 08:55	08/29/2001 09:40
Extraction Date					
Analysis Date	08/23/2001 19:03	08/31/2001 08:14	09/05/2001 02:49	08/23/2001 19:34	08/31/2001 08:46
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	SOIL LOW	SOIL LOW	SOIL MED	SOIL LOW	SOIL LOW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	5.14 GRAMS	5.08 GRAMS	4.19 GRAMS	5.2 GRAMS	5.15 GRAMS
% Dry	82.92	84.07	84.07	72.60	81.40

0001151

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-36-5 DL A01-8365 A1836506DL	GB-37-3-4 A01-7923 A1792301	MW-6-7 A01-8365 A1836503		
Sample Date	08/28/2001 12:00	08/15/2001 09:50	08/28/2001 11:45		
Received Date	08/29/2001 09:40	08/16/2001 08:55	08/29/2001 09:40		
Extraction Date					
Analysis Date	09/05/2001 03:19	08/23/2001 18:31	09/05/2001 01:03		
Extraction HT Met?	-	-	-		
Analytical HT Met?	YES	YES	YES		
Sample Matrix	SOIL MED	SOIL LOW	SOIL LOW		
Dilution Factor	1.0	1.0	1.0		
Sample wt/vol	4.03 GRAMS	5.02 GRAMS	5.2 GRAMS		
% Dry	81.40	84.89	73.81		

0001152

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Trip Blank A01-7923 A1792304	Trip Blank A01-8365 A1836505			
Sample Date	08/15/2001	08/28/2001			
Received Date	08/16/2001 08:55	08/29/2001 09:40			
Extraction Date					
Analysis Date	08/23/2001 21:08	08/30/2001 18:49			
Extraction HT Met?	-	-			
Analytical HT Met?	YES	YES			
Sample Matrix	WATER	WATER			
Dilution Factor	1.0	1.0			
Sample wt/vol	0.005 LITERS	0.005 LITERS			
% Dry					

0001153

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-35-16 MS A01-7923 A1792303MS	GB-35-16 SD A01-7923 A1792303SD	MSB A01-7923 A1792306	MSB A01-7923 A1792308	MSB A01-8365 A1836508
Sample Date	08/15/2001 12:30	08/15/2001 12:30			
Received Date	08/16/2001 08:55	08/16/2001 08:55			
Extraction Date					
Analysis Date	08/23/2001 20:06	08/23/2001 20:37	08/23/2001 14:58		08/30/2001 22:51
Extraction HT Met?	-	-	-	NA	-
Analytical HT Met?	YES	YES	-		-
Sample Matrix	SOIL LOW	SOIL LOW	SOIL LOW		SOIL LOW
Dilution Factor	1.0	1.0	1.0		1.0
Sample wt/vol	5.18 GRAMS	5.16 GRAMS	5.0 GRAMS		5.0 GRAMS
% Dry	72.60	72.60	100.00		100.00

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-35-16 MS A01-7923 A1792303MS	GB-35-16 SD A01-7923 A1792303SD	MSB A01-7923 A1792306	MSB A01-7923 A1792308	MSB A01-8365 A1836508
Sample Date					
Received Date					
Extraction Date					
Analysis Date				08/23/2001 14:58	
Extraction HT Met?	NA	NA	NA	-	NA
Analytical HT Met?				-	
Sample Matrix				WATER	
Dilution Factor				1.0	
Sample wt/vol				0.005 LITERS	
% Dry					

0001154

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	MSB A01-8365 A1836510	MSB A01-8365 A1836512	Matrix Spike Blank A01-7963 A1796303	Matrix Spike Blank A01-7963 A1796305	Matrix Spike Blank A01-8132 A1813208
Sample Date					
Received Date					
Extraction Date					
Analysis Date	09/04/2001 18:16	09/04/2001 18:25	08/22/2001 04:12	08/24/2001 00:28	08/29/2001 12:52
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	-	-	-	-	-
Sample Matrix	SOIL LOW	SOIL MED	SOIL LOW	SOIL MED	SOIL LOW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	5.0 GRAMS	4.0 GRAMS	5.0 GRAMS	4.0 GRAMS	5.0 GRAMS
% Dry	100.00	100.00	100.00	100.00	100.00

000155

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A01-8132 A1813210	Matrix Spike Blank A01-8132 A1813212	Matrix Spike Blank A01-8218 A1821805	Matrix Spike Blank A01-8218 A1821807	Matrix Spike Blank A01-8218 A1821809
Sample Date					
Received Date					
Extraction Date					
Analysis Date	08/28/2001 18:36	08/29/2001 16:29	08/28/2001 18:36	08/29/2001 16:29	09/04/2001 18:16
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	-	-	-	-	-
Sample Matrix	SOIL LOW	SOIL MED	SOIL LOW	SOIL MED	SOIL LOW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	5.0 GRAMS	4.0 GRAMS	5.0 GRAMS	4.0 GRAMS	5.0 GRAMS
% Dry	100.00	100.00	100.00	100.00	100.00

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Matrix Spike Blk Dup A01-7963 A1796306	msb A01-8365 A1836514	msb A01-8365 A1836516		
Sample Date					
Received Date					
Extraction Date					
Analysis Date	08/24/2001 00:58	NA	NA		
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	SOIL MED				
Dilution Factor	1.0				
Sample wt/vol	4.0 GRAMS				
% Dry	100.00				

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Matrix Spike Blk Dup A01-7963 A1796306	msb A01-8365 A1836514	msb A01-8365 A1836516		
Sample Date					
Received Date					
Extraction Date					
Analysis Date		08/30/2001 17:18	09/06/2001 14:52		
Extraction HT Met?	NA	-	-		
Analytical HT Met?		-	-		
Sample Matrix		WATER	WATER		
Dilution Factor		1.0	1.0		
Sample wt/vol		0.005 LITERS	0.005 LITERS		
% Dry					

000157

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK09 A01-8365 A1836511	VBLK10 A01-7923 A1792305	VBLK10 A01-7923 A1792307	VBLK13 A01-8132 A1813209	VBLK13 A01-8218 A1821804
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	09/04/2001 19:46 - - SOIL MED 1.0 4.0 GRAMS 100.00	08/23/2001 15:57 - - SOIL LOW 1.0 5.0 GRAMS 100.00	NA	08/28/2001 19:07 - - SOIL LOW 1.0 5.0 GRAMS 100.00	08/28/2001 19:07 - - SOIL LOW 1.0 5.0 GRAMS 100.00

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK09 A01-8365 A1836511	VBLK10 A01-7923 A1792305	VBLK10 A01-7923 A1792307	VBLK13 A01-8132 A1813209	VBLK13 A01-8218 A1821804
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	NA	NA	08/23/2001 15:57 - - WATER 1.0 0.005 LITERS	NA	NA

000158

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK14 A01-8132 A1813207	VBLK17 A01-8365 A1836507	VBLK19 A01-8218 A1821808	VBLK19 A01-8365 A1836509	VBLK22 A01-7963 A1796302
Sample Date					
Received Date					
Extraction Date					
Analysis Date	08/29/2001 13:24	08/30/2001 23:22	09/04/2001 18:47	09/04/2001 18:47	08/22/2001 04:44
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	-	-	-	-	-
Sample Matrix	SOIL LOW	SOIL LOW	SOIL LOW	SOIL LOW	SOIL LOW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	5.0 GRAMS	5.0 GRAMS	5.0 GRAMS	5.0 GRAMS	5.0 GRAMS
% Dry	100.00	100.00	100.00	100.00	100.00

000159

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK58 A01-7963 A1796304	VBLK66 A01-8132 A1813211	VBLK66 A01-8218 A1821806	vblk67 A01-8365 A1836513	vblk71 A01-8365 A1836515
Sample Date					
Received Date					
Extraction Date					
Analysis Date	08/24/2001 01:28	08/29/2001 17:36	08/29/2001 17:36	NA	NA
Extraction HT Met?	-	-	-		
Analytical HT Met?	-	-	-		
Sample Matrix	SOIL MED	SOIL MED	SOIL MED		
Dilution Factor	1.0	1.0	1.0		
Sample wt/vol	4.0 GRAMS	4.0 GRAMS	4.0 GRAMS		
% Dry	100.00	100.00	100.00		

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK58 A01-7963 A1796304	VBLK66 A01-8132 A1813211	VBLK66 A01-8218 A1821806	vblk67 A01-8365 A1836513	vblk71 A01-8365 A1836515
Sample Date					
Received Date					
Extraction Date					
Analysis Date	NA	NA	NA	08/30/2001 18:19	09/06/2001 15:34
Extraction HT Met?				-	-
Analytical HT Met?				-	-
Sample Matrix				WATER	WATER
Dilution Factor				1.0	1.0
Sample wt/vol				0.005 LITERS	0.005 LITERS
% Dry					

000160

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-27-0-1 A01-7963 A1796301	GB-30-8-9 A01-8132 A1813201	GB-32-R A01-8365 A1836502	GB-33-3 A01-7923 A1792302	GB-34-3 A01-8365 A1836504
Sample Date	08/17/2001 11:40	08/21/2001 15:00		08/15/2001 11:30	08/28/2001 15:15
Received Date	08/17/2001 12:50	08/22/2001 15:25		08/16/2001 08:55	08/29/2001 09:40
Extraction Date	08/24/2001 16:00	08/24/2001 16:00		08/23/2001 09:00	08/31/2001 07:00
Analysis Date	08/25/2001 19:24	08/25/2001 20:07		08/24/2001 18:26	08/31/2001 18:09
Extraction HT Met?	YES	YES		YES	YES
Analytical HT Met?	YES	YES		YES	YES
Sample Matrix	SOIL LOW	SOIL LOW	NA	SOIL LOW	SOIL LOW
Dilution Factor	1.0	1.0		5.0	1.0
Sample wt/vol	30.07 GRAMS	30.88 GRAMS		30.05 GRAMS	30.34 GRAMS
% Dry	83.82	78.61		81.38	82.29

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-27-0-1 A01-7963 A1796301	GB-30-8-9 A01-8132 A1813201	GB-32-R A01-8365 A1836502	GB-33-3 A01-7923 A1792302	GB-34-3 A01-8365 A1836504
Sample Date			08/28/2001 11:00		
Received Date			08/29/2001 09:40		
Extraction Date			08/31/2001 07:00		
Analysis Date			09/07/2001 09:05		
Extraction HT Met?	NA	NA	YES	NA	NA
Analytical HT Met?			YES		
Sample Matrix			WATER		
Dilution Factor			1.0		
Sample wt/vol			0.95 LITERS		
% Dry					

000161

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-34-3 RI A01-8365 A1836504RI	GB-35-16 A01-7923 A1792303	GB-37-3-4 A01-7923 A1792301		
Sample Date	08/28/2001 15:15	08/15/2001 12:30	08/15/2001 09:50		
Received Date	08/29/2001 09:40	08/16/2001 08:55	08/16/2001 08:55		
Extraction Date	08/31/2001 07:00	08/23/2001 09:00	08/23/2001 09:00		
Analysis Date	09/04/2001 13:53	08/24/2001 19:09	08/24/2001 17:43		
Extraction HT Met?	YES	YES	YES		
Analytical HT Met?	YES	YES	YES		
Sample Matrix	SOIL LOW	SOIL LOW	SOIL LOW		
Dilution Factor	5.0	1.0	1.0		
Sample wt/vol	30.34 GRAMS	30.78 GRAMS	30.67 GRAMS		
% Dry	82.29	73.08	83.09		

000162

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GB-35-16 MS A01-7923 A1792303MS	GB-35-16 SD A01-7923 A1792303SD	Matrix Spike Blank A01-7923 A1B0756601	Matrix Spike Blank A01-7963 A1B0761501	Matrix Spike Blank A01-8365 A1B0781101
Sample Date	08/15/2001 12:30	08/15/2001 12:30			
Received Date	08/16/2001 08:55	08/16/2001 08:55			
Extraction Date	08/23/2001 09:00	08/23/2001 09:00	08/23/2001 09:00	08/24/2001 16:00	08/31/2001 07:00
Analysis Date	08/24/2001 19:52	08/25/2001 13:40	08/24/2001 14:50	08/25/2001 17:58	09/04/2001 11:01
Extraction HT Met?	YES	YES	-	-	-
Analytical HT Met?	YES	YES	-	-	-
Sample Matrix	SOIL LOW	SOIL LOW	SOIL LOW	SOIL LOW	SOIL LOW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	30.2 GRAMS	30.85 GRAMS	30.7 GRAMS	30.25 GRAMS	30.52 GRAMS
% Dry	73.08	73.08	100.00	100.00	100.00

0001163

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A01-8365 A1B0782301	Matrix Spike Blk Dup A01-8365 A1B0781103			
Sample Date					
Received Date					
Extraction Date		08/31/2001 07:00			
Analysis Date		08/31/2001 20:18			
Extraction HT Met?	NA	-			
Analytical HT Met?		-			
Sample Matrix		SOIL	LOW		
Dilution Factor		1.0			
Sample wt/vol		30.23	GRAMS		
% Dry		100.00			

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A01-8365 A1B0782301	Matrix Spike Blk Dup A01-8365 A1B0781103			
Sample Date					
Received Date					
Extraction Date	08/31/2001 07:00				
Analysis Date	09/05/2001 10:41				
Extraction HT Met?	-	NA			
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0	LITERS			
% Dry					

0001164

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Method Blank A01-8365 A1B0782302	S BLANK A01-7923 A1B0756602	S BLANK A01-7963 A1B0761502	SBLK A01-8365 A1B0781102	
Sample Date		08/23/2001 09:00	08/24/2001 16:00	08/31/2001 07:00	
Received Date		08/24/2001 15:33	08/25/2001 18:41	09/04/2001 11:44	
Extraction Date		-	-	-	
Analysis Date		-	-	-	
Extraction HT Met?	NA	SOIL LOW	SOIL LOW	SOIL LOW	
Analytical HT Met?		1.0	1.0	1.0	
Sample Matrix		30.57 GRAMS	30.03 GRAMS	30.23 GRAMS	
Dilution Factor		100.00	100.00	100.00	
Sample wt/vol					
% Dry					

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Method Blank A01-8365 A1B0782302	S BLANK A01-7923 A1B0756602	S BLANK A01-7963 A1B0761502	SBLK A01-8365 A1B0781102	
Sample Date					
Received Date					
Extraction Date	08/31/2001 07:00				
Analysis Date	09/05/2001 11:24				
Extraction HT Met?	-	NA	NA	NA	
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

000165

NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A1796301	GB-27-0-1	MG/KG	Aluminum - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Arsenic - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Beryllium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Calcium - Total	6010	10.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/22 07:08	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Mercury - Total	7471	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/24	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/17/2001 11:40	08/17 12:50	NA	NA	08/21 04:38	Yes	SOIL
A1836502	GB-32-R	MG/L	Aluminum - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Barium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Copper - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Iron - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Lead - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/30	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Silver - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	08/28/2001 11:00	08/29 09:40	NA	NA	08/31 22:02	Yes	WATER
A1792302	GB-33-3	MG/KG	Aluminum - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 [illegible]:48	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 [illegible]:48	Yes	SOIL

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A1792302	GB-33-3	MG/KG	Arsenic - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Beryllium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Mercury - Total	7471	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/24	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/15/2001 11:30	08/16 08:55	NA	NA	08/21 02:48	Yes	SOIL
A1792303	GB-35-16	MG/KG	Aluminum - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Arsenic - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Beryllium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Mercury - Total	7471	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/24	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:53	Yes	SOIL
A1792301	GB-37-3-4	MG/KG	Aluminum - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Arsenic - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

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Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A1792301	GB-37-3-4	MG/KG	Beryllium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Mercury - Total	7471	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/24	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/15/2001 09:50	08/16 08:55	NA	NA	08/21 02:43	Yes	SOIL

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A1792303MS	GB-35-16 MS	MG/KG	Aluminum - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Arsenic - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Beryllium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Mercury - Total	7471	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/24	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 02:58	Yes	SOIL
A1792303SD	GB-35-16 SD	MG/KG	Aluminum - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Arsenic - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Beryllium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Mercury - Total	7471	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/24	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/15/2001 12:30	08/16 08:55	NA	NA	08/21 03:03	Yes	SOIL
A1B0740602	Method Blank	MG/KG	Aluminum - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:	Yes	SOIL

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A1B0740602	Method Blank	MG/KG	Arsenic - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Beryllium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Aluminum - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Arsenic - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Beryllium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:33	Yes	SOIL
A1B0762402	Method Blank	MG/KG	Mercury - Total	7471	1.00	-	- 08:55	NA	NA	08/24	Yes	SOIL
		MG/KG	Mercury - Total	7471	1.00	-	- 12:50	NA	NA	08/24	Yes	SOIL
A1B0778803	Method Blank	MG/L	Mercury - Total	7470	1.00	-	- 09:40	NA	NA	08/30	Yes	WATER
A1B0779502	Method Blank	MG/L	Aluminum - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

001770

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A1B0779502	Method Blank	MG/L	Barium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Copper - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Iron - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Lead - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Silver - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:19	Yes	WATER
A1B0762401	LCS	MG/KG	Mercury - Total	7471	1.00	-	- 08:55	NA	NA	08/24	Yes	SOIL
		MG/KG	Mercury - Total	7471	1.00	-	- 12:50	NA	NA	08/24	Yes	SOIL
A1B0778801	LCS	MG/L	Mercury - Total	7470	1.00	-	- 09:40	NA	NA	08/30	Yes	WATER
A1B0740601	LCS CLP Soils	MG/KG	Aluminum - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Arsenic - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Beryllium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/20/2001 08:00	08/20 08:55	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Aluminum - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Antimony - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Arsenic - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Barium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A1B0740601	LCS CLP Soils	MG/KG	Beryllium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Cadmium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Calcium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Chromium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Cobalt - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Copper - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Iron - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Lead - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Magnesium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Manganese - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Nickel - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Potassium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Selenium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Silver - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Sodium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Thallium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Vanadium - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
		MG/KG	Zinc - Total	6010	1.00	08/20/2001 08:00	08/20 12:50	NA	NA	08/21 02:38	Yes	SOIL
A1B0778802	LFB	MG/L	Mercury - Total	7470	1.00	-	- 09:40	NA	NA	08/30	Yes	WATER
A1B0779501	LFB	MG/L	Aluminum - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Barium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Copper - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Iron - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Lead - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Silver - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	-	- 09:40	NA	NA	08/31 21:23	Yes	WATER

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A1821901	GB-25-4-7	MG/KG	Total Organic Carbon	KAHN	1.00	08/23/2001 09:20	08/24 13:15	NA	NA	08/29	Yes	SOIL
A1813301	MW-7-22	MG/KG	Total Organic Carbon	KAHN	1.00	08/22/2001 09:25	08/22 15:25	NA	NA	08/29	Yes	SOIL
A1813302	MW-7-32	MG/KG	Total Organic Carbon	KAHN	1.00	08/22/2001 10:25	08/22 15:25	NA	NA	08/29	Yes	SOIL
A1793301	MW-8-16-18	MG/KG	Total Organic Carbon	KAHN	1.00	08/14/2001 10:45	08/16 08:55	NA	NA	08/22	Yes	SOIL

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Chain of Custody

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM Inc.	Project Manager: Jon Fox	Date: 8/15/01	Chain of Custody Number: 013063
Address: 5788 Widewaters PKwy.	Telephone Number (Area Code)/Fax Number: 315-445-2554	Lab Number:	Page 1 of 1
City: Dewitt / State: NY / Zip Code: 13214	Site Contact: Jeremy Wolf	Lab Contact: Brian J Fischer	
Project Name and Location (State): Greif Bros. Buffalo NY	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: D6714.00.01			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	Analysis: grain size	moisture content	sat. hyd. conductivity	porosity	bulk density	TOC (Lloyd Kahn)	VOC	SVOC	Metals
MW-8-16-18	8-14-01	10:45				✓	✓						✓	✓	✓	✓	✓	✓			
GB-37-3-4	8-15-01	0950				✓	✓												✓	✓	✓
GB-33-3	8-15-01	1130				✓	✓												✓	✓	✓
GB-35-16	8-15-01	1270				✓	✓												✓	✓	✓
GB-35-16 MSD	8-15-01	1220				✓	✓												✓	✓	✓
TB-1				✓						✓									✓		

Special Instructions/ Conditions of Receipt: Shelby Tube for geotech Analysis

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Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other verbal - 2wks report - 2wks.

QC Requirements (Specify): EDD & Standard Level II

	Date	Time		Date	Time
1. Relinquished By: Jeremy Wolf	8/16/01	900	1. Received By:	8-16-01	8:55
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

000175

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: Sonoco (JP) ERM Inc.	Project Manager: Jon Fox	Date: 8/17/01	Chain of Custody Number: 013439
Address: 5788 Widewaters Pkwy	Telephone Number (Area Code)/Fax Number: (315) 445-2554	Lab Number:	Page 1 of 1
City: DeWitt / State: NY / Zip Code: 13214	Site Contact: Jeff Poetz	Lab Contact: Brian J. Fischer	
Project Name and Location (State): Ored Bros. Buffalo NY	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: D6714			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	Analysis: Grain (SG)	VOC	SVOC	Metals	Special Instructions/ Conditions of Receipt
GB-27-0-1	8/17/01	1140				X	X							X	X	X	
TB-2	8/17/01	1140		X						X				X			

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	8/17/01	1208	1. Received By: C. Myers STL	8-17-01	12:50 PM
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

nts 10°C

00015

DITION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM	Project Manager: Jon Fox	Date: 8/22/01	Chain of Custody Number: 013445
Address: 5788 Widewaters Pkwy	Telephone Number (Area Code)/Fax Number: (315) 445-2554	Lab Number:	Page 1 of 1
City: DeWitt / State / Zip Code	Site Contact: Jeff Paetz	Lab Contact:	
Project Name and Location (State): Seneca / Great Tonawanda NY	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: D6714			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	VOC	SVOC	Metals	Grain Size	Moisture Content	Sat. hyd. Conductivity	Porosity	Bulk density	TOC (Lloyd Kahn)	Special Instructions/ Conditions of Receipt
TB-3	—	—		X						X			X									
GB-30-8-9	8/21/01	1500				X	X						X	X	X							* Hold on analysis of metals for all Samples on this C pending verbal auth
GB-26-2	8/21/01	0920				X	X						X		X							
GB-28-16	8/20/01	0350				X	X						X		X							
GB-29-8-9	8/20/01	1200				X	X						X		X							
MW-7-22-24	8/22/01	09:20				X	X									X	X	X	X	X	M (JW)	Shelby Tube
MW-7-22	8/22/01	09:25				X	X														X	
MW-7-32-34	8/22/01	10:15				X	X									X	X	X	X	X		Shelby Tube
MW-7-32	8/22/01	10:25				X	X														X	Shelby (JW)
GB-31-6-7	8/22/01	1215				X	X						X									

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By			1. Received By: C. Myers	8-22-01	3:25 PM
2. Relinquished By			2. Received By: 40		
3. Relinquished By			3. Received By		

Comments: See Comment regarding metals — Hold on all metals analysis for this COC pending verbal authoriz

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

00047

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM Inc.	Project Manager: Jon Fox	Date: 8/23/01	Chain of Custody Number: 013446
Address: 5788 Widewaters Pkwy	Telephone Number (Area Code)/Fax Number: (315) 445-2554	Lab Number:	Page ____ of ____
City: DeWitt / State: NY / Zip Code: 13214	Site Contact: J. Paetz	Lab Contact: Brian Fisher	
Project Name and Location (State): Gratt Bros. Buffalo NY	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: D6714			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	Analysis: VOC 8260	Grain size	moisture content	Sat. hyd cond.	Porosity	Bulk density	TOC
~~TB-4~~ (SD) A				X						X			X						
GB-24-16	8/22/01	1645				X	X						X						
GB-25-9-10	8/23/01	1010				X	X						X						
GB-25-4-7	8/23/01	0920				X	X							X	X	X	X	X	
GB-25-4-7	8/23/01	0920				X	X												X
GB-27-15	8/23/01	1315				X	X						X						

Special Instructions/ Conditions of Receipt

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Jeremy Wulff	8/24/01	13:15	1. Received By: C. Myre	8-24-01	1:15 PM
2. Relinquished By:	Date	Time	2. Received By:	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: * Do not analyze TB-4 — 40

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

00178

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM Inc.	Project Manager: Jon Fox	Date: 8/28/01	Chain of Custody Number: 013447
Address: 5788 Widewaters Pkwy	Telephone Number (Area Code)/Fax Number: 315-445-2554	Lab Number:	Page 1 of 1
City: DeWitt / State: NY / Zip Code: 13214	Site Contact: J. Paetz	Lab Contact: Brian Fisher	
Project Name and Location (State): Gretna Bro. Buffalo, NY	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: D614.00.01			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	HNO3	Analysis: VOC	SVOC PNA	Metals	Special Instructions/ Conditions of Receipt
GB-32-16	8/28/01	1100				X	X							X			2
GB-32-R	8/28/01	1100		X			X			X			X	X	X	X	6
MW-6-7	8/28/01	11:45				X	X							X			1
GB-34-3	8/28/01	1515				X	X							X	X		2
TB-4	—	—		X						X				X			2
GB-36-5	8/28/01	1200				X	X							X			1

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [ ] Disposal By Lab [ ] Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: [ ] 24 Hours [ ] 48 Hours [ ] 7 Days [ ] 14 Days [ ] 21 Days [ ] Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	8/28/01	0940	1. Received By: C. Myers	8-29-01	9:40 AM
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: 40

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

00179

Appendix A

SEVERN TRENT SERVICES

AO1-8233

STL Burlington
208 South Park Drive
Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248
www.stl-inc.com

September 7, 2001

Mr. Ryan Van Dette
Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Re: Laboratory Project No. 21000
Case: 21000; ETR: 84422

Dear Mr. Van Dette:

Enclosed are the analytical results of samples received intact by Severn Trent Laboratories on August 24, 2001. Laboratory numbers have been assigned and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 08/24/01 ETR No: 84422		
463223	MW-7 22-24	08/22/01	Soil
463224	MW-7 32-34	08/22/01	Soil

No exceptions the method quality control requirements were noted during analysis.

Please note that client specific matrix spike/matrix spike duplicate samples were not performed, nor requested with this sample delivery group.

The results for soil samples were reported on a dry weight basis.

If there are any questions regarding this submittal, please contact Ron Pentkowski at (802) 655-1203.

This report shall not be reproduced, except in full, without the written approval of the laboratory. This report is sequentially numbered starting with page 0001 and ending with page 0006.

STL Burlington is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

STL Burlington

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

Sincerely,

Christopher A. Ouellette
Laboratory Director

Enclosure

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES

STL Burlington

Analytical Report

Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Attention : Ryan Van Dette

Date : 09/06/01
ETR Number : 84422
Project No.: 21000
No. Samples: 2
Arrived : 08/24/01

Project# NY1A8821

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
463223	MW-7 22-24:08/22/01 @0925(Soil)	
IN847	TOC by Lloyd Kahn	6520 f
IN623	Solids, Percent	75.1 c
463224	MW-7 32-34:08/22/01 @1025(Soil)	
IN847	TOC by Lloyd Kahn	7680 f
IN623	Solids, Percent	82.3 c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received
Method IN623 Percent Solids analysis performed on 08/28/01.
TOC by Lloyd Kahn analysis performed on 08/29/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recoveries = 91% and 83%

< Last Page > Submitted By : STL Burlington

0003 Kristine Dunham

STL Buffalo
Internal Chain of Custody

0001284

Client: ERM (vs Grief Brothers)
Project: NY1A8821
Quote: NY01-179
SM #: 899

Turn Around Required: 10B

Client Sample ID	Lab ID	Matrix	Parameters	# and Type of Samp Containers	Sample Date/Time
MW-7-22	A1813301	SOIL	TOC	1-40Z GW	08/22/2001 09:25
MW-7-32	A1813302	SOIL	TOC	1-40Z GW	08/22/2001 10:25

Relinquished by STL Buffalo: Signature(s)	Date	Time	Received By STL - Vermont: Signature(s)	Date	Time
(1) TLRell	8/22/2001	12:00	(3) Jay S. Smithers	8/24/2001	0930
(2)	/ /20		(4)	/ /20	

0004

Job No: A01-8133
Project/Task: NY1A8821 1

st No.	Description	Prot	Method	Mtx	TCLP	Holding Type	Holding Tclp	Holding Extr	Holding Anal	Prep Type	Unit Measure	Detect Limit Type	Detect Limit Value	Spikes Code	Spikes Amount	Spikes Conc	QC Limits	RPD
	WET CHEMISTRY																	
A13250	TOTAL ORGANIC CARBON (SUBCONTRACT	OTHER	KAHN	Soil	N	S	0	0	28	N	MG/KG	EQL	0.00000	A00088		*** No Limits ***		

00185

0005

Chain of Custody Record

00186

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

TL-4124 (0700)

Client	Project Manager	Date	Chain of Custody Number
ERM	Jon Fox	8/22/01	01345
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 1
5788 Widewaters Pkwy	(315) 445-2554		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
DeWitt	Jeff Paetz		
Project Name and Location (State)	**Carrier/Waybill Number**		
Sonoco / Great Tonawanda NY			
Contract/Purchase Order/Quote No.			
D6714			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): VOC	SVOC	Metals	Grain size	Moisture Content	Sat. hyd. conductivity	Porosity	Bulk density	TOC (Lloyd Kahn)	Special Instructions/ Conditions of Receipt
TB-3	—	—		X						X			X									
GB-30-8-9	8/21/01	1500				X	X						X	X	X							* Hold on analysis of metals for all samples on this COC pending verbal authorization
GB-26-2	8/21/01	0920				X	X						X		X							
GB-28-16	8/20/01	0350				X	X						X		X							
GB-29-8-9	8/20/01	1200				X	X						X		X							
MW-7-22-24	8/22/01	09:20				X	X									X	X	X	X	X	M (JW)	Shelby Tube
MW-7-22	8/22/01	09:25				X	X														X	
MW-7-32-34	8/22/01	10:15				X	X									X	X	X	X	X		Shelby Tube
MW-7-32	8/22/01	10:25				X	X														X	Shelby (JW)
GB-31-6-7	8/22/01	1215				X	X						X									

0000

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time
1. Relinquished By		
2. Relinquished By C. Myers	8-22-01	17:00
3. Relinquished By		

	Date	Time
1. Received By C. Myers	8-22-01	3:25 PM
2. Received By Jay S. Smithers 40	8/24/01	0930
3. Received By		

Comments
SC Comment regarding metals — Hold on all metals analysis for this COC pending verbal authorization

DISTRIBUTION: White - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

AO1-7933

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES

STL Burlington

000187

Preliminary

Analytical Report

Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Attention : Ryan Van Dette

Date : 09/14/01
ETR Number : 84338
Project No.: 21000
No. Samples: 1
Arrived : 08/18/01

Page 1

Project#:NY1A8821

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
462715	MW-8-16-18:08/14/01 @1045(Soil)	
IN847	TOC by Lloyd Kahn	6050 f
IN623	Solids, Percent	80.7 c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received
Method IN623 Percent Solids analyzed on 08/21/01.
TOC by Lloyd Kahn analysis performed on 08/22/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recovery = 101%.

< Last Page > Submitted By : STL Burlington

Chain of Custody Record

SEVERN TRENT SERVICES — **Severn Trent Laboratories, Inc.**

STL-4124 (0700)

Client: ERM. Inc.	Project Manager: Jon Fox	Date: 8/15/01	Chain of Custody Number: 013063
Address: 5788 Widewaters Pkwy.	Telephone Number (Area Code)/Fax Number: 315-445-2554	Lab Number:	Page 1 of 1
City: Dewitt / State: NY / Zip Code: 13214	Site Contact: Jeremy Wolf	Lab Contact: Brian T Fischer	
Project Name and Location (State): Greif Bros. Buffalo NY	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 06714.00.01			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: grain size	moisture content	Sat. hyd. Conductivity	porosity	bulk density	TOC (Lloyd)	VOC	SVOC	Metals	Special Instructions/ Conditions of Receipt
MW-8-16-18	8-14-01	10:45				✓	✓						✓	✓	✓	✓	✓	✓				Shelby Tube for
GB-37-3-4	8-15-01	0950				✓	✓												✓	✓	✓	Geotech Analysis.
GB-33-3	8-15-01	1130				✓	✓												✓	✓	✓	
GB-35-16	8-15-01	1270				✓	✓												✓	✓	✓	
GB-35-LC (SD)	8-15-01	1220				✓	✓												✓	✓	✓	
TB-1				✓						✓									✓			

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other: verbal - 24hrs report - 2wks

QC Requirements (Specify): EDD & Standard Level II

	Date	Time		Date	Time
1. Relinquished By: Jeremy Wolf	8/16/01	700	1. Received By:	8/16/01	8:55
2. Relinquished By:	8/17/01	15:30	2. Received By:	8/18/01	1115
3. Relinquished By:	Date	Time	3. Received By:	Date	Time

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

00186

SEP-14-01 FRI 10:14 AM FAX NO. P. 03

STL Buffalo
Internal Chain of Custody

P. 04
000189

Client: ERM (vs Grief Brothers)
Project: NY1A8821
Quote: NY01-179
SM #:

Turn Around Required: 10B

Client Sample ID	Lab ID	Matrix	Parameters	# and Type of Samp Containers	Sample Date/Time
MW-8-16-18	A1793301	SOIL	GEO TECHNICAL AND TOC(LK	1-SHELBY	08/14/2001 10:45

Relinquished by STL Buffalo: Signature(s)	Date	Time	Received By STL - Vermont: Signature(s)	Date	Time
(1) T L Hill	8/17/2001	15:00	(3) Jay S-Smithers	8/18/2001	1115
(2)	/ /20		(4)	/ /20	

No extra volume was received for TOC Analysis please use soil from shelby Tube

If you have any questions call Brian Fischer (STL Buffalo)

FAX NO.
SEP-14-01 FRI 10:15 AM

Job No: A01-7933
Project/Task: NY1A8821 1

Test No.	Description	Prot	Method	Mtx	TCLP	Holding Type	Holding Tclp	Holding Extr	Holding Anal	Prep Type	Unit Measure	Detect Limit Type	Detect Limit Value	Detect Limit Code	Spikes Amount	Spikes Conc	Spikes QC Limits	Spikes RPD
WC	WET CHEMISTRY																	
CTA13250	TOTAL ORGANIC CARBON (SUBCONTRACT	OTHER	KAHN	Soil	N	S	0	0	28	N	MG/KG	EQL	0.00000	A00088		*** No Limits ***		

SEP-14-01 FRI 10:15 AM FAX NO.

000191

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES
STL Burlington

Preliminary
Analytical Report

Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Attention : Ryan Van Dette

Date : 09/14/01
ETR Number : 84468
Project No.: 21000
No. Samples: 1
Arrived : 08/28/01

Proj#NY1A8821

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result	
463457	GB-25-4-7:08/23/01 @0920(Soil)		
IN847	TOC by Lloyd Kahn	18700	f
IN623	Solids, Percent	68.9	c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received
Percent Solids analysis performed on 08/29/01.
TOC by Lloyd Kahn analysis performed on 08/29/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recoveries = 91% and 83%

< Last Page > Submitted By : STL Burlington

140-8219

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES

0192

STL Burlington

Preliminary

Analytical Report

Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Date : 09/14/01
ETR Number : 84450
Project No.: 21000
No. Samples: 2
Arrived : 08/24/01

Attention : Ryan Van Dette

Job:NY1A8821

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
463363	MW-7-22-24:08/22/01 @0920(Soil)	
IN847	TOC by Lloyd Kahn	1490 f
IN623	Solids, Percent	84.8 c
463364	MW-7-32-34:08/22/01 @1015(Soil)	
IN847	TOC by Lloyd Kahn	5560 f
IN623	Solids, Percent	85.7 c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received
Method IN623 Percent Solids analysis performed on 08/28/01.
TOC by Lloyd Kahn analysis performed on 08/29/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recoveries = 91% and 83%
TOC by Lloyd Kahn analysis performed on 08/30/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recoveries = 110% and 114%.

< Last Page > Submitted By : STL Burlington

000193

Fax message

Date: 8-24-01

To: R. Pentkowski

Company: STL VT

Fax: (802)655-1248

From: B. Fischer

Subject: Salem Tube COC

Pages: 2

Ron,

Here Is Copy of That COC You Requested.

Brian

Severn Trent Laboratories, Inc.
STL Buffalo
10 Hazelwood Drive
Amherst, New York 14228

Tel 716 691 2600
Fax 716 691 7991
www.stl-inc.com

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SEP-14-01 FRI 10:16 AM
08/24/2001 16:03 FAX 7186917991
SEVERN TRENT LAB.
FAX NO.
P. 08

Chain of Custody Record

Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM
Address: 5788 Widewaters Pkwy
City: DeWitt
State: Zip Code:
Project Name and Location (State): Seneca / Brent Tonawanda NY
Contract/Purchase Order/Quote No.: D6714

Project Manager: Jon Fox
Telephone Number (Area Code)/Fax Number: (315) 445-2554
Site Contact: Jeff Poetz
Lab Contact:
Carrier/Waybill Number:

Date: 8/22/01
Lab Number:
Chain of Custody Number: 013445
Page 1 of 1

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: VOC	SVOCs	Metals	Grain size	Moisture Content	Sat. hyd. conductivity	Porosity	Bulk density	TOC (Lloyd Kahn)	Special Instructions/ Conditions of Receipt
TB-3	—	—		X						X			X									
GB-30-8-9	8/21/01	1500				X	X						X	X	X							* Hold on analysis of metals for all samples on this COC pending verbal authorization
GB-26-7	8/21/01	0920				X	X						X		X							
GB-28-16	8/20/01	0350				X	X						X		X							
GB-29-8-9	8/20/01	1200				X	X						X		X							
MW-7-22-24	8/22/01	09:20				X	X									X	X	X	X	X	X	Shelby Tube
MW-7-22	8/22/01	09:25				X	X									X	X	X	X	X		
MW-7-32-34	8/22/01	10:15				X	X									X	X	X	X	X		Shelby Tube
MW-7-32	8/22/01	10:25				X	X														X	Shelby
GB-31-6-7	8/22/01	1215				X	X						X									

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposed By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

QC Requirements (Specify):

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

	Date	Time
1. Relinquished By		
2. Relinquished By	8-23-01	
3. Relinquished By		

	Date	Time
1. Received By	8-22-01	5:25 pm
2. Received By		
3. Received By	8-24-01	0930

Comments: See Comment regarding metals – Hold on all metals analysis for this COC pending verbal authorization

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

000294

Chain of Custody Record

TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM Inc.	Project Manager: Tom Fox	Date: 8/23/01	Chain of Custody Number: 013446
Address: 5788 Widewaters Pkwy	Telephone Number (Area Code)/Fax Number: (315) 445-2554	Lab Number	Page ____ of ____
City: DeWitt / State: NY / Zip Code: 13214	Site Contact: J. Paetz	Lab Contact: Brian Fisher	
Project Name and Location (State): Onondaga Lake, Buffalo NY	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: D6714			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOC 8260	Grain size	moisture content	Sulfide, Lyd Cond	Cl, SO4	Bulk density	TOC
TB-4 (1) *				X						X			X						
GB-24-16	8/22/01	1645				X	X						X						
GB-25-9-10	8/23/01	1010				X	X						X						
GB-25-4-7	8/23/01	0920				X	X							X	X	X	X	X	
GB-25-4-7	8/23/01	0920				X	X												X
GB-27-15	8/23/01	1315				X	X						X						

Special Instructions/ Conditions of Receipt

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Jerry Wolff	8/24/01	13:15	1. Received By: C. Myers	8-24-01	1:15 pm
2. Relinquished By: C. Myers	8/24/01	17:00	2. Received By: [signature]	8/25/01	0930
3. Relinquished By			3. Received By		

Comments: * Do not analyze TB-4 — 4° Cooler temp: 6°

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEP-14-01 FRI 10:17 AM FAX NO. P. 10

000135

STL Buffalo
Internal Chain of Custody

Client: ERM (vs Grief Brothers)
Project: NY1A8821
Quote: NY01-179
SM #: 904

Turn Around Required: 10B

Client Sample ID	Lab ID	Matrix	Parameters	# and Type of Samp Containers	Sample Date/Time
GB-25-4-7	A1821901	SOIL	TOC	1-20Z GW	08/23/2001 09:20

Relinquished by STL Buffalo: Signature(s)	Date	Time	Received By STL - Vermont: Signature(s)	Date	Time
(1) TLRiell	8/24/2001	17:00	(3)	8/28/2001	0930
(2)	/ /20		(4)	/ /20	

Cooler temp: 6°C

SEP-14-01 FRI 10:18 AM FAX NO. P. 11

000495

Job No: A01-8219
Project/Task: NY1AB821 1

Test No.	Description	Prot	Method	Mtx	TCLP	Holding Type	Holding Tclp	Holding Extr	Holding Anal	Prep Type	Unit Measure	Detect Limit Type	Detect Limit Value	Spikes Code	Spikes Amount	Spikes Conc	QC Limits	RPD
WC	WET CHEMISTRY																	
CTA13250	TOTAL ORGANIC CARBON (SUBCONTRACT	OTHER	KAHN	Soil	N	S	0	0	28	N	MG/KG	EQL	0.00000	A00088		*** No Limits ***		

SEP-14-01 FRI 10:20 AM

FAX NO.

P. 12/12

000197

Appendix G
Laboratory Analytical Report – Geotechnical Samples

JSF

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

October 5, 2001

Mr. Jon Fox
ERM
5788 Widewaters Parkway
Dewitt, NY 13214

Dear Mr. Fox:

Please find enclosed geotechnical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Project Name:	Greif Bros. Site
Matrix:	Soil
Samples Received:	08/18,24/01
Sample Date:	08/14,22,23/01

Subcontracted analyses performed by GZA GeoEnvironmental of New York is included in this report as Appendix A. Subcontracted analyses performed by STL Burlington is included in this report as Appendix B, Appendix C and Appendix D. If you have any questions concerning these data, please contact the Program Manager at (716) 691-2600. It has been our pleasure to provide ERM with environmental testing services. We look forward to serving you in the future.

Sincerely,

STL Buffalo

Brian J. Fischer
Program Manager

BJF/sth
Enclosure

#NY1A8821

This report contains 30 pages which are individually numbered.

Appendix A

OCT 1 2001

GZA GeoEnvironmental of New York
Engineers and Scientists
364 Nagel Drive
Buffalo, New York 14225
(716) 685-2300

LETTER OF TRANSMITTAL

TO: Severn Trent Laboratories
10 Hazelwood Drive
Amherst, New York 14218
Attn: Brian Fischer

DATE: 09/28/01	JOB NO. 1300.78
RE: ERM, Inc./Greif Brothers Project	

COPIES	DATE	DESCRIPTION
1	09/28/2001	Geotechnical Laboratory Test Results

THESE ARE TRANSMITTED as checked below:

___ For Approval ___ Approved as submitted ___ Resubmit _____ copies for approval
XX For your use ___ Approved as noted ___ Submit _____ copies for distribution
XX As requested ___ Returned for corrections ___ Return _____ corrected prints
___For review and comment ___ Other

NOTES:

SIGNED: Daniel E. Wulf

COPY TO: File

If enclosures are not as noted, kindly notify us at once.

GEOTECHNICAL LABORATORY TESTING DATA SUMMARY

PROJECT NAME: ERM, INC./GREIF BROTHERS
LOCATION: BUFFALO, NEW YORK
PROJECT NO. 1300.78 CLIENT: SEVERN TRENT

MATERIAL SOURCE: TEST BORINGS
DATE REPORTED: SEPTEMBER 28, 2001 WORK ORDER NO. 4125

IDENTIFICATION			WATER CONTENT	ATTERBERG LIMITS			GRAIN SIZE ANALYSIS		MOISTURE-DENSITY RELATIONSHIP (Modified)		PERMEABILITY TEST ASTM D 5084					LABORATORY LOG AND SOIL DESCRIPTION
EXPLOR. NUMBER	SAMPLE NUMBER	DEPTH ft.	%	LL %	PL %	PI	SIEVE -200 %	HYD. -2μ %	MAX. DRY DENSITY pcf	OPT. WATER CONTENT %	PERME-ABILITY cm/sec.	TYPE OF TEST	$\bar{\sigma}_c$ psf	DRY UNIT WT pcf	WATER CONTENT %	
SHELBY TUBE	GB-25-4-7	4.0-7.0	SAMPLE NOT TESTED (UNSUITABLE FOR TESTING) (ALSO NOT ENOUGH VOLUME TO RECONSTITUTE A SAMPLE)													
SHELBY TUBE	MW-7-22-24	22.0-24.0									1.0E-04	K	2390.0	102.0	17.8	
SHELBY TUBE	MW-7-32-34	32.0-34.0									1.6E-04	K	3024.0	102.4	15.6	
SHELBY TUBE	MW-8-16-18	16.0-18.0									1.7E-07	K	2016.0	115.4	15.7	

000003

FALLING HEAD PERMEABILITY TEST

PROJECT	ERM INC./GREIF BROS.	FILE NO.	1300.78
WORK ORDER NO.	4125	SAMPLE NO.	MW-7-22-24
INITIAL DIAMETER (IN)	2.840	SERIES:	K2.1
INITIAL LENGTH (IN)	2.063		
INITIAL WEIGHT (GM)	412.10		
FINAL DIAMETER (IN)	2.671		
FINAL LENGTH (IN)	2.081		
SAT WEIGHT+TARE (GM)	456.94		
DRY WEIGHT+TARE (GM)	399.54		
TARE WEIGHT (GM)	49.79		
INITIAL MOISTURE (%)	17.8	FINAL MOISTURE (%)	16.4
INITIAL DENSITY (PCF)	102.0	FINAL DENSITY (PCF)	114.3
CELL PRESSURE (PSI)	96.6	SATURATED Gs	2.62
BACK PRESSURE (PSI)	80		
DRIVING PRESSURE (PSI)	80.2		
MAX EFFECTIVE STRESS (PSI)	17	MIN EFF STRS (PSI)	16.4

READING NO.	TIME (MIN)	INFLOW (CC)	OUTFLOW (CC)	TEMP	GRADIENT	PERMEABILITY (CM/SEC)
	0	0.10	0.00		6	
1	0.03	0.15	0.05	22.3	6	1.2E-04
2	0.08	0.20	0.10	22.3	5	8.6E-05
3	0.12	0.25	0.15	22.3	5	1.0E-04
4	0.17	0.30	0.20	22.3	5	9.0E-05
5	0.22	0.35	0.25	22.3	5	8.9E-05
6	0.26	0.40	0.30	22.3	5	1.0E-04
7	0.30	0.45	0.35	22.3	5	1.2E-04
8	0.34	0.50	0.40	22.3	5	1.2E-04
9	0.39	0.55	0.45	22.3	4	1.1E-04
10	0.43	0.60	0.50	22.3	4	1.1E-04
11					6	#VALUE!
12					6	#VALUE!
13					6	#VALUE!
14					6	#VALUE!
15					6	#VALUE!
AVERAGE K BETWEEN READINGS			3	AND	10	1.0E-04
ACCEPTABLE RANGE OF READINGS AVERAGED					7.8E-05	1.3E-04

FALLING HEAD PERMEABILITY TEST

PROJECT	ERM INC./GREIF BROS.		FILE NO.	1300.78
WORK ORDER NO.	4125		SAMPLE NO.	MW-7-32-34
INITIAL DIAMETER (IN)		2.842	SERIES:	K3.1
INITIAL LENGTH (IN)		1.986		
INITIAL WEIGHT (GM)		391.50		
FINAL DIAMETER (IN)		2.878		
FINAL LENGTH (IN)		1.828		
SAT WEIGHT+TARE (GM)		449.12		
DRY WEIGHT+TARE (GM)		386.00		
TARE WEIGHT (GM)		47.41		
INITIAL MOISTURE (%)		15.6	FINAL MOISTURE (%)	18.6
INITIAL DENSITY (PCF)		102.4	FINAL DENSITY (PCF)	108.5
CELL PRESSURE (PSI)		101.0	SATURATED Gs	2.57
BACK PRESSURE (PSI)		80		
DRIVING PRESSURE (PSI)		80.0		
MAX EFFECTIVE STRESS (PSI)		21	MIN EFF STRS (PSI)	21

READING NO.	TIME (MIN)	INFLOW (CC)	OUTFLOW (CC)	TEMP	GRADIENT	PERMEABILITY (CM/SEC)
	0	0.22	0.00		3	
1	0.03	0.30	0.05	22.4	3	2.0E-04
2	0.07	0.35	0.10	22.4	3	1.6E-04
3	0.10	0.40	0.15	22.4	3	2.1E-04
4	0.14	0.45	0.20	22.4	3	1.7E-04
5	0.18	0.50	0.25	22.4	2	1.8E-04
6	0.22	0.55	0.30	22.4	2	1.9E-04
7	0.27	0.60	0.35	22.4	2	1.6E-04
8	0.33	0.65	0.40	22.4	2	1.4E-04
9	0.40	0.70	0.45	22.4	2	1.3E-04
10	0.47	0.75	0.50	22.4	2	1.5E-04
11					3	#VALUE!
12					3	#VALUE!
13					3	#VALUE!
14					3	#VALUE!
15					3	#VALUE!
AVERAGE K BETWEEN READINGS			4	AND	10	**1.6E-04**
ACCEPTABLE RANGE OF READINGS AVERAGED					1.2E-04	2.0E-04

FALLING HEAD PERMEABILITY TEST

PROJECT	ERM INC./GREIF BROS.		FILE NO.	1300.78
WORK ORDER NO.	4125		SAMPLE NO.	MW-8-16-18
INITIAL DIAMETER (IN)		2.871	SERIES:	K4.1
INITIAL LENGTH (IN)		1.976		
INITIAL WEIGHT (GM)		448.18		
FINAL DIAMETER (IN)		2.866		
FINAL LENGTH (IN)		1.971		
SAT WEIGHT+TARE (GM)		504.69		
DRY WEIGHT+TARE (GM)		441.01		
TARE WEIGHT (GM)		53.58		
INITIAL MOISTURE (%)		15.7	FINAL MOISTURE (%)	16.4
INITIAL DENSITY (PCF)		115.4	FINAL DENSITY (PCF)	116.1
CELL PRESSURE (PSI)		94.0	SATURATED Gs	2.68
BACK PRESSURE (PSI)		80		
DRIVING PRESSURE (PSI)		82.0		
MAX EFFECTIVE STRESS (PSI)		14	MIN EFF STRS (PSI)	12

READING NO.	TIME (MIN)	INFLOW (CC)	OUTFLOW (CC)	TEMP	GRADIENT	PERMEABILITY (CM/SEC)
	0	0.00	0.00		31	
1	3.67	0.15	0.05	22.5	31	2.4E-07
2	7.33	0.20	0.10	22.5	31	1.7E-07
3	11.00	0.25	0.15	22.5	31	1.7E-07
4	14.67	0.30	0.20	22.5	30	1.7E-07
5	18.33	0.35	0.25	22.5	30	1.7E-07
6	22.00	0.40	0.30	22.5	30	1.7E-07
7	25.67	0.45	0.35	22.5	30	1.7E-07
8	29.33	0.50	0.40	22.5	30	1.7E-07
9	33.00	0.55	0.45	22.5	30	1.7E-07
10	36.67	0.60	0.50	22.5	30	1.7E-07
11					31	#VALUE!
12					31	#VALUE!
13					31	#VALUE!
14					31	#VALUE!
15					31	#VALUE!
AVERAGE K BETWEEN READINGS		2		AND	10	1.7E-07
ACCEPTABLE RANGE OF READINGS AVERAGED					1.3E-07	2.1E-07

Appendix B

000008

SEVERN TRENT SERVICES

STL Burlington
208 South Park Drive
Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248
www.stl-inc.com

October 4, 2001

Mr. Ryan Van Dette
Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Re: Laboratory Project No. 21000
Case: 21000; ETR: 84338

Dear Mr. Van Dette:

Enclosed are the analytical results of samples received intact by Severn Trent Laboratories on August 18, 2001. Laboratory numbers have been assigned and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 08/18/01 ETR No: 84338		
462715	MW-8-16-18	08/14/01	Soil

At the request of the client, the sample in this delivery group that were logged-in for hydraulic conductivity by the ASTM Method D5084, was not analyzed per the original request on the chain of custody and the remaining sample volume was shipped to another laboratory to expedite the analysis.

The original Total Organic Carbon (TOC) analysis by the Lloyd Kahn Method of the sample MW-8-16-18 exhibited a Relative Percent Difference (RPD) that was above the control criteria. This sample was reanalyzed within the method holding time and yielded similar results. The laboratory suspects that this anomaly may be due to sample non-homogeneity. The result from the original analysis of this sample was reported.

Client specific matrix spike/matrix spike duplicate samples were not performed, nor requested with this sample delivery group.

If there are any questions regarding this submittal, please contact Ron Pentkowski at (802) 655-1203.

This report shall not be reproduced, except in full, without the written approval of the laboratory. This report is sequentially numbered starting with page 0001 and ending with page 0014.

STL Burlington is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

STL Burlington

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

Sincerely,

Christopher A. Ouellette
Laboratory Director

RAP/kag
Enclosure

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

000010

SEVERN TRENT SERVICES

STL Burlington

Analytical Report

Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Attention : Ryan Van Dette

Date : 10/03/01
ETR Number : 84338
Project No.: 21000
No. Samples: 1
Arrived : 08/18/01

Project#:NY1A8821

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
462715	MW-8-16-18:08/14/01 @1045(Soil)	
D422	Particle Size	C
D2216	Moisture Content	C
POROSITY	Calculation (D2937+D854)	C
D2937	In-Place Density	C
D854	Specific Gravity	C
IN847	TOC by Lloyd Kahn	6050 f
IN623	Solids, Percent	80.7 c

Comments/Notes

C = Procedure/analysis completed
f = mg/Kg dry weight
c = %W/W as received
Method IN623 Percent Solids analyzed on 08/21/01.
TOC by Lloyd Kahn analysis performed on 08/22/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recovery = 101%.

< Last Page > Submitted By : STL Burlington

0003

Kristine Gustafson

Particle Size of Soils by ASTM D422

Sample preparation by: D2217

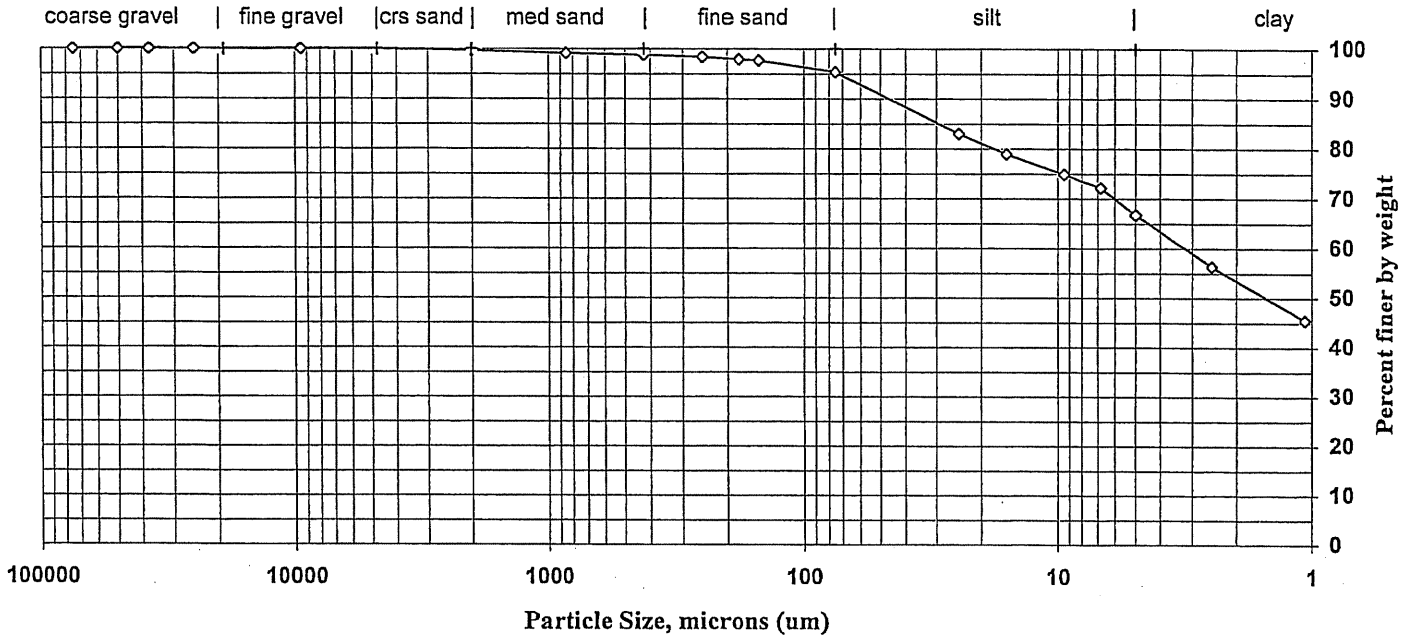
000014

Client:	STLNYB	Project No.:	NY1A8821	ETR(s) #:	84338
Client Code:	STLNYB	Job No.:	N/A	SDG(s):	N/A
Date Received:	10-Aug-01	Start Date:	27-Aug-01	End Date:	31-Aug-01

Lab ID: 462715 **Sample ID:** MW-8-16-18

Percent Solids: 80.7%
Specific Gravity: 2.70

Maximum Particle Size: Crs sand
Shape (> #10): rounded
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.7	0.3
#20	850	99.1	0.6
#40	425	98.8	0.3
#60	250	98.4	0.4
#80	180	98.0	0.4
#100	150	97.7	0.3
#200	75	95.4	2.3
Hydrometer	24.6	83.0	12.3
|	16.0	79.0	4.1
|	9.4	74.9	4.1
|	6.8	72.2	2.7
|	5.0	66.8	5.4
|	2.5	56.3	10.4
V	1.1	45.5	10.9

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0004

Submitted By: _____ Date: 10/03/01

Moisture Content by ASTM Method 2216

Client:	STLNYB	**ETR(s):**	84338
Client Code:	STLNYB	**SDG(s):**	NY1A8821
Project:	21000	**Analyst(s):**	MRD
Case:	N/A	**Start Date:**	26-Sep-01
Date Received:	18-Aug-01	**End Date:**	28-Sep-01

Sample No.	**462715**					
Sample Id.	**MW-8-16-18**					
Pan, g	4.13					
Pan/wet Sample, g	71.23					
Pan/Dry Sample, g	63.76					
% Moisture	**12.53%**					

Submitted By: _____ **Date:** 10/03/01

KDS\C:\PROJECT\99950\Moisture\84338MC.xls:Page 1

In-place Density by ASTM D 2937
Soil Moisture by ASTM D 2216
Porosity and Wet Density By Calculation

Client:	STLNYB	**ETR(s):**	84338
Client Code:	STLNYB	**SDG(s):**	NY1A8821
Project:	21000	**Analyst(s):**	MRD
Case:	N/A	**Start Date:**	26-Sep-01
Job:	N/A	**End Date:**	28-Sep-01
Date Received:	18-Aug-01		

Sample No.	**462715**
Sample ID.	**MW-8-16-18**
Sample Wet Wt. (grams)	396.48
Container/Sample Wt. (Wet)	479.81
Container Wt.	83.33
% Moisture (dry Mass basis)	12.5%
Pan Wt.	4.13
Pan/Wet Wt.	71.23
Pan/Dry Wt.	63.76
Sample Volume (cm3)	190.00
Sample Recovery	10.50
Container Diameter	4.80
Area	18.10
Dry Mass (grams)	352.34
In-place Density (g/cm3)	**1.85**

Submitted By: _____ **Date:** 10/03/01 **STL - Burlington** 84338DEN.xls:Page 1

In-place Density by ASTM D 2937
Soil Moisture by ASTM D 2216
Porosity and Wet Density By Calculation

Client:	STLNYB	**ETR(s):**	84338
Client Code:	STLNYB	**SDG(s):**	NY1A8821
Project:	21000	**Analyst(s):**	MRD
Case:	N/A	**Start Date:**	26-Sep-01
Job:	N/A	**End Date:**	28-Sep-01
Date Received:	18-Aug-01		

Sample No.	**462715**
Sample ID.	**MW-8-16-18**
Sample Wet Wt. (grams)	396.48
Container/Sample Wt. (Wet)	479.81
Container Wt.	83.33
% Moisture (dry Mass basis)	12.5%
Pan Wt.	4.13
Pan/Wet Wt.	71.23
Pan/Dry Wt.	63.76
Sample Volume (cm3)	190.00
Sample Recovery	10.50
Container Diameter	4.80
Area	18.10
Dry Mass (grams)	352.34
In-place Density (g/cm3)	**1.85**
Specific Gravity	2.70
Porosity (cm3)	0.31

Submitted By: _____ **Date:** 10/03/01

STL - Burlington 84338DEN.xls:Page 1

Specific Gravity of Soils By ASTM Method D854

Client:	STLNYB	**ETR(s):**	84338
Client Code:	STLNYB	**SDG(s):**	NY1A8821
Project:	21000	**Analyst(s):**	MRD
Job #:	N/A	**Start Date:**	26-Sep-01
Date Received:	18-Aug-01	**End Date:**	28-Sep-01

Sample No:	**462715**
Sample ID:	**MW-8-16-18**
Flask No.	1
Flask Volume, ml	100
Flask Weight, g	67.60
Flask/H2O Weight, g	167.27
Flask/H20 Temp., °C	26.0
Flask/H2O/Sample Weight, g	190.14
Flask/H2O/Sample Temp., °C	25.0
Pan, g	67.60
Pan/sample, g	103.89
Oven dried sample mass, g	36.29
Dens @ H2O temp	0.997
Dens @ smpl temp	0.997
Specific gravity	**2.70**

Submitted By: _____ Date: 10/03/01

Particle Size Analysis
Sieve Data

Client: STLNYB | ETR(s): 84338 | Project: NY1A8821 | Date Rec: 10-Aug-01 | Start Date: 27-Aug-01
Client Code: STLNYB | SDG(s): N/A | Case: N/A | End Date: 31-Aug-01

SET: 84338

Dry prep = D421
Wet prep = D2217

Standard Values	
Sieve	Opening, um
3 inch	75000
2 inch	50000
1.5 inch	37500
1 inch	25000
3/4 inch	19000
3/8 inch	9500
#4	4750
#10	2000
#20	850
#40	425
#60	250
#80	180
#100	150
#200	75

Sieve (tares)		
Size	Mass, g	
3 inch		
2 inch		
1.5 inch		
1 inch		
3/4 inch	458.11	
3/8 inch	448.00	
#4	443.06	
#10	437.42	
#20	388.07	c
#40	346.20	c
#60	328.40	c
#80	306.65	c
#100	306.24	c
#200	303.44	c

Test	1	2	3	4	5	6	7	8	9	10	11	12
Laboratory No	462715	462726	462727	462728	462729	462730	462900	462901	462902	462903	462904	462905
Sample ID	MW-8-16-18	SB07A	SB07E	SS05	SS04C	SB08A	66-SEDA	66-SEDB	66-SEDC	67-SEDA	67-SEDB	67-SEDC
Sample Prep Method	D2217	D2217	D2217	D2217	D2217	D2217	D2217	D2217	D2217	D2217	D2217	D2217
Pan, g												
Pan/sample, g	72.46	63.46	168.06	69.43	126.55	64.35	121.95	116.51	74.94	164.48	144.59	116.37
Pan/dry sampl, g												
Non-soil material												
Description	grass	n/a	n/a	n/a	n/a	n/a	wood	wood	wood	wood	wood	wood
Pan, g	3.68						3.68	3.68	3.68	3.68	3.68	3.68
Pan/dry sampl, g	3.70						3.90	3.87	3.81	4.07	4.01	4.25
Non-soil, g	0.02						0.22	0.19	0.13	0.39	0.33	0.57
Hydroscopic Moisture correction factor (HMCF) for dry prep / Percent Solids for dry and wet prep												
Pan, g	0.98	0.97	0.98	0.97	0.98	0.98	0.98	0.98	0.97	0.98	0.98	0.97
Pan/sample, g	22.90	23.04	25.21	20.37	22.78	22.59	26.50	25.15	25.66	22.55	25.82	22.30
Pan/dry sampl, g	18.68	18.43	23.14	14.61	20.64	19.33	20.79	15.85	13.82	17.82	20.36	16.84
HMCF	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Sample % Solids	80.7%	79.1%	91.5%	70.3%	90.2%	84.9%	77.6%	61.5%	52.0%	78.1%	78.0%	74.4%
Sample used, g	58.49	50.20	153.70	48.82	114.13	54.64	94.44	71.49	38.87	128.02	112.48	86.01

Sieve + Sample Weights

Size	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g
3 inch												
2 inch												
1.5 inch												
1 inch												
3/4 inch												
3/8 inch			455.02		457.19	449.28	448.84	454.20	449.74	458.70	452.89	
#4		443.32	452.21	443.78	464.82	443.58	445.20	445.58	445.05	451.96	445.56	444.53
#10	437.59	438.06	459.04	438.72	459.72	438.15	443.27	440.73	438.98	452.63	447.75	443.86
#20	388.42	388.73	412.73	389.14	397.68	388.90	399.86	395.09	390.01	412.32	411.99	403.56
#40	346.39	346.88	356.14	347.15	349.75	347.03	365.60	359.77	350.82	367.80	370.70	366.59
#60	328.63	329.13	334.17	329.45	330.58	329.23	350.54	345.03	335.05	344.01	345.24	346.03
#80	306.90	307.25	310.61	307.55	308.74	307.32	317.61	316.09	311.94	313.83	313.03	312.93
#100	306.42	306.65	308.81	306.81	307.80	306.68	310.23	310.02	308.65	308.84	308.34	307.94
#200	304.77	304.89	313.10	305.30	309.66	305.01	307.92	307.67	307.17	307.84	306.72	305.60

Maximum Particle size

	Crs sand	9.5 mm	19 mm	9.5 mm	19 mm	19 mm	19 mm	19 mm	19 mm	19 mm	19 mm	9.5 mm

Description of >#10 particles

Shape	rounded	subrounded	subangular	subangular	subangular	subangular	subangular	subrounded	subrounded	subangular	subrounded	subangular
Hardness	hard	hard	hard	hard	hard	hard	hard	hard	hard	hard	hard	hard

Sample Mass Parameters

Pan/sample, g	72.46	63.46	168.06	69.43	126.55	64.35	121.95	116.51	74.94	164.48	144.59	116.37
Mass removed, g	0.19	0.90	37.79	[illegible]	53.25	2.53	9.05	12.22	5.42	35.20	[illegible]	8.48
Sample mass, g	58.32	49.30	115.91	)	60.88	52.11	85.61	59.46	33.58	93.21		78.10

Particle Size Analysis
Hydrometer Data

Set Number: 84338

Client: STLNYB
Client Code: STLNYB
Date Received: 10-Aug-01

Project No.: NY1A8821
Job No.: N/A
Start Date: 27-Aug-01

ETR(s) #: 84338
SDG(s): N/A
End Date: 31-Aug-01

000017

Date and Analyst

Percent Solids	Hydrometer	Mass removed	Small sieves	Large sieves	Non-soil
JRM8/27/01	MRD8/28/01	MRD8/28/01	MRD8/29/01	MRD8/28/01	MRD8/28/01
MRD8/28/01	ALU8/28/01		MRD8/30/01	MRD8/31/01	MRD8/31/01
	MRD8/29/01				

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number	462715	462726	462727	462728	462729	462730	462900	462901	462902	462903	462904	462905
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading	1.0340	1.0280	1.0340	1.0265	1.0210	1.0285	1.0090	1.0090	1.0075	1.0105	1.0110	1.0085
Temperature, C	23.5	23.5	23.5	23.0	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading	1.0325	1.0270	1.0300	1.0250	1.0195	1.0270	1.0090	1.0080	1.0075	1.0100	1.0100	1.0080
Temperature, C	23.5	23.5	23.5	23.0	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading	1.0310	1.0250	1.0255	1.0230	1.0170	1.0250	1.0080	1.0070	1.0070	1.0090	1.0095	1.0075
Temperature, C	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading	1.0300	1.0230	1.0230	1.0210	1.0155	1.0230	1.0075	1.0065	1.0065	1.0085	1.0090	1.0070
Temperature, C	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading	1.0280	1.0210	1.0200	1.0190	1.0140	1.0210	1.0070	1.0065	1.0060	1.0080	1.0090	1.0070
Temperature, C	23.5	23.5	23.5	23.5	23.5	23.5	24.0	23.5	23.5	23.5	23.5	23.5
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading	1.0240	1.0170	1.0150	1.0160	1.0100	1.0170	1.0070	1.0060	1.0050	1.0075	1.0070	1.0060
Temperature, C	24.5	24.0	24.0	24.0	24.5	24.5	24.0	24.5	24.5	24.5	25.0	25.0
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading	1.0195	1.0125	1.0050	1.0120	1.0070	1.0120	1.0060	1.0055	1.0040	1.0065	1.0060	1.0050
Temperature, C	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5

0010

Hydrometer used: 548355 **Model #:** ASTM 151H **Manufacturer:** CHASE **Hydrometer start time:** 14:35

Calibrations:

L temp, C	L read	H Temp, C	H read
17.0	1.0045	23.0	1.0035

Cal. Date: 07-Feb-01 **Hydrometer data entered:** JRM8/31/01

Particle Size Analysis
Hydrometer Data

Set Number: 84448

Client: ,STLNYB,STLOHN
Client Code: ,STLNYB,STLOHN
Date Received: 14-Aug-00

Project No.: 21000
Job No.:
Start Date: 0-Jan-00

ETR(s) #: 4450,84458,84468
SDG(s): 0
End Date: 0-Jan-00

000018

Date and Analyst

Percent Solids	Hydrometer	Mass removed	Small sieves	Large sieves	Non-soil
CT 8/30/01 MRD 8/31/01	CT 8/30/01 CT 8/30/01 MRD 8/31/01	CT 8/30/01	MED 8-31-01 MED 9-4-01	CT 8/30/01 MED 9-4-01	CT 8/30/01 MED 9-4-01

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number	463353	463354	463355	463363	463364	463399	463457					
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading	1.0060	1.0070	1.0075	1.0140	1.0065	1.0265	1.0055					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading	1.0050	1.0070	1.0070	1.0100	1.0060	1.0230	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading	1.0045	1.0050	1.0065	1.0060	1.0055	1.0180	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading	1.0045	1.0050	1.0060	1.0060	1.0050	1.0150	1.0045					
Temperature, C	25.0	25.0	25.0	25.0	24.5	24.5	24.5					
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading	1.0045	1.0050	1.0055	1.0050	1.0050	1.0130	1.0040					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0100	1.0040					
Temperature, C	25.5	25.5	25.5	25.5	25.5	25.5	25.5					
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0080	1.0040					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					

0011

Hydrometer used: 548355 Model #: ASTM 151H Manufacturer:
Hydrometer start time: 11:08

Calibrations:

L temp, C	L read	H Temp, C	H read
17.0		23.0	

Cal. Date: 7-Feb-01
Hydrometer data entered: JBN 9-4-01

Custody Record

TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM Inc.	Project Manager: Jon Fox	Date: 8/15/01	Chain of Custody Number: 013063
Address: 5788 Widewaters Pkwy.	Telephone Number (Area Code)/Fax Number: 315-445-2554	Lab Number:	Page 1 of 1
City: Dewitt	State: NY	Zip Code: 13214	Site Contact: Jeremy Wolf
Lab Contact: Brian J Fischer	Project Name and Location (State): Greif Bros. Buffalo NY	Carrier/Waybill Number:	
Contract/Purchase Order/Quote No.: D6714.00.01			

00001

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: grain size	moisture content	Sat. hyd. conductivity	porosity	bulk density	TOC (Lloyd)	VOC	SVOC	Metals
MW-8-16-18	8-14-01	10:45				✓	✓						✓	✓	✓	✓	✓	✓			
GB-37-3-4	8-15-01	0950				✓	✓												✓	✓	✓
GB-35-3	8-15-01	1130				✓	✓												✓	✓	✓
GB-35-16	8-15-01	1210				✓	✓												✓	✓	✓
GB-35-16 MSD	8-15-01	1270				✓	✓												✓	✓	✓
TB-1				✓						✓									✓		

Special Instructions/ Conditions of Receipt: Shelby Tube for geotech Analysis

012

30

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other verbal - 2wks report - 2wks.

QC Requirements (Specify): EDD & Standard Level II

	Date	Time		Date	Time
1. Relinquished By: Jeremy Wolf	8/16/01	700	1. Received By: C. [illegible]	8-16-01	8:35
2. Relinquished By: [signature]	8/17/01	15:00	2. Received By: Gary S. Smithers	8/18/01	1115
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy.

Client: ERM (vs Grief Brothers)
Project: NY1A8821
Quote: NY01-179
SM #:

Turn Around Required: 10B

Client Sample ID	Lab ID	Matrix	Parameters	# and Type of Samp Containers	Sample Date/Time
MW-8-16-18	A1793301	SOIL	GEO TECHNICAL AND TOC(LK	1-SHELBY	08/14/2001 10:45

Relinquished by STL Buffalo: Signature(s)	Date	Time	Received By STL - Vermont: Signature(s)	Date	Time
(1) T L Rich	8/17/2001	15:00	(3) Jay S-Smithers	8/18/2001	1115
(2)	/ /20		(4)	/ /20	

No extra volume was received for TOC Analysis please use soil from shelby Tube

If you have any questions call Brian Fischer (STL Buffalo)

0013

Job No: A01-7933
Project/Task: NY1A8821 1

Test No.	Description	Prot	Method	Mtx	TCLP	Holding Type	Holding Tclp	Holding Extr	Holding Anal	Prep Type	Unit Measure	Detect Limit Type	Detect Limit Value	Spikes Code	Spikes Amount	Spikes Conc	QC Limits	RPD
WC	WET CHEMISTRY																	
CTA13250	TOTAL ORGANIC CARBON (SUBCONTRACT	OTHER	KAHN	Soil	N	S	0	0	28	N	MG/KG	EQL	0.00000	A00088		*** No Limits ***		

000021

Appendix C

000023

SEVERN TRENT SERVICES

STL Burlington
208 South Park Drive
Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248
www.stl-inc.com

October 4, 2001

Mr. Ryan Van Dette
Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Re: Laboratory Project No. 21000
Case: 21000; ETR: 84450

Dear Mr. Van Dette:

Enclosed are the analytical results of samples received intact by Severn Trent Laboratories on August 24, 2001. Laboratory numbers have been assigned and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 08/24/01 ETR No: 84450		
463363	MW-7-22-24	08/22/01	Soil
463364	MW-7-32-34	08/22/01	Soil

At the request of the client, the samples in this delivery group that were logged-in for hydraulic conductivity by the ASTM Method D5084, were not analyzed per the original request on the chain of custody and the remaining sample volumes were shipped to another laboratory to expedite the analyses.

The original Total Organic Carbon (TOC) analysis by the Lloyd Kahn Method of the sample MW-7-22-24 exhibited a Relative Percent Difference (RPD) that was above the control criteria. This sample was reanalyzed within the method holding time and yielded similar results. The laboratory suspects that this anomaly may be due to sample non-homogeneity. The result from the original analysis of this sample was reported.

Client specific matrix spike/matrix spike duplicate samples were not performed, nor requested with this sample delivery group.

If there are any questions regarding this submittal, please contact Ron Pentkowski at (802) 655-1203.

This report shall not be reproduced, except in full, without the written approval of the laboratory. This report is sequentially numbered starting with page 0001 and ending with page 0013.

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SEVERN TRENT SERVICES

STL Burlington

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

Sincerely,

Christopher A. Ouellette
Laboratory Director

RAP/kag
Enclosure

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES
STL Burlington

Analytical Report

Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Attention : Ryan Van Dette

Date : 10/03/01
ETR Number : 84450
Project No.: 21000
No. Samples: 2
Arrived : 08/24/01

Job:NY1A8821

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter		Result
463363	MW-7-22-24:08/22/01 @0920(Soil)		
	D422	Particle Size	C
	D2216	Moisture Content	C
	POROSITY	Calculation (D2937+D854)	C
	D2937	In-Place Density	C
	D854	Specific Gravity	C
	IN847	TOC by Lloyd Kahn	1490 f
	IN623	Solids, Percent	84.8 c
463364	MW-7-32-34:08/22/01 @1015(Soil)		
	D422	Particle Size	C
	D2216	Moisture Content	C
	POROSITY	Calculation (D2937+D854)	C
	D2937	In-Place Density	C
	D854	Specific Gravity	C
	IN847	TOC by Lloyd Kahn	5560 f
	IN623	Solids, Percent	85.7 c

Comments/Notes

C = Procedure/analysis completed
f = mg/Kg dry weight
c = %W/W as received
Method IN623 Percent Solids analysis performed on 08/28/01.
TOC by Lloyd Kahn analysis performed on 08/29/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recoveries = 91% and 83%
TOC by Lloyd Kahn analysis performed on 08/30/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recoveries = 110% and 114%.

< Last Page > Submitted By : STL Burlington

STL Burlington is a part of Severn Trent Laboratories, Inc.

Particle Size of Soils by ASTM D422

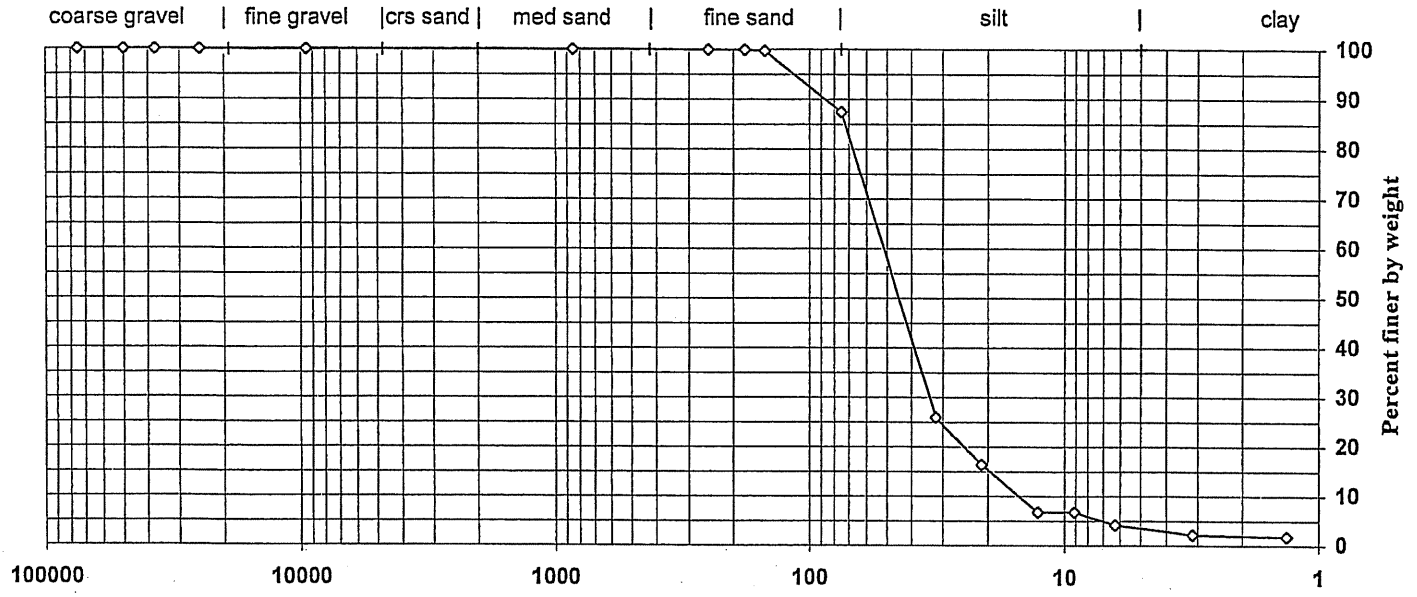
Sample preparation by: D2217

Client:	STLNYB	Project No.:	21000	ETR(s) #:	84450
Client Code:	STLNYB	Job No.:	NY1A8821	SDG(s):	N/A
Date Received:	14-Aug-00	Start Date:	30-Aug-01	End Date:	04-Sep-01

Lab ID: 463363 **Sample ID:** 22-24

Percent Solids: 84.8%
Specific Gravity: 2.65

Maximum Particle Size: Med sand
Shape (> #10): N/A
Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	100.0	0.0
#40	425	100.0	0.0
#60	250	99.9	0.0
#80	180	99.9	0.0
#100	150	99.7	0.2
#200	75	87.4	12.3
Hydrometer	32.1	25.9	61.5
|	21.1	16.4	9.6
|	12.7	6.8	9.6
|	9.1	6.8	0.0
|	6.3	4.2	2.6
|	3.1	2.2	2.0
V	1.3	1.8	0.4

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0004

Submitted By: _____ Date: 10/03/01

Particle Size of Soils by ASTM D422 000027

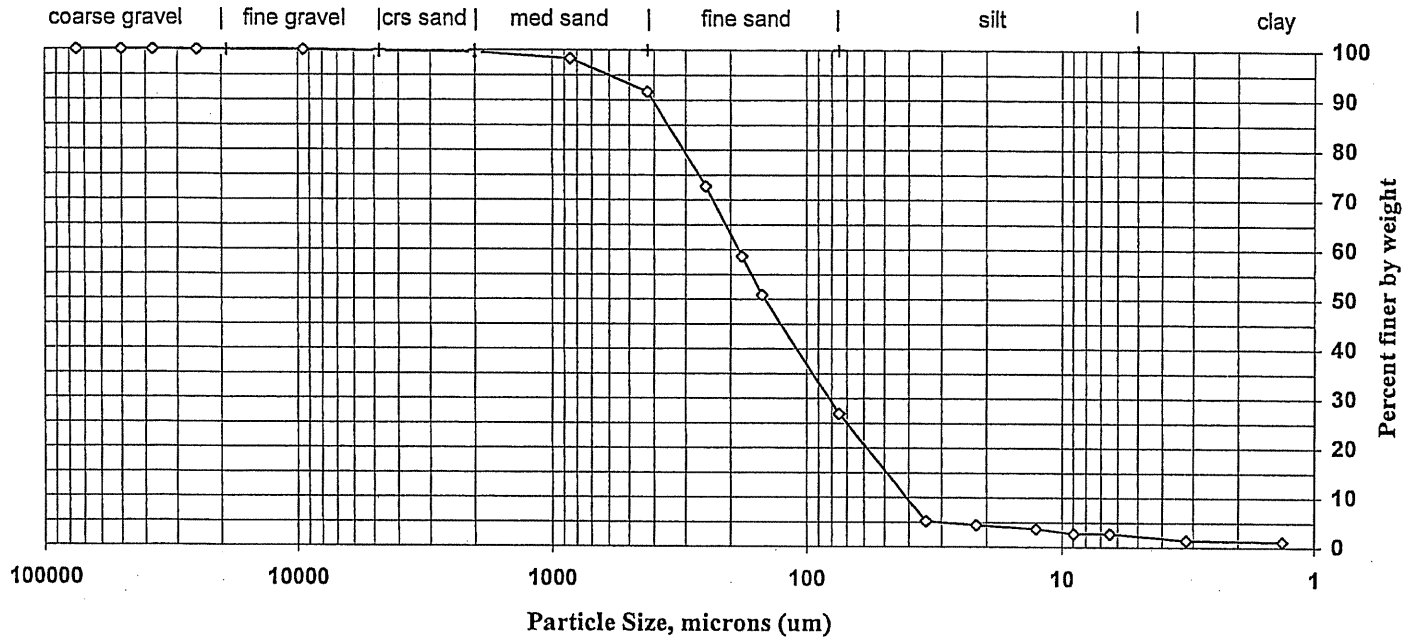
Sample preparation by: D2217

Client:	STLNYB	Project No.:	21000	ETR(s) #:	84450
Client Code:	STLNYB	Job No.:	NY1A8821	SDG(s):	N/A
Date Received:	14-Aug-00	Start Date:	30-Aug-01	End Date:	04-Sep-01

Lab ID: 463364 **Sample ID:** 32-34

Percent Solids: 85.4%
Specific Gravity: 2.65

Maximum Particle Size: 9.5 mm
Shape (> #10): subangular
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.8	0.2
#10	2000	99.6	0.2
#20	850	98.3	1.3
#40	425	91.7	6.7
#60	250	72.7	18.9
#80	180	58.6	14.1
#100	150	50.8	7.8
#200	75	26.9	23.9
Hydrometer	34.5	5.2	21.7
|	21.9	4.4	0.8
|	12.7	3.7	0.8
|	8.9	2.7	0.9
|	6.4	2.7	0.0
|	3.2	1.4	1.3
V	1.3	1.2	0.3

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0005

Submitted By: _____ **Date:** 10/03/01

Moisture Content by ASTM Method 2216

Client:	STLNYB	**ETR(s):**	84450
Client Code:	STLNYB	**SDG(s):**	N/A
Project:	21000	**Analyst(s):**	MRD
Case:	NY1A8821	**Start Date:**	26-Sep-01
Date Received:	24-Aug-01	**End Date:**	28-Sep-01

Sample No.	**463363**	**463364**				
Sample Id.	**MW-7-22-24**	**MW-7-32-34**				
Pan, g	4.13	4.11				
Pan/wet Sample, g	79.69	74.31				
Pan/Dry Sample, g	67.31	65.66				
% Moisture	**19.59%**	**14.05%**				

Submitted By: _____ **Date:** 10/03/01

In-place Density by ASTM D 2937
Soil Moisture by ASTM D 2216
Porosity and Wet Density By Calculation

Client:	STLNYB	**ETR(s):**	84450
Client Code:	STLNYB	**SDG(s):**	N/A
Project:	21000	**Analyst(s):**	MRD
Case:	N/A	**Start Date:**	26-Sep-01
Job:	NY1A8821	**End Date:**	28-Sep-01
Date Received:	24-Aug-01		

Sample No.	**463363**	**463364**
Sample ID.	**MW-7-22-24**	**MW-7-32-34**
Sample Wet Wt. (grams)	414.78	448.61
Container/Sample Wt. (Wet)	498.10	531.92
Container Wt.	83.32	83.31
% Moisture (dry Mass basis)	19.6%	14.1%
Pan Wt.	4.13	4.11
Pan/Wet Wt.	79.69	74.31
Pan/Dry Wt.	67.31	65.66
Sample Volume (cm3)	200.86	218.96
Sample Recovery	11.10	12.10
Container Diameter	4.80	4.80
Area	18.10	18.10
Dry Mass (grams)	346.82	393.33
In-place Density (g/cm3)	**1.73**	**1.80**

Submitted By: _____ **Date:** 10/03/01

In-place Density by ASTM D 2937
Soil Moisture by ASTM D 2216
Porosity and Wet Density By Calculation

Client:	STLNYB	**ETR(s):**	84450
Client Code:	STLNYB	**SDG(s):**	N/A
Project:	21000	**Analyst(s):**	MRD
Case:	N/A	**Start Date:**	26-Sep-01
Job:	NY1A8821	**End Date:**	28-Sep-01
Date Received:	24-Aug-01		

Sample No.	**463363**	**463364**
Sample ID.	**MW-7-22-24**	**MW-7-32-34**
Sample Wet Wt. (grams)	414.78	448.61
Container/Sample Wt. (Wet)	498.10	531.92
Container Wt.	83.32	83.31
% Moisture (dry Mass basis)	19.6%	14.1%
Pan Wt.	4.13	4.11
Pan/Wet Wt.	79.69	74.31
Pan/Dry Wt.	67.31	65.66
Sample Volume (cm3)	200.86	218.96
Sample Recovery	11.10	12.10
Container Diameter	4.80	4.80
Area	18.10	18.10
Dry Mass (grams)	346.82	393.33
In-place Density (g/cm3)	**1.73**	**1.80**
Specific Gravity	2.67	2.66
Porosity (cm3)	0.35	0.33

Submitted By: _____ **Date:** 10/03/01

Specific Gravity of Soils By ASTM Method D854

Client:	STLNYB	**ETR(s):**	84450
Client Code:	STLNYB	**SDG(s):**	N/A
Project:	21000	**Analyst(s):**	MRD
Job #:	NY1A8821	**Start Date:**	26-Sep-01
Date Received:	24-Aug-01	**End Date:**	28-Sep-01

Sample No:	**463363**	**463364**
Sample ID:	**MW-7-22-24**	**MW-7-32-34**
Flask No.	5	6
Flask Volume, ml	100	100
Flask Weight, g	68.60	70.70
Flask/H2O Weight, g	168.32	170.39
Flask/H20 Temp., °C	26.0	26.0
Flask/H2O/Sample Weight, g	190.84	192.09
Flask/H2O/Sample Temp., °C	25.0	25.0
Pan, g	68.60	70.70
Pan/sample, g	104.57	105.39
Oven dried sample mass, g	35.97	34.69
Dens @ H2O temp	0.997	0.997
Dens @ smpl temp	0.997	0.997
Specific gravity	**2.67**	**2.66**

Submitted By: _____ Date: 10/03/01

Particle Size Analysis
Sieve Data

Client: STLNYB | ETR(s): 84450,84468 | Project: 21000 | Date Rec: 14-Aug-00 | Start Date: 30-Aug-01
Client Code: STLNYB | SDG(s): N/A | Case: N/A | End Date: 04-Sep-01

SET: 84448

Test	1	2	3	4	5	6	7	8	9	10	11	12
Laboratory No	463353	463354	463355	463363	463364	463399	463457					
Sample ID	0-1'	1'-2'	2'-4'	22-24	32-34	#3 Fill Soil	GB-25-4-7					

Dry prep = D421
Wet prep = D2217

Standard Values	
Sieve	Opening, um
3 inch	75000
2 inch	50000
1.5 inch	37500
1 inch	25000
3/4 inch	19000
3/8 inch	9500
#4	4750
#10	2000
#20	850
#40	425
#60	250
#80	180
#100	150
#200	75

Sample Prep Method	D2217	D2217	D2217	D2217	D2217	D2217	D2217
Pan, g							
Pan/sample, g	126.96	121.07	120.14	79.10	120.08	120.40	156.97
Pan/dry sampl, g							
Non-soil material							
Description	shell,grass	wood,grass	wood	n/a	n/a	wood	n/a
Pan, g	3.68	3.68	3.68			3.68	
Pan/dry sampl, g	3.76	3.92	7.20			3.77	
Non-soil, g	0.08	0.24	3.52			0.09	
Hydroscopic Moisture correction factor (HMCF) for dry prep / Percent Solids for dry and wet prep							
Pan, g	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Pan/sample, g	26.71	25.77	27.39	29.68	27.83	29.25	27.45
Pan/dry sampl, g	23.08	24.48	17.89	25.32	23.91	24.79	25.67
HMCF	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Sample % Solids	85.9%	94.8%	64.0%	84.8%	85.4%	84.2%	93.3%
Sample used, g	108.98	114.53	73.42	67.09	102.56	101.32	146.42

Sieve (tares)		
Size	Mass, g	
3 inch		
2 inch		
1.5 inch		
1 inch		
3/4 inch	458.11	
3/8 inch	447.99	
#4	443.07	
#10	437.44	
#20	378.54	d
#40	347.45	d
#60	327.15	d
#80	314.44	d
#100	314.91	d
#200	294.82	d

Sieve + Sample Weights

Size	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g
3 inch												
2 inch												
1.5 inch												
1 inch												
3/4 inch							470.74					
3/8 inch	455.89	458.88	453.91			449.22	494.85					
#4	454.74	452.69	447.58		443.28	444.61	471.00					
#10	443.06	442.51	442.30	0.00	437.63	440.80	460.94					
#20	380.47	381.60	382.01	378.55	379.86	383.32	390.07					
#40	349.14	350.70	351.20	347.45	354.28	354.29	355.03					
#60	330.16	335.92	332.47	327.18	346.58	336.83	331.45					
#80	324.71	325.42	325.97	314.47	328.90	321.20	316.64					
#100	331.04	328.19	325.65	315.04	322.90	317.93	315.95					
#200	337.50	325.12	308.05	303.05	319.37	300.89	297.74					

Maximum Particle size

	19 mm	19 mm	19 mm	Med sand	9.5 mm	19 mm	25 mm

Description of >#10 particles

Shape	angular	angular	angular	N/A	subangular	subangular	angular	N/A	N/A	N/A	N/A	N/A
Hardness	hard,brittle	hard	hard	N/A	hard	hard	hard	N/A	N/A	N/A	N/A	N/A

Sample Mass Parameters

Pan/sample, g	126.96	121.07	120.14	79.10	120.08	120.40	156.97					
Mass removed, g	25.27	25.82	18.81	0.00	0.40	6.22	110.92	0.00	0.00	0.00	0.00	0.00
Sample mass, g	83.79	88.95	58.13	67.09	102.16	95.19	35.50					

000032

0010

Particle Size Analysis
Hydrometer Data

Set Number: 84448

Client: STLNYB
Client Code: STLNYB
Date Received: 14-Aug-00

Project No.: 21000
Job No.: NY1A8821
Start Date: 30-Aug-01

ETR(s) #: 4450,84468
SDG(s): N/A
End Date: 04-Sep-01

Date and Analyst

Percent Solids	Hydrometer	Mass removed	Small sieves	Large sieves	Non-soil
CT8/30/01	CT8/30/01	CT8/30/01	MRD8/31/01	CT8/30/01	CT8/30/01
MRD8/31/01	CT8/30/01		MRD9/4/01	MRD9/4/01	MRD9/4/01
	MRD8/31/01				

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number	463353	463354	463355	463363	463364	463399	463457					
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading	1.0060	1.0070	1.0075	1.0140	1.0065	1.0265	1.0055					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading	1.0050	1.0070	1.0070	1.0100	1.0060	1.0230	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading	1.0045	1.0050	1.0065	1.0060	1.0055	1.0180	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading	1.0045	1.0050	1.0060	1.0060	1.0050	1.0150	1.0045					
Temperature, C	25.0	25.0	25.0	25.0	24.5	24.5	24.5					
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading	1.0045	1.0050	1.0055	1.0050	1.0050	1.0130	1.0045					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0100	1.0040					
Temperature, C	25.5	25.5	25.5	25.5	25.5	25.5	25.5					
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0080	1.0040					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					

Hydrometer used: 548355 Model #: ASTM 151H Manufacturer: CHASE Hydrometer start time: 11:08

Calibrations:	L temp, C	L read	H Temp, C	H read
	17.0	1.0045	23.0	1.0035

Cal. Date: 07-Feb-01 Hydrometer data entered: JRM9/4/01

0003

0011

Particle Size Analysis
Hydrometer Data

Set Number: 84448

Client: ,STLNYB,STLOHN
Client Code: ,STLNYB,STLOHN
Date Received: 14-Aug-00

Project No.: 21000
Job No.:
Start Date: 0-Jan-00

ETR(s) #: 4450,84458,84468
SDG(s): 0
End Date: 0-Jan-00

Date and Analyst

Percent Solids	Hydrometer	Mass removed	Small sieves	Large sieves	Non-soil
CT 8/30/01 MRD 8/31/01	CT 9/30/01 CT 9/30/01 MRD 8/31/01	CT 9/30/01	MRD 8-31-01 MRD 9-4-01	CT 8/30/01 MRD 9-4-01	CT 8/30/01 MRD 9-4-01

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number	463353	463354	463355	463363	463364	463399	463457					
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading	1.0060	1.0070	1.0075	1.0140	1.0065	1.0265	1.0055					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading	1.0050	1.0070	1.0070	1.0100	1.0060	1.0230	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading	1.0045	1.0050	1.0065	1.0060	1.0055	1.0180	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading	1.0045	1.0050	1.0060	1.0060	1.0050	1.0150	1.0045					
Temperature, C	25.0	25.0	25.0	25.0	24.5	24.5	24.5					
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading	1.0045	1.0050	1.0055	1.0050	1.0050	1.0130	1.0045					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0100	1.0040					
Temperature, C	25.5	25.5	25.5	25.5	25.5	25.5	25.5					
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0080	1.0040					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					

Hydrometer used: 548355 Model #: ASTM 151H Manufacturer:

Hydrometer start time: 11:08

Calibrations:

L temp, C	L read	H Temp, C	H read
17.0		23.0	

Cal. Date: 7-Feb-01

Hydrometer data entered: JRM 9-4-01

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM
Project Manager: Jon Fox
Date: 8/22/01
Chain of Custody Number: 013445
Page 1 of 1

Address: 5788 Widewaters Pkwy
Telephone Number (Area Code)/Fax Number: (315) 445-2554
Lab Number:

City: DeWitt | State | Zip Code
Site Contact: Jeff Paetz
Lab Contact:

Project Name and Location (State): Seneca / Great Tonawanda NY
Carrier/Waybill Number:

Contract/Purchase Order/Quote No.: D6714

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOC	SVOC	Metals	Grain size	Moisture Content	Sat. hyd. conduct.	Porosity	Bulk density	TOC (Lloyd Kahn)	Special Instructions/ Conditions of Receipt
TB-3	—	—		X						X			X									
GB-30-8-9	8/21/01	1500				X	X						X	X	X							* Hold on analysis of metals for all samples on this COC pending verbal authorization
GB-26-2	8/21/01	0920				X	X						X		X							
GB-28-16	8/20/01	0350				X	X						X		X							
GB-29-8-9	8/20/01	1200				X	X						X		X							
MW-7-22-24	8/22/01	09:20				X	X									X	X	X	X	X	X (TW)	Shelby Tube
MW-7-22	8/22/01	09:25				X	X														X	
MW-7-32-34	8/22/01	10:15				X	X									X	X	X	X	X		Shelby Tube
MW-7-32	8/22/01	10:25				X	X														X	Shelby (TW)
GB-31-6-7	8/22/01	12:15				X	X						X									

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

QC Requirements (Specify)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

	Date	Time
1. Relinquished By		
2. Relinquished By	8-23-01	
3. Relinquished By		

	Date	Time
1. Received By	8-22-01	5:25 PM
2. Received By		
3. Received By	8-24-01	0930

Cor: See Comment regarding metals — * Hold on all metals analysis for this COC pending ver. 1 authorization

0135

Appendix D

000037

SEVERN TRENT SERVICES

STL Burlington
208 South Park Drive
Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248
www.stl-inc.com

October 4, 2001

Mr. Ryan Van Dette
Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Re: Laboratory Project No. 21000
Case: 21000; ETR: 84468

Dear Mr. Van Dette:

Enclosed are the analytical results of samples received intact by Severn Trent Laboratories on August 24, 2001. Laboratory numbers have been assigned and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 08/24/01 ETR No: 84468		
463457	GB-25-4-7	08/23/01	Soil

At the request of the client, the samples in this delivery group that were logged-in for hydraulic conductivity by the ASTM Method D5084, were not analyzed per the original request on the chain of custody and the remaining sample volumes were shipped to another laboratory to expedite the analyses.

No exceptions the method quality control requirements were noted during analysis.

Client specific matrix spike/matrix spike duplicate samples were not performed, nor requested with this sample delivery group.

If there are any questions regarding this submittal, please contact Ron Pentkowski at (802) 655-1203.

This report shall not be reproduced, except in full, without the written approval of the laboratory. This report is sequentially numbered starting with page 0001 and ending with page 0014.

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SEVERN TRENT SERVICES

STL Burlington

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

Sincerely,

Christopher A. Ouellette
Laboratory Director

Enclosure

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES

STL Burlington

Analytical Report

Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Attention : Ryan Van Dette

Date : 10/03/01
ETR Number : 84468
Project No.: 21000
No. Samples: 1
Arrived : 08/28/01

Proj#NY1A8821

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
463457	GB-25-4-7:08/23/01 @0920(Soil)	
D422	Particle Size	C
D2216	Moisture Content	C
POROSITY	Calculation (D2937+D854)	C
D2937	In-Place Density	C
D854	Specific Gravity	C
IN847	TOC by Lloyd Kahn	18700 f
IN623	Solids, Percent	68.9 c

Comments/Notes

C = Procedure/analysis completed
f = mg/Kg dry weight
c = %W/W as received
Percent Solids analysis performed on 08/29/01.
TOC by Lloyd Kahn analysis performed on 08/29/01.
TOC by Lloyd Kahn prep blank <100 mg/Kg and LCS recoveries = 91% and 83%

< Last Page > Submitted By : STL Burlington

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000040

Particle Size of Soils by ASTM D422

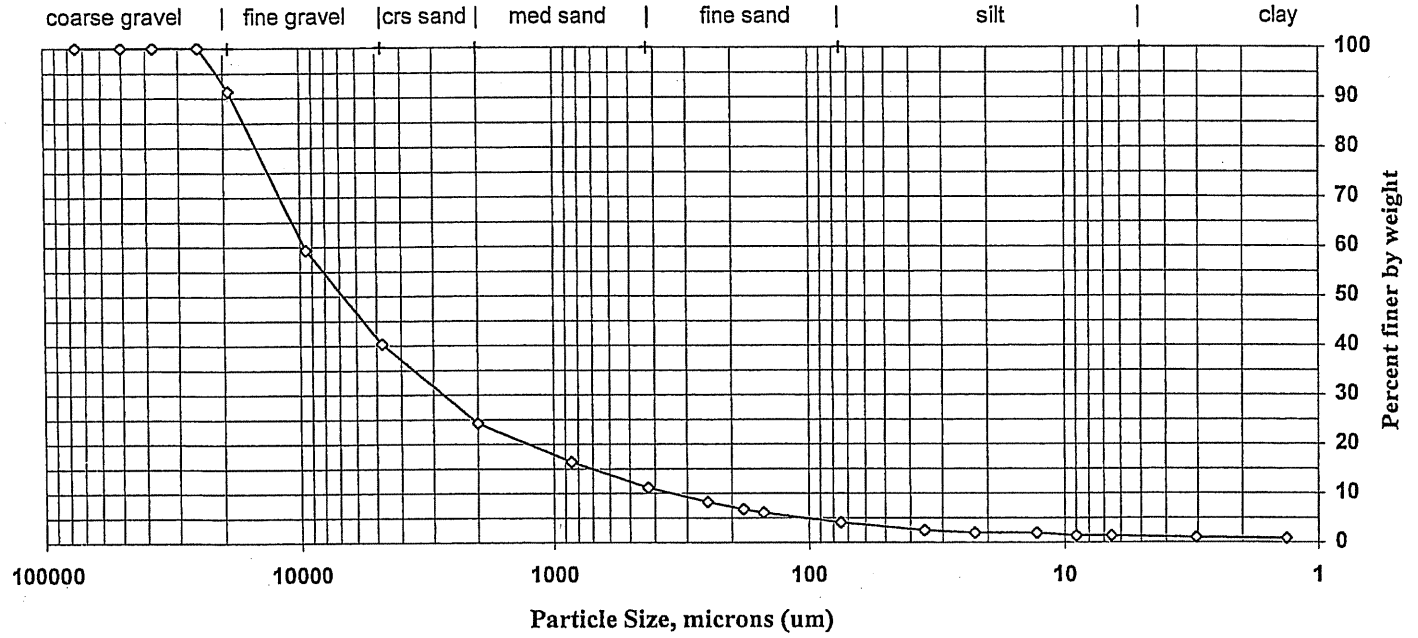
Sample preparation by: D2217

Client:	STLNYB	**Project No.:**	21000	**ETR(s) #:**	84468
Client Code:	STLNYB	**Job No.:**	NY1A8821	**SDG(s):**	N/A
Date Received:	14-Aug-00	**Start Date:**	30-Aug-01	**End Date:**	04-Sep-01

Lab ID: 463457 **Sample ID:** GB-25-4-7

Percent Solids: 93.3%
Specific Gravity: 2.65

Maximum Particle Size: 25 mm
Shape (> #10): angular
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	91.4	8.6
3/8 inch	9500	59.4	32.0
#4	4750	40.3	19.1
#10	2000	24.2	16.0
#20	850	16.4	7.9
#40	425	11.2	5.2
#60	250	8.3	2.9
#80	180	6.8	1.5
#100	150	6.0	0.7
#200	75	4.0	2.0
Hydrometer	35.1	2.5	1.6
|	22.3	1.9	0.5
|	12.9	1.9	0.0
|	9.0	1.4	0.5
|	6.5	1.4	0.0
|	3.0	1.0	0.4
V	1.3	0.8	0.2

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0004

Submitted By: _____ **Date:** 10/03/01 STL - Burlington 84448PS.xls::Report

Moisture Content by ASTM Method 2216

Client:	STLNYB	**ETR(s):**	84468
Client Code:	STLNYB	**SDG(s):**	N/A
Project:	21000	**Analyst(s):**	MRD
Case:	NYA18821	**Start Date:**	26-Sep-01
Date Received:	28-Aug-01	**End Date:**	28-Sep-01

Sample No.	**463457**					
Sample Id.	**GB-25-4-7**					
Pan, g	4.25					
Pan/wet Sample, g	159.86					
Pan/Dry Sample, g	149.7					
% Moisture	**6.99%**					

Submitted By: _____ **Date:** 10/03/01

KDS\C:\PROJECT\99950\Moisture\84468MC.xls:Page 1

In-place Density by ASTM D 2937
Soil Moisture by ASTM D 2216
Porosity and Wet Density By Calculation

Client:	STLNYB	**ETR(s):**	84468
Client Code:	STLNYB	**SDG(s):**	N/A
Project:	21000	**Analyst(s):**	MRD
Case:	N/A	**Start Date:**	26-Sep-01
Job:	NY1A8821	**End Date:**	28-Sep-01
Date Received:	28-Aug-01		

Sample No.	**463457**
Sample ID.	**GB-25-4-7**
Sample Wet Wt. (grams)	395.64
Container/Sample Wt. (Wet)	478.95
Container Wt.	83.31
% Moisture (dry Mass basis)	7.0%
Pan Wt.	4.25
Pan/Wet Wt.	159.86
Pan/Dry Wt.	149.70
Sample Volume (cm3)	222.58
Sample Recovery	12.30
Container Diameter	4.80
Area	18.10
Dry Mass (grams)	369.81
In-place Density (g/cm3)	**1.66**

Submitted By: _____ **Date:** 10/03/01

STL - Burlington 84468DEN.xls:Page 1

In-place Density by ASTM D 2937
Soil Moisture by ASTM D 2216
Porosity and Wet Density By Calculation

Client:	STLNYB	**ETR(s):**	84468
Client Code:	STLNYB	**SDG(s):**	N/A
Project:	21000	**Analyst(s):**	MRD
Case:	N/A	**Start Date:**	26-Sep-01
Job:	NY1A8821	**End Date:**	28-Sep-01
Date Received:	28-Aug-01		

Sample No.	**463457**
Sample ID.	**GB-25-4-7**
Sample Wet Wt. (grams)	395.64
Container/Sample Wt. (Wet)	478.95
Container Wt.	83.31
% Moisture (dry Mass basis)	7.0%
Pan Wt.	4.25
Pan/Wet Wt.	159.86
Pan/Dry Wt.	149.70
Sample Volume (cm3)	222.58
Sample Recovery	12.30
Container Diameter	4.80
Area	18.10
Dry Mass (grams)	369.81
In-place Density (g/cm3)	**1.66**
Specific Gravity	2.75
Porosity (cm3)	0.40

Submitted By: _____ **Date:** 10/03/01 **STL - Burlington** 84468DEN.xls:Page 1

Specific Gravity of Soils By ASTM Method D854

Client:	STLNYB	**ETR(s):**	84468
Client Code:	STLNYB	**SDG(s):**	N/A
Project:	21000	**Analyst(s):**	MRD
Job #:	NY1A8821	**Start Date:**	26-Sep-01
Date Received:	28-Aug-01	**End Date:**	28-Sep-01

Sample No:	**463457**
Sample ID:	**GB-25-4-7**
Flask No.	7
Flask Volume, ml	100
Flask Weight, g	61.92
Flask/H2O Weight, g	161.66
Flask/H20 Temp., °C	26.0
Flask/H2O/Sample Weight, g	184.22
Flask/H2O/Sample Temp., °C	25.0
Pan, g	61.92
Pan/sample, g	97.28
Oven dried sample mass, g	35.36
Dens @ H2O temp	0.997
Dens @ smpl temp	0.997
Specific gravity	**2.75**

Submitted By: _____ Date: 10/03/01

Particle Size Analysis
Sieve Data

Client: STLNYB | ETR(s): 84450,84468 | Project: 21000 | Date Rec: 14-Aug-00 | Start Date: 30-Aug-01
Client Code: STLNYB | SDG(s): N/A | Case: N/A | End Date: 04-Sep-01

SET: 84448

000045

Dry prep = D421
Wet prep = D2217

Standard Values	
Sieve	Opening, um
3 inch	75000
2 inch	50000
1.5 inch	37500
1 inch	25000
3/4 inch	19000
3/8 inch	9500
#4	4750
#10	2000
#20	850
#40	425
#60	250
#80	180
#100	150
#200	75

Sieve (tares)		
Size	Mass, g	
3 inch		
2 inch		
1.5 inch		
1 inch		
3/4 inch	458.11	
3/8 inch	447.99	
#4	443.07	
#10	437.44	
#20	378.54	d
#40	347.45	d
#60	327.15	d
#80	314.44	d
#100	314.91	d
#200	294.82	d

Test	1	2	3	4	5	6	7	8	9	10	11	12
Laboratory No	463353	463354	463355	463363	463364	463399	463457					
Sample ID	0-1'	1'-2'	2'-4'	22-24	32-34	#3 Fill Soil	GB-25-4-7					
Sample Prep Method	D2217	D2217	D2217	D2217	D2217	D2217	D2217					
Pan, g												
Pan/sample, g	126.96	121.07	120.14	79.10	120.08	120.40	156.97					
Pan/dry sampl, g												
Non-soil material												
Description	shell,grass	wood,grass	wood	n/a	n/a	wood	n/a					
Pan, g	3.68	3.68	3.68			3.68						
Pan/dry sampl, g	3.76	3.92	7.20			3.77						
Non-soil, g	0.08	0.24	3.52			0.09						
Hydroscopic Moisture correction factor (HMCF) for dry prep / Percent Solids for dry and wet prep												
Pan, g	0.97	0.97	0.97	0.97	0.97	0.97	0.97					
Pan/sample, g	26.71	25.77	27.39	29.68	27.83	29.25	27.45					
Pan/dry sampl, g	23.08	24.48	17.89	25.32	23.91	24.79	25.67					
HMCF	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					
Sample % Solids	85.9%	94.8%	64.0%	84.8%	85.4%	84.2%	93.3%					
Sample used, g	108.98	114.53	73.42	67.09	102.56	101.32	146.42					

6000

Sieve + Sample Weights

Size	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g
3 inch												
2 inch												
1.5 inch												
1 inch												
3/4 inch							470.74					
3/8 inch	455.89	458.88	453.91			449.22	494.85					
#4	454.74	452.69	447.58		443.28	444.61	471.00					
#10	443.06	442.51	442.30	0.00	437.63	440.80	460.94					
#20	380.47	381.60	382.01	378.55	379.86	383.32	390.07					
#40	349.14	350.70	351.20	347.45	354.28	354.29	355.03					
#60	330.16	335.92	332.47	327.18	346.58	336.83	331.45					
#80	324.71	325.42	325.97	314.47	328.90	321.20	316.64					
#100	331.04	328.19	325.65	315.04	322.90	317.93	315.95					
#200	337.50	325.12	308.05	303.05	319.37	300.89	297.74					
Maximum Particle size	19 mm	19 mm	19 mm	Med sand	9.5 mm	19 mm	25 mm					
Description of >#10 particles												
Shape	angular	angular	angular	N/A	subangular	subangular	angular	N/A	N/A	N/A	N/A	N/A
Hardness	hard,brittle	hard	hard	N/A	hard	hard	hard	N/A	N/A	N/A	N/A	N/A
Sample Mass Parameters												
Pan/sample, g	126.96	121.07	120.14	79.10	120.08	120.40	156.97					
Mass removed, g	25.27	25.82	18.81	0.00	0.40	6.22	110.92	0.00	0.00	0.00	0.00	0.00
Sample mass, g	83.79	88.95	58.13	67.09	102.16	95.19	35.50					

000046

Particle Size Analysis
Hydrometer Data

Set Number: 84448

Client: STLNYB
Client Code: STLNYB
Date Received: 14-Aug-00

Project No.: 21000
Job No.: NY1A8821
Start Date: 30-Aug-01

ETR(s) #: 4450,84468
SDG(s): N/A
End Date: 04-Sep-01

Date and Analyst

Percent Solids	Hydrometer	Mass removed	Small sieves	Large sieves	Non-soil
CT8/30/01	CT8/30/01	CT8/30/01	MRD8/31/01	CT8/30/01	CT8/30/01
MRD8/31/01	CT8/30/01		MRD9/4/01	MRD9/4/01	MRD9/4/01
	MRD8/31/01				

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number	463353	463354	463355	463363	463364	463399	463457					
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading	1.0060	1.0070	1.0075	1.0140	1.0065	1.0265	1.0055					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading	1.0050	1.0070	1.0070	1.0100	1.0060	1.0230	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					10
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	0 15
Reading	1.0045	1.0050	1.0065	1.0060	1.0055	1.0180	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading	1.0045	1.0050	1.0060	1.0060	1.0050	1.0150	1.0045					
Temperature, C	25.0	25.0	25.0	25.0	24.5	24.5	24.5					
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading	1.0045	1.0050	1.0055	1.0050	1.0050	1.0130	1.0045					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0100	1.0040					
Temperature, C	25.5	25.5	25.5	25.5	25.5	25.5	25.5					
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0080	1.0040					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					

Hydrometer used: 548355 **Model #:** ASTM 151H **Manufacturer:** CHASE **Hydrometer start time:** 11:08

Calibrations:

L temp, C	L read	H Temp, C	H read
17.0	1.0045	23.0	1.0035

Cal. Date: 07-Feb-01 **Hydrometer data entered:** JRM9/4/01

000047

Particle Size Analysis
Hydrometer Data

Set Number: 84448

Client: ,STLNYB,STLOHN
Client Code: ,STLNYB,STLOHN
Date Received: 14-Aug-00

Project No.: 21000
Job No.:
Start Date: 0-Jan-00

ETR(s) #: 4450,84458,84468
SDG(s): 0
End Date: 0-Jan-00

Date and Analyst

Percent Solids	Hydrometer	Mass removed	Small sieves	Large sieves	Non-soil
CT 8/30/01 MLD 8/31/01	CT 9/30/01 CT 9/30/01 MLD 8/31/01	CT 9/30/01	MLD 8-31-01 MLD 9-4-01	CT 8/30/01 MLD 9-4-01	CT 8/30/01 MLD 9-4-01

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number	463353	463354	463355	463363	463364	463399	463457					
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading	1.0060	1.0070	1.0075	1.0140	1.0065	1.0265	1.0055					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading	1.0050	1.0070	1.0070	1.0100	1.0060	1.0230	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading	1.0045	1.0050	1.0065	1.0060	1.0055	1.0180	1.0050					
Temperature, C	25.5	25.5	25.0	25.0	25.0	25.0	24.5					
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading	1.0045	1.0050	1.0060	1.0060	1.0050	1.0150	1.0045					
Temperature, C	25.0	25.0	25.0	25.0	24.5	24.5	24.5					
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading	1.0045	1.0050	1.0055	1.0050	1.0050	1.0130	1.0045					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0100	1.0040					
Temperature, C	25.5	25.5	25.5	25.5	25.5	25.5	25.5					
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading	1.0040	1.0040	1.0045	1.0040	1.0040	1.0080	1.0040					
Temperature, C	24.5	24.5	24.5	24.5	24.5	24.5	24.5					

0011

Hydrometer used: 548355 Model #: ASTM 151H Manufacturer:

Hydrometer start time: 11:08

Calibrations:

L temp, C	L read	H Temp, C	H read
17.0		23.0	

Cal. Date: 7-Feb-01

Hydrometer data entered: JBM 9-4-01

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: FRM Inc.	Project Manager: Jon Fox	Date: 8/23/01	Chain of Custody Number: 013446
Address: 5788 Widewaters Pkwy	Telephone Number (Area Code)/Fax Number: (315) 445-2554	Lab Number:	Page ____ of ____
City: DeWitt / State: NY / Zip Code: 13214	Site Contact: J. Paetz	Lab Contact: Brian Fisher	
Project Name and Location (State): Gratt Bros. Buffalo NY	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: D6714			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOC 8260	Grain size	moisture content	Settled cond	Cation/Anion	Bulk density	TOC	Special Instructions/ Conditions of Receipt
TB-4 (SD) ★				X						X			X							
GB-24-16	8/22/01	1645				X	X						X							
GB-25-9-10	8/23/01	1010				X	X						X							
GB-25-4-7	8/23/01	0920				X	X							X	X	X	X	X		
GB-25-4-7	8/23/01	0920				X	X												X	
GB-27-15	8/23/01	1315				X	X						X							

0012

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Jeremy Wolff	8/24/01	13:15	1. Received By: C. Myers	8-24-01	1:15 PM
2. Relinquished By: [signature]	8/24/01	17:00	2. Received By: [signature]	8/28/01	0930
3. Relinquished By: Ken Lenthold	8/28/01	1340	3. Received By:		

Comments: not analyze TB-4 — 4° Cooler temp: 6°

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Co

STL Buffalo
Internal Chain of Custody

00004

Client: ERM (vs Grief Brothers)
Project: NY1A8821
Quote: NY01-179
SM #: 904

Turn Around Required: 10B

Client Sample ID	Lab ID	Matrix	Parameters	# and Type of Samp Containers	Sample Date/Time
GB-25-4-7	A1821901	SOIL	TOC	1-20Z GW	08/23/2001 09:20

Relinquished by STL Buffalo: Signature(s)	Date	Time	Received By STL - Vermont: Signature(s)	Date	Time
(1) TA Rich	8/24/2001	17:00	(3) [signature]	8/28/2001	0930
(2)	/ /20		(4) [signature]	/ /20	

Cooler temp: 6°C

0013

Job No: A01-8219
Project/Task: NY1A8821 1

Test No.	Description	Prot	Method	Mtx	TCLP	Holding Type	Holding Tclp	Holding Extr	Holding Anal	Prep Type	Unit Measure	Detect Limit Type	Detect Limit Value	Spikes Code	Spikes Amount	Spikes Conc	QC Limits	RPD
WC	WET CHEMISTRY																	
CTA13250	TOTAL ORGANIC CARBON (SUBCONTRACT	OTHER	KAHN	Soil	N	S	0	0	28	N	MG/KG	EQL	0.00000	A00088		*** No Limits ***		

0014

Appendix H
Ground Water Sampling Records

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID : ~~GB~~ GBRI - MW-1 (09/01)

WELL ID : MW-1 Time Onsite: 1022 Time Offsite:

SAMPLERS : J. Fox, J. Moore, A. McIntosh

Depth of well (from top of casing) ..... 28.83 Time: 1026

Static water level (from top of casing) ..... 13.05 Time: 1025

Water level after purging (from top of casing) ..... — Time: 1511 Gws Pump out

Water level before sampling (from top of casing) ..... 10.22 Time: 1729

ERM

Purging Method:

___ Airlift	___ Centrifugal	___ Bailer	___ Pos. Displ.
X Bailer	___ Pos. Displ.	___ Submersible	___ Ded. Pump
___ Submersible	___ Ded. Pump		

Well Volume Calculation:

		1 volume	3 volumes
X 2 in. well:	15.78 ft. of water x 0.16 =	2.52 gal.	x 3 = 7.56 gal.
3 in. well:	___ ft. of water x 0.36 =	___ gal.	x 3 = ___ gal.
4 in. well:	___ ft. of water x 0.65 =	___ gal.	x 3 = ___ gal.
6 in. well:	___ ft. of water x 1.47 =	___ gal.	x 3 = ___ gal.

Volume of water removed: 6.25 gal. >3 volumes: yes ___ no ✓ purged dry? yes ✓ no ___

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			µS/cm	mg/l
Initial	12.4					0.55
1 Volume	13.8	7.58			1.534	
2 Volumes	13.8	7.49			1.651	
6.25 ~~3 Volumes~~	13.9	7.58			1.659	

Sampling

Time of Sample Collection: 1730

Collection Method:	Analyses:	Analytical Method:
___ Stainless steel bailer	X VOCs -	602 ___ 503.1 ___ (Other) EPA-8260
___ Teflon bailer	___ SVOCs	
___ Pos. Disp. Pump	___ Metals	
X Disposable bailer	___ PCB/Pest	
___ Dedicated pump	___ Physical	
___ Other:	___ Other	

Observations

Weather/Temperature: 75°F, Clear

Sample Description: Clear

Free Product? yes ___ no X describe

Sheen? yes ___ no X describe

Odor? yes ___ no X describe

Comments:

- PID reading @ Top of casing = 0.0 ppm.

g:geoforms\Gwsamp

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01
G.B RI
SAMPLE ID : ~~GB~~-MW-2 (09/01)
WELL ID : MW-2 Time Onsite: Time Offsite:
SAMPLERS : J. Fox, J. Moore, A. McIntosh 0959

ERM

Depth of well (from top of casing) ..... 28.59 Time: 1002
Static water level (from top of casing) ..... 11.13 Time: 1001
Water level after purging (from top of casing) ..... ~~28.~~ Time: 1540 END PURGE
Water level before sampling (from top of casing) ..... ~~24.19~~ Time: 1739

Purging Method:

___	Airlift	___	Centrifugal	X	2 in. well:	17.46 ft. of water x 0.16 =	2.79 gal.	x 3 = 8.37 gal.
X	Bailer	___	Pos. Displ.		3 in. well:	___ ft. of water x 0.36 =	___ gal.	x 3 = ___ gal.
___	Submersible	___	Ded. Pump		4 in. well:	___ ft. of water x 0.65 =	___ gal.	x 3 = ___ gal.
					6 in. well:	___ ft. of water x 1.47 =	___ gal.	x 3 = ___ gal.

Well Volume Calculation:

1 volume 3 volumes

Volume of water removed: 6.45 gal. >3 volumes: yes ___ no ✓ purged dry? yes ✓ no ___

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			µS/cm	mg/l
Initial	12.2					0.29
1 Volume	12.8	7.92			1187	
2 Volumes	12.5	7.92			1206	
6.45 3 ~~Volumes~~	12.4	7.90			1215	

Sampling

Time of Sample Collection: 1740

Collection Method:		Analyses:		Analytical Method:
___	Stainless steel bailer	X	VOCs -	602 ___ 503.1 ___ (Other) EPA-8260
___	Teflon bailer	___	SVOCs	
___	Pos. Disp. Pump	___	Metals	
X	Disposable bailer	___	PCB/Pest	
___	Dedicated pump	___	Physical	
___	Other: ___	___	Other	

Observations

Weather/Temperature: Clear/75
Sample Description: LIGHT TAN
Free Product? yes ___ no X describe ___
Sheen? yes ___ no X describe ___
Odor? yes ___ no X describe ___

Comments:

- PID reading @ top of casing = 0.0 ppm.

GROUND WATER SAMPLING RECORD

TE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: ~~GB~~ GBRI-MW-3 (09/01)

WELL ID: MW-3 Time Onsite: 1014 Time Offsite:

SAMPLERS: J. Fox, J. Moore, A. McIntosh

Depth of well (from top of casing) ..... 34.33 Time: 1017

Static water level (from top of casing) ..... 16.19 Time: 1016

Water level after purging (from top of casing) ..... ~~34.33~~ Time: —

Water level before sampling (from top of casing) ..... 16.92 Time: 1844

ERM

Purging Method:

- ____ Airlift
- ____ Centrifugal
- X Bailer
- ____ Pos. Displ.
- ____ Submersible
- ____ Ded. Pump

Well Volume Calculation:

			1 volume		3 volumes
X 2 in. well:	18.14 ft. of water x 0.16 =	2.90 gal.	x 3 =	8.7 gal.
3 in. well:	____ ft. of water x 0.36 =	____ gal.	x 3 =	____ gal.
4 in. well:	____ ft. of water x 0.65 =	____ gal.	x 3 =	____ gal.
6 in. well:	____ ft. of water x 1.47 =	____ gal.	x 3 =	____ gal.

Volume of water removed: 14.5 gal. >3 volumes: yes ✓ no ____ purged dry? yes ____ no ✓

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond	Other: DO
units	°C	std.			~~µS/cm~~ mS/cm	mg/l
Initial	13.2				~~0.994~~	0.37
1 Volume	14.1	7.91			0.994	
2 Volumes	~~9.88~~ 15.2	7.84			0.980	
3 Volumes	17.9	8.07			1.287	
4 Volumes	14.6	7.85			1.301	
5 Volumes	13.8	7.88			1.275	

Sampling

Time of Sample Collection: 1845

Collection Method:		Analyses:		Analytical Method:
____	Stainless steel bailer	X	VOCs -	602 ____ 503.1 ____ Other ~~EPA-8260~~
____	Teflon bailer	____	SVOCs	
____	Pos. Disp. Pump	____	Metals	TAL METALS (TOTAL)
X	Disposable bailer	____	PCB/Pest	
____	Dedicated pump	____	Physical	
____	Other: ____	____	Other	

Observations

Weather/Temperature: cloudy 70°F

Sample Description: TAN

Free Product? yes ____ no X describe ____

Sheen? yes ____ no X describe ____

Odor? yes ____ no X describe ____

Comments:

- PID @ top of casing = 0.0 ppm.

1st - 12 bails / 2nd - 12 bails / 3rd - 12 bails / 4th 12 bails / 5th 12 bails

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GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID : ~~GB~~ GBRI - MW-4 (09/01)

WELL ID : MW-4

SAMPLERS : T. Fox, J. Moore, A. McIntosh

	Time Onsite:	Time Offsite:
	1007	1905

Depth of well (from top of casing)	28.31	Time: 1010
Static water level (from top of casing)	13.38	Time: 1009
Water level after purging (from top of casing)	NM	Time:
Water level before sampling (from top of casing)	14.37	Time: 1848

ERM

Purging Method:

___	Airlift	___	Centrifugal
X	Bailer	___	Pos. Displ.
___	Submersible	___	Ded. Pump

Well Volume Calculation:

				1 volume		3 volumes
X	2 in. well:	14.93	ft. of water x 0.16 =	2.39	gal. x 3 =	7.17 gal.
	3 in. well:		ft. of water x 0.36 =		gal. x 3 =	gal.
	4 in. well:		ft. of water x 0.65 =		gal. x 3 =	gal.
	6 in. well:		ft. of water x 1.47 =		gal. x 3 =	gal.

Volume of water removed: ~ 7.5 gal. >3 volumes: yes X no ___ purged dry? yes ___ no X

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			~~µS/cm~~ µM	mg/L
Initial	11.5					0.32
1 Volume	14.4	~~7.82~~			1,183	
2 Volumes	11.9	7.94			1,163	
3 Volumes	14.1	7.83			1,201	

Sampling

Time of Sample Collection: 1850

Collection Method:		Analyses:		Analytical Method:			
___	Stainless steel bailer	X	VOCs -	602 ___	503.1 ___	(Other)	EPA-8260
___	Teflon bailer	___	SVOCs				
___	Pos. Disp. Pump	___	Metals				
X	Disposable bailer	___	PCB/Pest				
___	Dedicated pump	___	Physical				
___	Other: ___	___	Other				

Observations

Weather/Temperature: clear, temp. ± 75°F, winds light/variable

Sample Description: clear w/ slight milky white tint

Free Product? yes ___ no X describe ___

Sheen? yes ___ no X describe ___

Odor? yes ___ no X describe ___

Comments:

- PID reading @ top of casing = 0.0 ppm

1st - 9 Bails / 2nd - 9 bails / 3rd - 8 bails Dry.

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01
GBRT
SAMPLE ID: GB-MW-5 (09/01)
WELL ID: MW-5
SAMPLERS: J. Fox, J. Mare, A. McIntosh

		Time Onsite:	Time Offsite:
		0935	
		0935	

ERM

		Time:
Depth of well (from top of casing)	27.36	0937
Static water level (from top of casing)	10.50	0936
Water level after purging (from top of casing)	—	—
Water level before sampling (from top of casing)	~~11.45~~	1714

Purging Method:

___ Airlift	___ Centrifugal	X	2 in. well: 16.86' ft. of water x 0.16 = 2.70 gal. x 3 = 8.1 gal.
X Bailer	___ Pos. Displ.		3 in. well: ___ ft. of water x 0.36 = ___ gal. x 3 = ___ gal.
___ Submersible	___ Ded. Pump		4 in. well: ___ ft. of water x 0.65 = ___ gal. x 3 = ___ gal.
			6 in. well: ___ ft. of water x 1.47 = ___ gal. x 3 = ___ gal.

Well Volume Calculation:

1 volume / 3 volumes

Volume of water removed: ~7.3 gal. >3 volumes: yes ___ no X purged dry? yes X no ___

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			~~µS~~/cm (µm)	mg/l
Initial	12.1					0.31
1 Volume	15.2	8.22			1.171	
2 Volumes	~~15.6~~ 13.4	7.74			1.152	
3 Volumes	20.4	7.97			1.102	

Sampling

Time of Sample Collection: 17:15

Collection Method:	Analyses:	Analytical Method:
___ Stainless steel bailer	X VOCs -	602 ___ 503.1 ___ (Other) EPA-8260
___ Teflon bailer	___ SVOCs	
___ Pos. Disp. Pump	X Metals	~~[illegible]~~ JR
X Disposable bailer	___ PCB/Pest	
___ Dedicated pump	___ Physical	
___ Other: ___	___ Other	

Observations

Weather/Temperature: Clear / 75°F
Sample Description: Tan
Free Product? yes ___ no X describe ___
Sheen? yes ___ no X describe ___
Odor? yes ___ no X describe ___

Comments:

- PID reading @ top of casing = 0.0 ppm
1st - 11 bails 2nd Vol - 11 bails 3rd Vol. 5.5 bails & dry
13:15

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID : ~~GB~~GBRI-MW-6 (09/01)

WELL ID : MW-6 Time Onsite: Time Offsite:

SAMPLERS : J. Fox, J. Morse, A. McIntosh 0945

Depth of well (from top of casing) ..... 29.03 Time: 0949

Static water level (from top of casing) ..... 14.42 Time: 2948

Water level after purging (from top of casing) ..... — Time: —

Water level before sampling (from top of casing) ..... 16.21 Time: 1803

ERM

Purging Method:

___	Airlift	___	Centrifugal	X	2 in. well:	14.61	ft. of water x 0.16 =	2.34 gal. x 3 = 7.02 gal.
X	Bailer	___	Pos. Displ.		3 in. well:	___	ft. of water x 0.36 =	___ gal. x 3 = ___ gal.
___	Submersible	___	Ded. Pump		4 in. well:	___	ft. of water x 0.65 =	___ gal. x 3 = ___ gal.
					6 in. well:	___	ft. of water x 1.47 =	___ gal. x 3 = ___ gal.

Volume of water removed: ~7.2 gal. >3 volumes: yes X no ___ purged dry? yes ___ no X

Field Tests:

	Temp.	pH	Turb.	~~Eh~~	Spec. Cond.	Other: DO
units	°C				~~mS~~ µS/cm	DO (mg/l)
Initial	11.3					1.16
1 Volume	13.6	7.88		1.282		
2 Volumes	15.8	7.82		1.272		
3 Volumes	14.6	7.93		1.266		

Sampling

Time of Sample Collection: 1805

Collection Method:		Analyses:		Analytical Method:			
___	Stainless steel bailer	X	VOCs -	602 ___	503.1 ___	(Other)	EPA-8260
___	Teflon bailer	X	SVOCs	EPA-8270			
___	Pos. Disp. Pump	___	Metals				
X	Disposable bailer	___	PCB/Pest				
___	Dedicated pump	___	Physical				
___	Other: ___	___	Other				

Observations

Weather/Temperature: Clear, 75°F

Sample Description: Tan

Free Product? yes ___ no X describe ___

Sheen? yes ___ no X describe ___

Odor? yes ___ no X describe ___

Comments:

- Max PID reading @ top of casing = 0.0 ppm.

14:50 1st Vol.- 9 bails / 2nd Vol - 9 bails / 3rd - 9 bails

GROUND WATER SAMPLING RECORD

TE GB Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: GBRI - MW-7 (09/01)

WELL ID: MW-7 Time Onsite: Time Offsite:

SAMPLERS: J. Fox, J. Moore, A. McIntosh 1038

Depth of well (from top of casing) ..... 35.87 Time: 1040

Static water level (from top of casing) ..... 14.11 Time: 1039

Water level after purging (from top of casing) ..... — Time: 1450 GW Engrs.

Water level before sampling (from top of casing) ..... 18.83 Time: 1809

ERM

Purging Method:

____	Airlift	____	Centrifugal
X	Bailer	____	Pos. Displ.
____	Submersible	____	Ded. Pump

Well Volume Calculation:

			1 volume	3 volumes
X	2 in. well: 21.76	ft. of water x 0.16 =	3.48 gal.	x 3 = 10.44 gal.
	3 in. well: ____	ft. of water x 0.36 =	____ gal.	x 3 = ____ gal.
	4 in. well: ____	ft. of water x 0.65 =	____ gal.	x 3 = ____ gal.
	6 in. well: ____	ft. of water x 1.47 =	____ gal.	x 3 = ____ gal.

Volume of water removed: 11 gal. >3 volumes: yes ✓ no ____ purged dry? yes ____ no ✓ GOOD RECOVERY.

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			mS/cm	mg/l
Initial	12.7					0.25
1 Volume	13.2	8.30			1.339	
2 Volumes	~~13.9~~	7.99	~~198~~		1.325	
3 Volumes	13.9	8.01			1.324	

Sampling

Time of Sample Collection: 1810

Collection Method:		Analyses:		Analytical Method:	
____	Stainless steel bailer	X	VOCs -	602 ____ 503.1 ____	(Other) EPA-8260
____	Teflon bailer	X	SVOCs	EPA-8270	
____	Pos. Disp. Pump	X	Metals	TAL Metals (Totals)	
X	Disposable bailer	____	PCB/Pest		
____	Dedicated pump	____	Physical		
____	Other: ____	____	Other		

Observations

Weather/Temperature: Clear, 75°F

Sample Description: Murky / Clear

Free Product? yes ____ no X describe ____

Sheen? yes ____ no X describe ____

Odor? yes ____ no X describe ____

Comments:

- PID reading @ top of casing = 0.0 ppm.

(MS) (MSD) for VOC's, SVOC's, METALS.

GROUND WATER SAMPLING RECORD

FE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: GBRT GB-MW-8 (09/01)

WELL ID: MW-8 Time Onsite: Time Offsite:

SAMPLERS: J. Fox 0917 ____

A. McIntosh, J. Moore 0917 ____

ERM

Depth of well (from top of casing) ..... 57.78' Time: 0925

Static water level (from top of casing) ..... 20.44 Time: 0923

Water level after purging (from top of casing) ..... — Time: —

Water level before sampling (from top of casing) ..... 43.28' Time: 1710

Purging Method:

____	Airlift	____	Centrifugal	X	2 in. well:	31.44	ft. of water x 0.16 =	5.03 gal.	x 3 = 15.09 gal.
X	Bailer	____	Pos. Displ.		3 in. well:	____	ft. of water x 0.36 =	____ gal.	x 3 = ____ gal.
____	Submersible	____	Ded. Pump		4 in. well:	____	ft. of water x 0.65 =	____ gal.	x 3 = ____ gal.
					6 in. well:	____	ft. of water x 1.47 =	____ gal.	x 3 = ____ gal.

Well Volume Calculation:

1 volume 3 volumes

Volume of water removed: ~10.0 gal. >3 volumes: yes ____ no X purged dry? yes X no ____

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond	~~Other:~~ DO
units	°C	std. units			~~µ~~mS/cm (AM)	~~%~~ mg/L
Initial	13.5					0.26
1 Volume	22.8	8.03			3.11	
2 Volumes	22.6	8.15			3.74	
3 Volumes						

Sampling

Time of Sample Collection: 1710

Collection Method:		Analyses:		Analytical Method:
____	Stainless steel bailer	X	VOCs -	602 ____ 503.1 ____ (Other) EPA-8260
____	Teflon bailer	X	SVOCs	EPA-8270
____	Pos. Disp. Pump	X	Metals	TAL Metals (totals)
X	Disposable bailer	____	PCB/Pest	
____	Dedicated pump	____	Physical	
____	Other: ____	____	Other	

Observations

Weather/Temperature: clear, temp. ± 78°F, winds variable, 5-10 mph.

Sample Description: ~~Cloudy~~ clear (JSF)

Free Product? yes ____ no X describe ____

Sheen? yes ____ no X describe ____

Odor? yes ____ no X describe ____

Comments:

- PID reading (max) @ top of casing = 10.2 ppm.

14:20 1st Vol - 16 bails Dry / 2nd Vol - Dry

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: GBRI-MW-9 (09/01)

WELL ID: MW-9 Time Onsite: Time Offsite:

SAMPLERS: J. Fox, J. Moore, A. McIntosh 1031

Depth of well (from top of casing) ..... 77.67 Time: 1034

Static water level (from top of casing) ..... 18.08 Time: 1033

Water level after purging (from top of casing) ..... — Time: 1620 end purge

Water level before sampling (from top of casing) ..... 17.92 Time: 1829

ERM

Purging Method:

___	Airlift	___	Centrifugal
X	Bailer	___	Pos. Displ.
___	Submersible	___	Ded. Pump

Well Volume Calculation:

			1 volume		3 volumes
X	2 in. well: 59.59	ft. of water x 0.16 =	9.53 gal.	x3 =	28.6 gal.
	3 in. well: ___	ft. of water x 0.36 =	___ gal.	x3 =	___ gal.
	4 in. well: ___	ft. of water x 0.65 =	___ gal.	x3 =	___ gal.
	6 in. well: ___	ft. of water x 1.47 =	___ gal.	x3 =	___ gal.

Volume of water removed: 30 gal. >3 volumes: yes ✓ no ___ purged dry? yes ___ no ✓

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			µS/cm	mg/l
Initial	13.0					0.32
1 Volume	15.3	8.88			3,080	
2 Volumes	13.4	8.36			3,210	
3 Volumes	13.2	8.32			3,260	

Sampling

Time of Sample Collection: 1830

Collection Method:		Analyses:		Analytical Method:			
___	Stainless steel bailer	X	VOCs -	602 ___	503.1 ___	(Other)	EPA-8260
___	Teflon bailer	X	SVOCs	EPA-8270			
___	Pos. Disp. Pump	___	Metals				
X	Disposable bailer	___	PCB/Pest				
___	Dedicated pump	___	Physical				
___	Other: ___	___	Other				

Observations

Weather/Temperature: Clear, 70°F

Sample Description: Murky / clear

Free Product? yes ___ no X describe ___

Sheen? yes ___ no X describe ___

Odor? yes ___ no X describe ___

Comments:

- PID reading @ top of casing = 0.0 ppm

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: GBRI-MW-10 (09/01)

WELL ID: MW-10 Time Onsite: Time Offsite:

SAMPLERS: J. Fox, J. Moore, A. McIntosh 1046 1830

ERM

Depth of well (from top of casing)	77.74	Time: 1050
Static water level (from top of casing)	19.55	Time: 1049
Water level after purging (from top of casing)		Time: 1615
Water level before sampling (from top of casing)	19.51 ~~1813~~ 37	Time: 1813

Purging Method:

___ Airlift	___ Centrifugal	X	2 in. well:	58.19	ft. of water x 0.16 =	9.31	gal.	x 3 = 27.93 gal.
X Bailer	___ Pos. Displ.		3 in. well:		ft. of water x 0.36 =		gal.	x 3 = gal.
___ Submersible	___ Ded. Pump		4 in. well:		ft. of water x 0.65 =		gal.	x 3 = gal.
			6 in. well:		ft. of water x 1.47 =		gal.	x 3 = gal.

Well Volume Calculation:

1 volume 3 volumes

Volume of water removed: ~28.5 gal. >3 volumes: yes X no ___ purged dry? yes ___ no X

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			(JSP) mS/cm m	mg/l
Initial	14.2					3.31
1 Volume	15.8	12.25			432	
2 Volumes	15.4	9.40			318	
3 Volumes	15.3	8.84			322	

Sampling

Time of Sample Collection: 1815

Collection Method:		Analyses:		Analytical Method:	
___	Stainless steel bailer	X	VOCs -	602 ___ 503.1 ___	(Other) EPA-8260
___	Teflon bailer	X	SVOCs	EPA-8270	
___	Pos. Disp. Pump	___	Metals		
X	Disposable bailer	___	PCB/Pest		
___	Dedicated pump	___	Physical		
___	Other: ___	___	Other		

Observations

Weather/Temperature: clear, temp. ± 76°F, winds variable

Sample Description: clear

Free Product? yes ___ no X describe ___

Sheen? yes ___ no X describe ___

Odor? yes ___ no X describe ___

Comments:

- PID reading @ top of casing = 0.0 ppm.
- NOTE: DO meter in ambient air @ grade = 9.40 mg/l
- completed purging @ 1615

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rev. 1/00

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID : GBRI-MW-11 (09/01)
WELL ID : MW-11 Time Onsite: Time Offsite:
SAMPLERS : J. Fox, S. Moore, A. McIntosh 1058

Depth of well (from top of casing) ..... 74.29 Time: 1103
Static water level (from top of casing) ..... 16.10 Time: 1102
Water level after purging (from top of casing) ..... NM Time: 1450
Water level before sampling (from top of casing) ..... 16.16 Time: 1758

ERM

Purging Method:

___ Airlift ___ Centrifugal
X Bailer ___ Pos. Displ.
___ Submersible ___ Ded. Pump

Well Volume Calculation:

			1 volume	3 volumes
X	2 in. well: 58.19 ft. of water x 0.16 =	7.56 gal.	x 3 = 22.68 gal.
	3 in. well: ___ ft. of water x 0.36 =	___ gal.	x 3 = ___ gal.
	4 in. well: ___ ft. of water x 0.65 =	___ gal.	x 3 = ___ gal.
	6 in. well: ___ ft. of water x 1.47 =	___ gal.	x 3 = ___ gal.

Volume of water removed: ~ 23.0 gal. >3 volumes: yes X no ___ purged dry? yes ___ no X

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			~~µs/cm~~ mg/m	mg/l
Initial	15.9					1.28
1 Volume	15.3	12.12			NM	
2 Volumes	14.8	10.20			327	
3 Volumes	14.7	9.48			322	

Sampling

Time of Sample Collection: 1800

Collection Method:		Analyses:		Analytical Method:
___	Stainless steel bailer	X	VOCs -	602 ___ 503.1 ___ Other EPA-8260
___	Teflon bailer	X	SVOCs	EPA-8270
___	Pos. Disp. Pump	___	Metals	
X	Disposable bailer	___	PCB/Pest	
___	Dedicated pump	___	Physical	
___	Other: ___	___	Other	

Observations

Weather/Temperature: clear, temp. ≈ 78°F, winds variable (light breeze inside)
Sample Description: clear, slight milky white tint
Free Product? yes ___ no X describe ___
Sheen? yes ___ no X describe ___
Odor? yes ___ no X describe ___

Comments:

- PID reading @ top of casing = 0.0 ppm

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: GBRI-MW-12(09/01)

WELL ID: MW-12 Time Onsite: Time Offsite:

SAMPLERS: J. Fox, J. Moore, A. McIntosh 1108 _____

1305 _____

ERM

Depth of well (from top of casing) ..... 15.96 Time: 1115

Static water level (from top of casing) ..... 8.24 Time: 1114

Water level after purging (from top of casing) ..... — Time: 1322 end Purging

Water level before sampling (from top of casing) ..... 12.45 Time: 1914

Purging Method:

____	Airlift	____	Centrifugal
X	Bailer	____	Pos. Displ.
____	Submersible	____	Ded. Pump

Well Volume Calculation:

			1 volume	3 volumes
X	2 in. well: 7.72	ft. of water x 0.16 =	1.24 gal.	x 3 = 3.72 gal.
	3 in. well: ____	ft. of water x 0.36 =	____ gal.	x 3 = ____ gal.
	4 in. well: ____	ft. of water x 0.65 =	____ gal.	x 3 = ____ gal.
	6 in. well: ____	ft. of water x 1.47 =	____ gal.	x 3 = ____ gal.

Volume of water removed: 3.75 gal. >3 volumes: yes ✓ no ____ purged dry? yes ____ no ✓ NOMRCSL

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			µS/cm	mg/l
Initial	18.2					1.10
1 Volume	20.3	6.97			1.547	
2 Volumes	19.5	7.04			1.567	
3 Volumes	19.3	7.08			1.578	

Sampling

Time of Sample Collection: 1915

Collection Method:		Analyses:		Analytical Method:	
____	Stainless steel bailer	X	VOCs -	602 ____ 503.1 ____	(Other) EPA-8260
____	Teflon bailer	X	SVOCs	EPA-8270	
____	Pos. Disp. Pump	____	Metals		
X	Disposable bailer	____	PCB/Pest		
____	Dedicated pump	____	Physical		
____	Other: ____	____	Other		

Observations

Weather/Temperature: Clear 70°F

Sample Description: Mucky/Tan

Free Product? yes ____ no X describe ____

Sheen? yes ____ no X describe ____

Odor? yes ____ no X describe ____

Comments:

- PID reading @ top of casing = 20.3 ppm (background = 0.0 ppm)
- Breathing zone PID = 0.0 ppm
- PID = Minirae Model PGM-76IS
- DO meter: YSI Model 95D

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: GBRI-MW-13 (09/01)

WELL ID: MW-13 Time Onsite: Time Offsite:

SAMPLERS: J. Fox, J. Moore, A. McIntosh 1120

Depth of well (from top of casing) ..... 16.38' Time: 1126

Static water level (from top of casing) ..... 7.63 Time: 1125

Water level after purging (from top of casing) ..... ✓ Time: 1358 Ends Purging 6.

Water level before sampling (from top of casing) ..... 12.57 Time: 1928

ERM

Purging Method:

_____ Airlift _____ Centrifugal

_____ Bailer _____ Pos. Displ.

_____ Submersible _____ Ded. Pump

Well Volume Calculation:

			1 volume		3 volumes
X	2 in. well: 8.75	ft. of water x 0.16 =	1.4	gal. x 3 =	4.2 gal.
	3 in. well:	ft. of water x 0.36 =		gal. x 3 =	gal.
	4 in. well:	ft. of water x 0.65 =		gal. x 3 =	gal.
	6 in. well:	ft. of water x 1.47 =		gal. x 3 =	gal.

Volume of water removed: 4.5 gal. >3 volumes: yes ✓ no ___ purged dry? yes ___ no ✓ Recovery Good.

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			µS/cm	mg/l
Initial	18.9					2.94
1 Volume	19.5	6.81			2.370	
2 Volumes	18.3	7.06			2.300	
3 Volumes	18.4	7.09			2.290	

Sampling

Time of Sample Collection: 1930

Collection Method:

_____ Stainless steel bailer

_____ Teflon bailer

_____ Pos. Disp. Pump

X Disposable bailer

_____ Dedicated pump

_____ Other: _____

Analyses:

X VOCs -

X SVOCs

_____ Metals

_____ PCB/Pest

_____ Physical

_____ Other

Analytical Method:

602 _____ 503.1 _____ (Other) EPA-8260

EPA-8270

TAL Metals Total

GBRI-DUP01 (09/01) collected at MW-1

Observations

Weather/Temperature: Clear, 70°F

Sample Description: Murky

Free Product? yes ___ no X describe _____

Sheen? yes ___ no X describe _____

Odor? yes ___ no X describe _____

Comments:

- PID reading @ top of casing = 70.1 ppm (max.); background = 0.0 ppm.
- breathing zone PID reading = 0.0 ppm.
- ambient air reading of DO meter prior to insertion into well = 8.58 mg/l

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: GBRI-MW-14 (09/01)

WELL ID: MW-14 Time Onsite: Time Offsite:

SAMPLERS: J. Fox, J. Moore, A. McIntosh 1134

Depth of well (from top of casing) ..... 16.63 Time: 1139

Static water level (from top of casing) ..... 13.34 Time: 1138

Water level after purging (from top of casing) ..... — Time: 1255 end Purge

Water level before sampling (from top of casing) ..... 15.20 Time: 1656

ERM

Purging Method:

- ____ Airlift
- ____ Centrifugal
- X Bailer
- ____ Pos. Displ.
- ____ Submersible
- ____ Ded. Pump

Well Volume Calculation:

			1 volume	3 volumes
(2) in. well:	3.29 ft. of water x 0.16 =	.53 gal.	x 3 =	1.59 gal.
3 in. well:	____ ft. of water x 0.36 =	____ gal.	x 3 =	____ gal.
4 in. well:	____ ft. of water x 0.65 =	____ gal.	x 3 =	____ gal.
6 in. well:	____ ft. of water x 1.47 =	____ gal.	x 3 =	____ gal.

Volume of water removed: 1.75 gal. >3 volumes: yes ✓ no ____ purged dry? yes ____ no ✓

Field Tests:

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other: DO
units	°C	std.			mS/cm	mg/l
Initial	20.6					3.86
1 Volume	19.5	7.76			1.120	
2 Volumes	19.3	7.35			1.082	
3 Volumes	19.2	7.38			1.077	

Sampling

Time of Sample Collection: 1900

Collection Method:		Analyses:		Analytical Method:
____	Stainless steel bailer	X	VOCs -	602 ____ 503.1 ____ (Other) EPA-8260
____	Teflon bailer	X	SVOCs	EPA-8270
____	Pos. Disp. Pump	____	Metals	
X	Disposable bailer	____	PCB/Pest	
____	Dedicated pump	____	Physical	
____	Other: ____	____	Other	

Observations

Weather/Temperature: Clear, 70°F

Sample Description: TAN

Free Product? yes ____ no X describe ____

Sheen? yes ____ no X describe ____

Odor? yes ____ no X describe ____

Comments:

- Max. PID reading @ top of well casing = 202.3 ppm (background = 0.0 ppm)
- breathing zone PID reading = 0.0 ppm.

GROUND WATER SAMPLING RECORD

SITE Greif Bros. - Tonawanda, NY DATE 9/12/01

SAMPLE ID: GBRI-CU-1 (09/01)

WELL ID: Concrete Vault near MW-1 Time Onsite: Time Offsite:

SAMPLERS: J. Fox 1910 1930

ERM

Depth of well (from top of casing) ..... 6.16 Time: 1910

Static water level (from top of casing) ..... 4.56 Time: 1909

Water level after purging (from top of casing) ..... NA Time:

Water level before sampling (from top of casing) ..... same as static Time:

Purging Method: NA

_____ Airlift _____ Centrifugal

_____ Bailer _____ Pos. Displ.

_____ Submersible _____ Ded. Pump

Well Volume Calculation:

		1 volume	3 volumes
2 in. well:	_____ ft. of water x 0.16 =	_____ gal.	x 3 = _____ gal.
3 in. well:	_____ ft. of water x 0.36 =	_____ gal.	x 3 = _____ gal.
4 in. well:	_____ ft. of water x 0.65 =	_____ gal.	x 3 = _____ gal.
6 in. well:	_____ ft. of water x 1.47 =	_____ gal.	x 3 = _____ gal.

Volume of water removed: _____ gal. >3 volumes: yes ___ no ___ purged dry? yes ___ no ___

Field Tests: NA

	Temp.	pH	Turb.	Eh	Spec. Cond.	Other:
units						
Initial						
1 Volume						
2 Volumes						
3 Volumes						

Sampling

Time of Sample Collection: 1915

Collection Method:

_____ Stainless steel bailer

_____ Teflon bailer

_____ Pos. Disp. Pump

X Disposable bailer

_____ Dedicated pump

_____ Other: _____

Analyses:

X VOCs -

X SVOCs

X Metals

_____ PCB/Pest

_____ Physical

_____ Other

Analytical Method:

602 _____ 503.1 _____ (Other) EPA-8260

EPA-8270

TAL Metals (totals)

Observations

Weather/Temperature: clear, temp.

Sample Description: clear with yellowish-tint

Free Product? yes ___ no X describe _____

Sheen? yes ___ no X describe _____

Odor? yes X no ___ describe unusual, sulfur/organic-like odor

Comments:

- Sample from this location requested by NYSDEC

Appendix I
Laboratory Analytical Report – Water Samples

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

September 25, 2001

Mr. Jon Fox
ERM
5788 Widewaters Parkway
Dewitt, NY 13214

RE: Analytical Results A01-8772

Dear Mr. Fox:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #:	NY01-179
Site Name:	ERM - Greif Bros. Site
Project Name:	Greif Bros. Site
Matrix:	Water
Samples Received:	09/12/01
Sample Date:	09/12/01

If you have any questions concerning these data, please contact the Program Manager at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide ERM with environmental testing services. We look forward to serving you in the future.

Sincerely,

STL Buffalo

Brian J. Fischer
Program Manager

BJF/sth
Enclosure

I.D.# A01-8772
#NY1A8821

This report contains 95 pages which are individually numbered.

METHODOLOGY

The specific methodology employed in obtaining the enclosed analytical results are indicated on the specific data table. The method number presented refers to the following U.S. Environmental Protection Agency reference:

- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), Third Edition, Update III, December 1996, U.S. Environmental Protection Agency Office of Solid Waste.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Sample dilutions were performed for Method 8260 and Metals as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

No deviations from protocol were encountered for Method 8270 analysis.

Deviations from protocol were encountered for the following procedures:

METHOD 8260

Samples GBRI-CV-1, GBRI-DUPE1, GBRI-MW-12, GBRI-MW-13, and GBRI-MW-14 contained one or more target compounds in amounts exceeding the instrument calibration range ("E" qualifiers) and were reanalyzed at their indicated dilution factors (according to the dilution log). All sets of data are reported.

METALS

Sample GBRI-MW-7 MS exhibited spike recovery results above quality control limits for Total Iron, Total Magnesium, and Total Sodium. Sample GBRI-MW-7 SD exhibited spike recovery results above quality control limits for Total Iron and below quality control limits for Total Magnesium and Total Sodium. The relative percent difference (RPD) for spike recovery between the samples was outside quality control limits for Total Calcium, Total Iron, Total Magnesium, and Total Sodium. However, all LFB recoveries were compliant.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
GBRI-MW-8	A1877201	Sodium - Total	10.00	008
GBRI-CV-1 DL	A1877212DL	8260/5ML	25.00	008
GBRI-MW-14 DL	A1877213DL	8260/5ML	100.00	008
GBRI-MW-12 DL	A1877214DL	8260/5ML	5.00	008
GBRI-MW-13 DL	A1877215DL	8260/5ML	200.00	008
GBRI-DUPE1 DL	A1877216DL	8260/5ML	100.00	008

000002

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - non-target compounds (TICS) exceeded 5X the total response of one of the Internal Standards
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 09/25/
Time: 15:00:

ERM - GF BROS. SITE
GREIF S. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		GBRI-CV-1		GBRI-CV-1 DL		GBRI-DUPE1		GBRI-DUPE1 DL	
Job No / Lab ID		A01-8772 / A1877212		A01-8772 / A1877212DL		A01-8772 / A1877216		A01-8772 / A1877216DL	
Sample Date		09/12/2001		09/12/2001		09/12/2001		09/12/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	ND	620	26	25	ND	2500
Benzene	UG/L	ND	5.0	ND	120	1.2 J	5.0	ND	500
Bromodichloromethane	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
Bromoform	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
Bromomethane	UG/L	ND	10	ND	250	ND	10	ND	1000
2-Butanone	UG/L	ND	10	ND	250	ND	10	ND	1000
Carbon Disulfide	UG/L	ND	5.0	ND	120	4.6 J	5.0	ND	500
Carbon Tetrachloride	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
Chlorobenzene	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
Chloroethane	UG/L	1300 E	10	1200 D	250	ND	10	ND	1000
Chloroform	UG/L	ND	5.0	ND	120	36	5.0	ND	500
Chloromethane	UG/L	ND	10	ND	250	ND	10	ND	1000
Dibromochloromethane	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
1,1-Dichloroethane	UG/L	ND	5.0	ND	120	2200 E	5.0	3700 D	500
1,2-Dichloroethane	UG/L	4.0 J	5.0	ND	120	110	5.0	130 DJ	500
1,1-Dichloroethene	UG/L	1.1 J	5.0	ND	120	3800 E	5.0	3800 D	500
1,2-Dichloroethene (Total)	UG/L	1.0 J	5.0	ND	120	2400 E	5.0	2800 D	500
1,2-Dichloropropane	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
cis-1,3-Dichloropropene	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
trans-1,3-Dichloropropene	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
Ethylbenzene	UG/L	420 E	5.0	310 D	120	2.2 J	5.0	ND	500
2-Hexanone	UG/L	ND	10	ND	250	ND	10	ND	1000
Methylene chloride	UG/L	ND	5.0	ND	120	18	5.0	ND	500
4-Methyl-2-pentanone	UG/L	ND	10	ND	250	7.2 J	10	ND	1000
Styrene	UG/L	40	5.0	54 DJ	120	ND	5.0	ND	500
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	ND	120	ND	5.0	ND	500
Tetrachloroethene	UG/L	ND	5.0	ND	120	1.2 J	5.0	ND	500
Toluene	UG/L	28	5.0	ND	120	3.7 J	5.0	ND	500
1,1,1-Trichloroethane	UG/L	ND	5.0	ND	120	4500 E	5.0	15000 D	500
1,1,2-Trichloroethane	UG/L	ND	5.0	ND	120	4.0 J	5.0	ND	500
Trichloroethene	UG/L	ND	5.0	ND	120	4300 E	5.0	18000 D	500
Vinyl acetate	UG/L	ND	10	ND	250	ND	10	ND	1000
Vinyl chloride	UG/L	12	5.0	ND	120	16	5.0	ND	500
Total Xylenes	UG/L	3200 E	15	5300 D	380	2.1 J	15	ND	1500
IS/SURROGATE(S)									
Chlorobenzene-D5	%	81	50-200	90	50-200	82	50-200	89	50-200
1,4-Difluorobenzene	%	75	50-200	89	50-200	86	50-200	90	50-200
1,4-Dichlorobenzene-D4	%	91	50-200	86	50-200	83	50-200	80	50-200
Toluene-D8	%	96	77-115	100	77-115	109	77-115	108	77-115
p-Bromofluorobenzene	%	102	77-112	103	77-112	108	77-112	101	77-112
1,2-Dichloroethane-D4	%	112	84-126	115	84-126	103	84-126	115	84-126

000005

NA = Not Applicable ND = Not Detected

Date: 09/25/
Time: 15:00:18

ERM - GR[illegible]ROS. SITE
GREIF BROS. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		GBRI-MW-1		GBRI-MW-10		GBRI-MW-11		GBRI-MW-12	
Job No	Lab ID	A01-8772	A1877203	A01-8772	A1877208	A01-8772	A1877204	A01-8772	A1877214
Sample Date		09/12/2001		09/12/2001		09/12/2001		09/12/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	ND	25	ND	25	ND	25
Benzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromodichloromethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromoform	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromomethane	UG/L	ND	10	ND	10	ND	10	ND	10
2-Butanone	UG/L	ND	10	ND	10	ND	10	ND	10
Carbon Disulfide	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Carbon Tetrachloride	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chlorobenzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chloroethane	UG/L	ND	10	ND	10	ND	10	4.2 J	10
Chloroform	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chloromethane	UG/L	ND	10	ND	10	ND	10	ND	10
Dibromochloromethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1-Dichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	710 E	5.0
1,2-Dichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	2.6 J	5.0
1,1-Dichloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	70	5.0
1,2-Dichloroethene (Total)	UG/L	ND	5.0	ND	5.0	ND	5.0	670 E	5.0
1,2-Dichloropropane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
cis-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
trans-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Ethylbenzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
2-Hexanone	UG/L	ND	10	ND	10	ND	10	ND	10
Methylene chloride	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
4-Methyl-2-pentanone	UG/L	ND	10	ND	10	ND	10	ND	10
Styrene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Tetrachloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Toluene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1,1-Trichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	78	5.0
1,1,2-Trichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Trichloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	52	5.0
Vinyl acetate	UG/L	ND	10	ND	10	ND	10	ND	10
Vinyl chloride	UG/L	ND	5.0	ND	5.0	ND	5.0	55	5.0
Total Xylenes	UG/L	ND	15	ND	15	ND	15	2.2 J	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	86	50-200	75	50-200	86	50-200	78	50-200
1,4-Difluorobenzene	%	85	50-200	74	50-200	86	50-200	79	50-200
1,4-Dichlorobenzene-D4	%	82	50-200	75	50-200	83	50-200	81	50-200
Toluene-D8	%	109	77-115	108	77-115	109	77-115	105	77-115
p-Bromofluorobenzene	%	100	77-112	102	77-112	101	77-112	103	77-112
1,2-Dichloroethane-D4	%	111	84-126	112	84-126	111	84-126	109	84-126

000006

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/25/
Time: 15:00:18

ERM - G[illegible] BROS. SITE
GREIF BROS. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		GBRI-MW-12 DL		GBRI-MW-13		GBRI-MW-13 DL		GBRI-MW-14	
Job No	Lab ID	A01-8772	A1877214DL	A01-8772	A1877215	A01-8772	A1877215DL	A01-8772	A1877213
Sample Date		09/12/2001		09/12/2001		09/12/2001		09/12/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	120	19 J	25	ND	5000	ND	25
Benzene	UG/L	ND	25	1.2 J	5.0	ND	1000	ND	5.0
Bromodichloromethane	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
Bromoform	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
Bromomethane	UG/L	ND	50	ND	10	ND	2000	ND	10
2-Butanone	UG/L	ND	50	ND	10	ND	2000	ND	10
Carbon Disulfide	UG/L	ND	25	3.9 J	5.0	ND	1000	10	5.0
Carbon Tetrachloride	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
Chlorobenzene	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
Chloroethane	UG/L	ND	50	ND	10	ND	2000	1.4 J	10
Chloroform	UG/L	ND	25	36	5.0	ND	1000	ND	5.0
Chloromethane	UG/L	ND	50	ND	10	ND	2000	ND	10
Dibromochloromethane	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
1,1-Dichloroethane	UG/L	580 D	25	2300 E	5.0	4300 D	1000	1400 E	5.0
1,2-Dichloroethane	UG/L	ND	25	110	5.0	ND	1000	ND	5.0
1,1-Dichloroethene	UG/L	51 D	25	3400 E	5.0	4900 D	1000	460 E	5.0
1,2-Dichloroethene (Total)	UG/L	540 D	25	2400 E	5.0	3000 D	1000	40	5.0
1,2-Dichloropropane	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
cis-1,3-Dichloropropene	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
trans-1,3-Dichloropropene	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
Ethylbenzene	UG/L	ND	25	2.2 J	5.0	ND	1000	1.9 J	5.0
2-Hexanone	UG/L	ND	50	ND	10	ND	2000	ND	10
Methylene chloride	UG/L	ND	25	19	5.0	ND	1000	ND	5.0
4-Methyl-2-pentanone	UG/L	ND	50	7.1 J	10	ND	2000	ND	10
Styrene	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
1,1,2,2-Tetrachloroethane	UG/L	ND	25	ND	5.0	ND	1000	ND	5.0
Tetrachloroethene	UG/L	ND	25	1.1 J	5.0	ND	1000	ND	5.0
Toluene	UG/L	ND	25	3.8 J	5.0	ND	1000	3.9 J	5.0
1,1,1-Trichloroethane	UG/L	57 D	25	4600 E	5.0	19000 D	1000	150	5.0
1,1,2-Trichloroethane	UG/L	ND	25	4.2 J	5.0	ND	1000	ND	5.0
Trichloroethene	UG/L	28 D	25	4300 E	5.0	21000 D	1000	3900 E	5.0
Vinyl acetate	UG/L	ND	50	ND	10	ND	2000	ND	10
Vinyl chloride	UG/L	42 D	25	17	5.0	ND	1000	2.8 J	5.0
Total Xylenes	UG/L	ND	75	2.3 J	15	ND	3000	16	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	88	50-200	81	50-200	88	50-200	79	50-200
1,4-Difluorobenzene	%	89	50-200	86	50-200	91	50-200	81	50-200
1,4-Dichlorobenzene-D4	%	79	50-200	82	50-200	80	50-200	80	50-200
Toluene-D8	%	108	77-115	110	77-115	107	77-115	108	77-115
p-Bromofluorobenzene	%	100	77-112	109	77-112	100	77-112	106	77-112
1,2-Dichloroethane-D4	%	116	84-126	104	84-126	115	84-126	105	84-126

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/25/[illegible]
Time: 15:00:18

ERM - GR[illegible] BROS. SITE
GREIF BROS. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		GBRI-MW-14 DL		GBRI-MW-2		GBRI-MW-3		GBRI-MW-4	
Job No	Lab ID	A01-8772	A1877213DL	A01-8772	A1877205	A01-8772	A1877210	A01-8772	A1877211
Sample Date		09/12/2001		09/12/2001		09/12/2001		09/12/2001	

Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	2500	ND	25	ND	25	ND	25
Benzene	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Bromodichloromethane	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Bromoform	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Bromomethane	UG/L	ND	1000	ND	10	ND	10	ND	10
2-Butanone	UG/L	ND	1000	ND	10	ND	10	ND	10
Carbon Disulfide	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Carbon Tetrachloride	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Chlorobenzene	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Chloroethane	UG/L	ND	1000	ND	10	ND	10	ND	10
Chloroform	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Chloromethane	UG/L	ND	1000	ND	10	ND	10	ND	10
Dibromochloromethane	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
1,1-Dichloroethane	UG/L	1500 D	500	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloroethane	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
1,1-Dichloroethene	UG/L	410 DJ	500	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloroethene (Total)	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloropropane	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
cis-1,3-Dichloropropene	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
trans-1,3-Dichloropropene	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Ethylbenzene	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
2-Hexanone	UG/L	ND	1000	ND	10	ND	10	ND	10
Methylene chloride	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
4-Methyl-2-pentanone	UG/L	ND	1000	ND	10	ND	10	ND	10
Styrene	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
1,1,2,2-Tetrachloroethane	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Tetrachloroethene	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Toluene	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
1,1,1-Trichloroethane	UG/L	130 DJ	500	ND	5.0	ND	5.0	ND	5.0
1,1,2-Trichloroethane	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Trichloroethene	UG/L	14000 D	500	ND	5.0	ND	5.0	ND	5.0
Vinyl acetate	UG/L	ND	1000	ND	10	ND	10	ND	10
Vinyl chloride	UG/L	ND	500	ND	5.0	ND	5.0	ND	5.0
Total Xylenes	UG/L	ND	1500	ND	15	ND	15	ND	15
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	90	50-200	86	50-200	76	50-200	76	50-200
1,4-Difluorobenzene	%	91	50-200	86	50-200	74	50-200	75	50-200
1,4-Dichlorobenzene-D4	%	82	50-200	83	50-200	77	50-200	76	50-200
Toluene-D8	%	107	77-115	111	77-115	105	77-115	108	77-115
p-Bromofluorobenzene	%	101	77-112	101	77-112	102	77-112	102	77-112
1,2-Dichloroethane-D4	%	116	84-126	111	84-126	112	84-126	111	84-126

80000

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/25,
Time: 15:00:

ERM - GI ROS. SITE
GREIF BROS. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		GBRI-MW-5		GBRI-MW-6		GBRI-MW-7		GBRI-MW-8	
Job No	Lab ID	A01-8772	A1877202	A01-8772	A1877206	A01-8772	A1877207	A01-8772	A1877201
Sample Date		09/12/2001		09/12/2001		09/12/2001		09/12/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	ND	25	ND	25	14 J	25
Benzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromodichloromethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromoform	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromomethane	UG/L	ND	10	ND	10	ND	10	ND	10
2-Butanone	UG/L	ND	10	ND	10	ND	10	ND	10
Carbon Disulfide	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Carbon Tetrachloride	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chlorobenzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chloroethane	UG/L	ND	10	ND	10	ND	10	ND	10
Chloroform	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chloromethane	UG/L	ND	10	ND	10	ND	10	ND	10
Dibromochloromethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1-Dichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1-Dichloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloroethene (Total)	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloropropane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
cis-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
trans-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Ethylbenzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
2-Hexanone	UG/L	ND	10	ND	10	ND	10	ND	10
Methylene chloride	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
4-Methyl-2-pentanone	UG/L	ND	10	ND	10	ND	10	ND	10
Styrene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Tetrachloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Toluene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1,1-Trichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1,2-Trichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Trichloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Vinyl acetate	UG/L	ND	10	ND	10	ND	10	ND	10
Vinyl chloride	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Total Xylenes	UG/L	ND	15	ND	15	ND	15	ND	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	86	50-200	78	50-200	77	50-200	86	50-200
1,4-Difluorobenzene	%	86	50-200	77	50-200	76	50-200	86	50-200
1,4-Dichlorobenzene-D4	%	83	50-200	78	50-200	77	50-200	83	50-200
Toluene-D8	%	109	77-115	108	77-115	108	77-115	109	77-115
p-Bromofluorobenzene	%	101	77-112	101	77-112	102	77-112	101	77-112
1,2-Dichloroethane-D4	%	110	84-126	109	84-126	110	84-126	110	84-126

60009

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 09/25/
Time: 15:00:

ERM - GR[illegible]ROS. SITE
GREIF[illegible]. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		GBRI-MW-9							
Job No	Lab ID	A01-8772	A1877209						
Sample Date		09/12/2001							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	NA		NA		NA	
Benzene	UG/L	ND	5.0	NA		NA		NA	
Bromodichloromethane	UG/L	ND	5.0	NA		NA		NA	
Bromoform	UG/L	ND	5.0	NA		NA		NA	
Bromomethane	UG/L	ND	10	NA		NA		NA	
2-Butanone	UG/L	ND	10	NA		NA		NA	
Carbon Disulfide	UG/L	ND	5.0	NA		NA		NA	
Carbon Tetrachloride	UG/L	ND	5.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	5.0	NA		NA		NA	
Chloroethane	UG/L	ND	10	NA		NA		NA	
Chloroform	UG/L	ND	5.0	NA		NA		NA	
Chloromethane	UG/L	ND	10	NA		NA		NA	
Dibromochloromethane	UG/L	ND	5.0	NA		NA		NA	
1,1-Dichloroethane	UG/L	2.1 J	5.0	NA		NA		NA	
1,2-Dichloroethane	UG/L	ND	5.0	NA		NA		NA	
1,1-Dichloroethene	UG/L	ND	5.0	NA		NA		NA	
1,2-Dichloroethene (Total)	UG/L	ND	5.0	NA		NA		NA	
1,2-Dichloropropane	UG/L	ND	5.0	NA		NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	5.0	NA		NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	5.0	NA		NA		NA	
Ethylbenzene	UG/L	ND	5.0	NA		NA		NA	
2-Hexanone	UG/L	ND	10	NA		NA		NA	
Methylene chloride	UG/L	ND	5.0	NA		NA		NA	
4-Methyl-2-pentanone	UG/L	ND	10	NA		NA		NA	
Styrene	UG/L	ND	5.0	NA		NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	NA		NA		NA	
Tetrachloroethene	UG/L	ND	5.0	NA		NA		NA	
Toluene	UG/L	ND	5.0	NA		NA		NA	
1,1,1-Trichloroethane	UG/L	ND	5.0	NA		NA		NA	
1,1,2-Trichloroethane	UG/L	ND	5.0	NA		NA		NA	
Trichloroethene	UG/L	ND	5.0	NA		NA		NA	
Vinyl acetate	UG/L	ND	10	NA		NA		NA	
Vinyl chloride	UG/L	ND	5.0	NA		NA		NA	
Total Xylenes	UG/L	ND	15	NA		NA		NA	
========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	75	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	74	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	76	50-200	NA		NA		NA	
Toluene-D8	%	107	77-115	NA		NA		NA	
p-Bromofluorobenzene	%	102	77-112	NA		NA		NA	
1,2-Dichloroethane-D4	%	113	84-126	NA		NA		NA	

000040

NA = Not Applicable ND = Not Detected

STL Buffalo

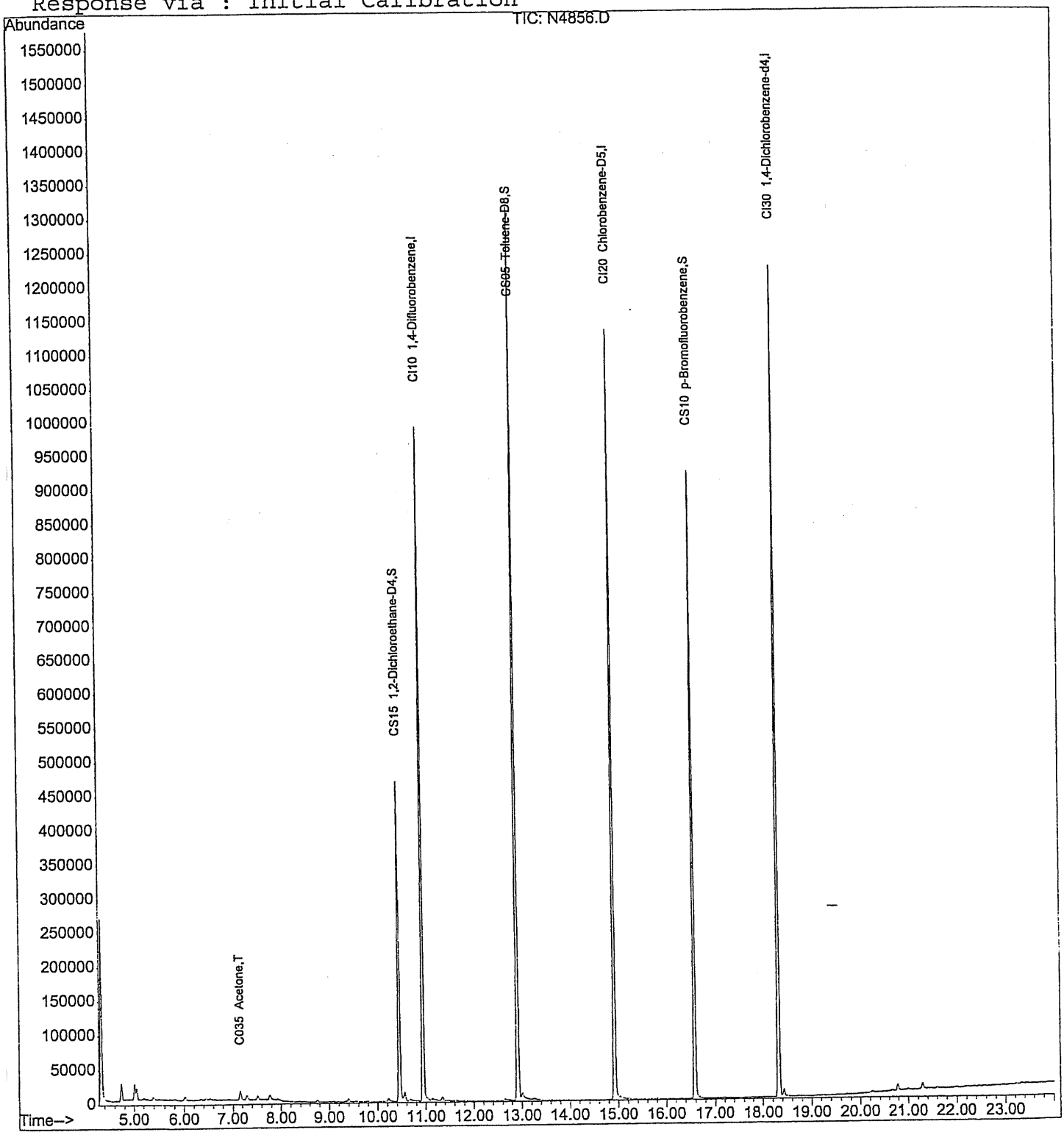
Data File : C:\MSDCHEM\1\DATA\091401\N4856.D
Acq On : 15 Sep 2001 5:36
Sample : A1877201 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 17 17:14 2001

Vial: 16
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Sep 14 22:12:22 2001
Response via : Initial Calibration

000011

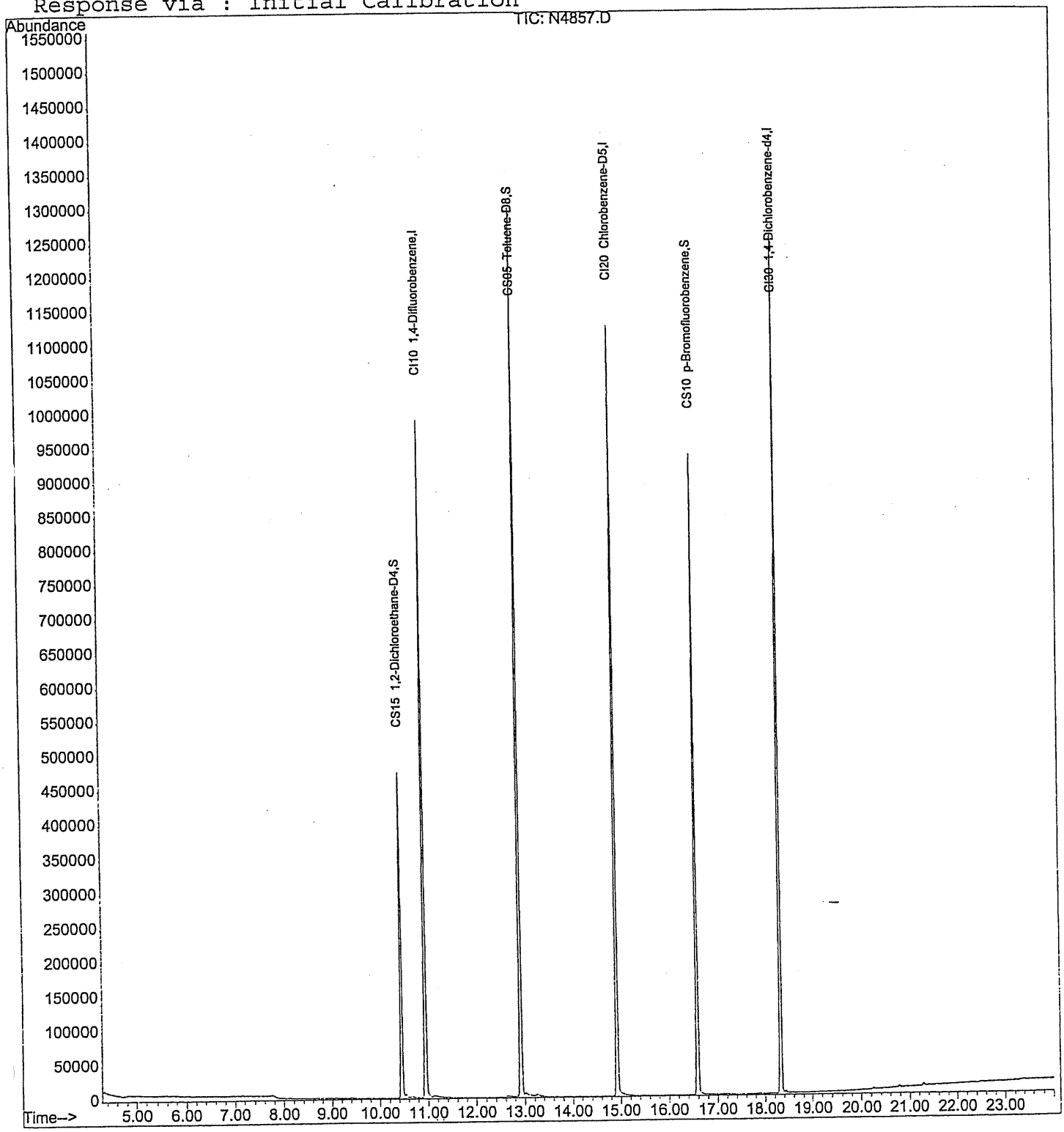


Data File : C:\MSDCHEM\1\DATA\091401\N4857.D
Acq On : 15 Sep 2001 6:08
Sample : A1877202 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 17 17:14 2001

Vial: 17
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Sep 14 22:12:22 2001
Response via : Initial Calibration



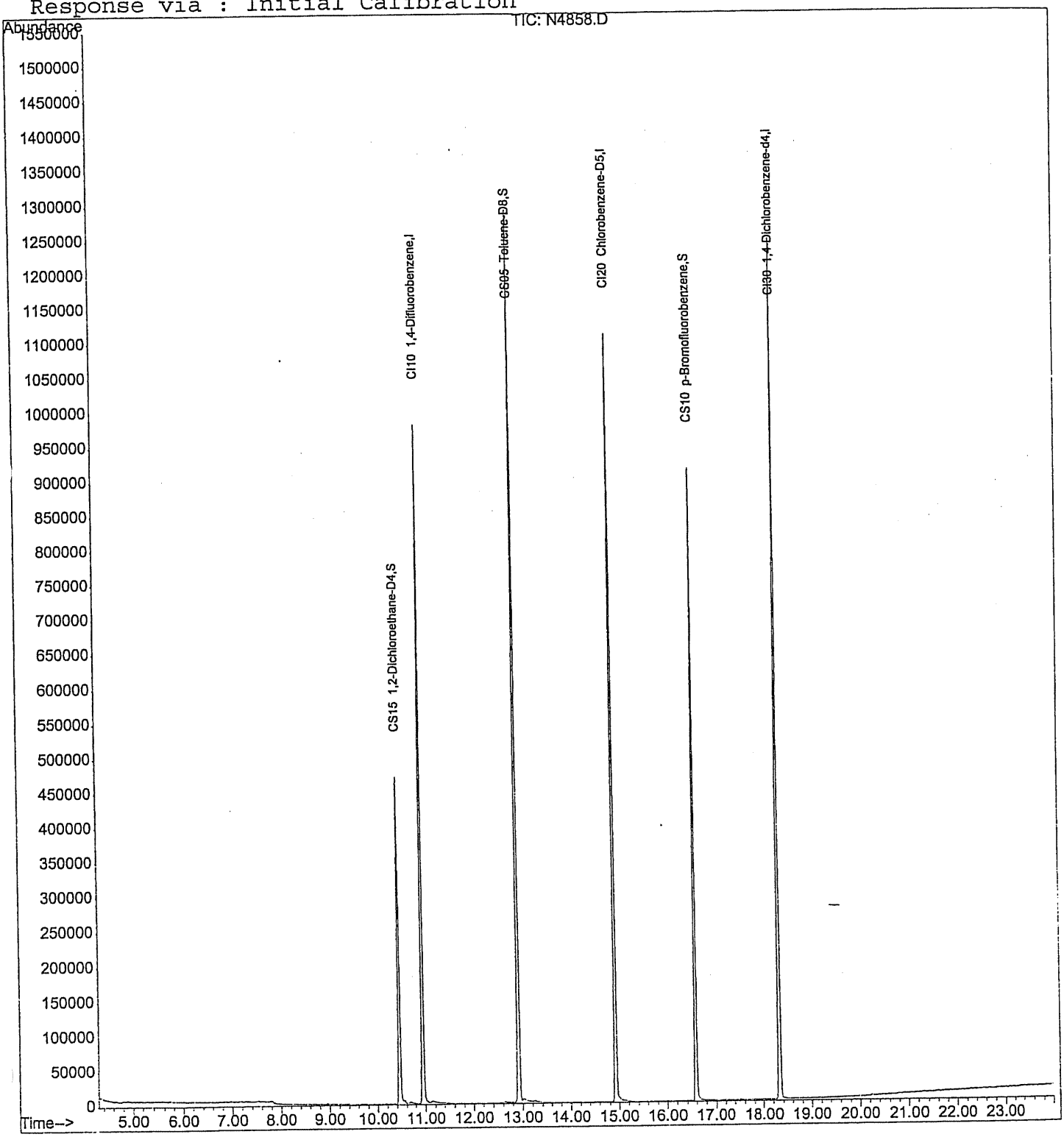
Data File : C:\MSDCHEM\1\DATA\091401\N4858.D
Acq On : 15 Sep 2001 6:39
Sample : A1877203 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 17 17:14 2001

Vial: 18
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Sep 14 22:12:22 2001
Response via : Initial Calibration

000013

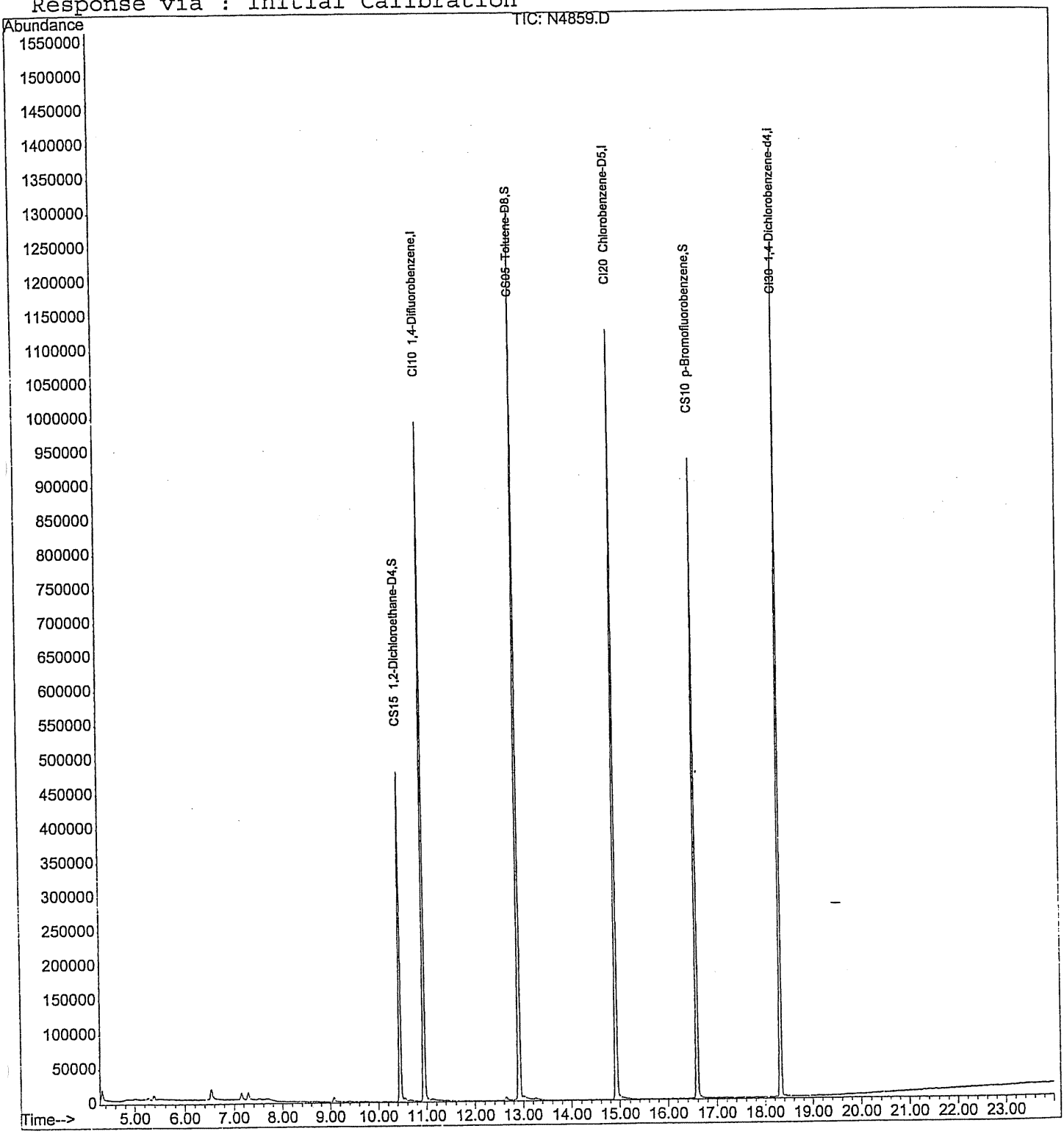


Data File : C:\MSDCHEM\1\DATA\091401\N4859.D
Acq On : 15 Sep 2001 7:11
Sample : A1877204 B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 17 17:14 2001

Vial: 090014
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Sep 14 22:12:22 2001
Response via : Initial Calibration

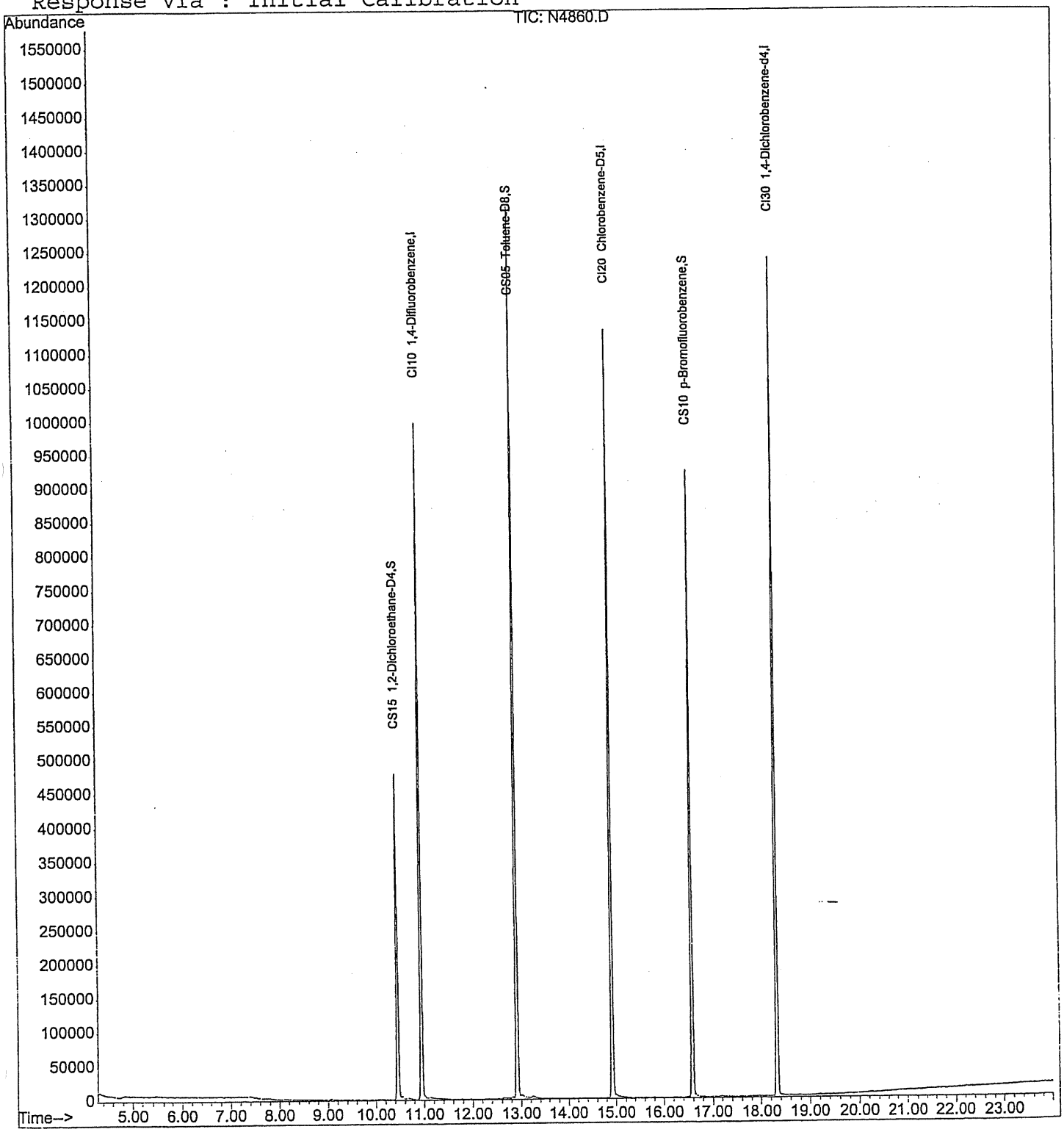


Data File : C:\MSDCHEM\1\DATA\091401\N4860.D
Acq On : 15 Sep 2001 7:43
Sample : A1877205 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 17 17:14 2001

Vial: 20
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Sep 14 22:12:22 2001
Response via : Initial Calibration

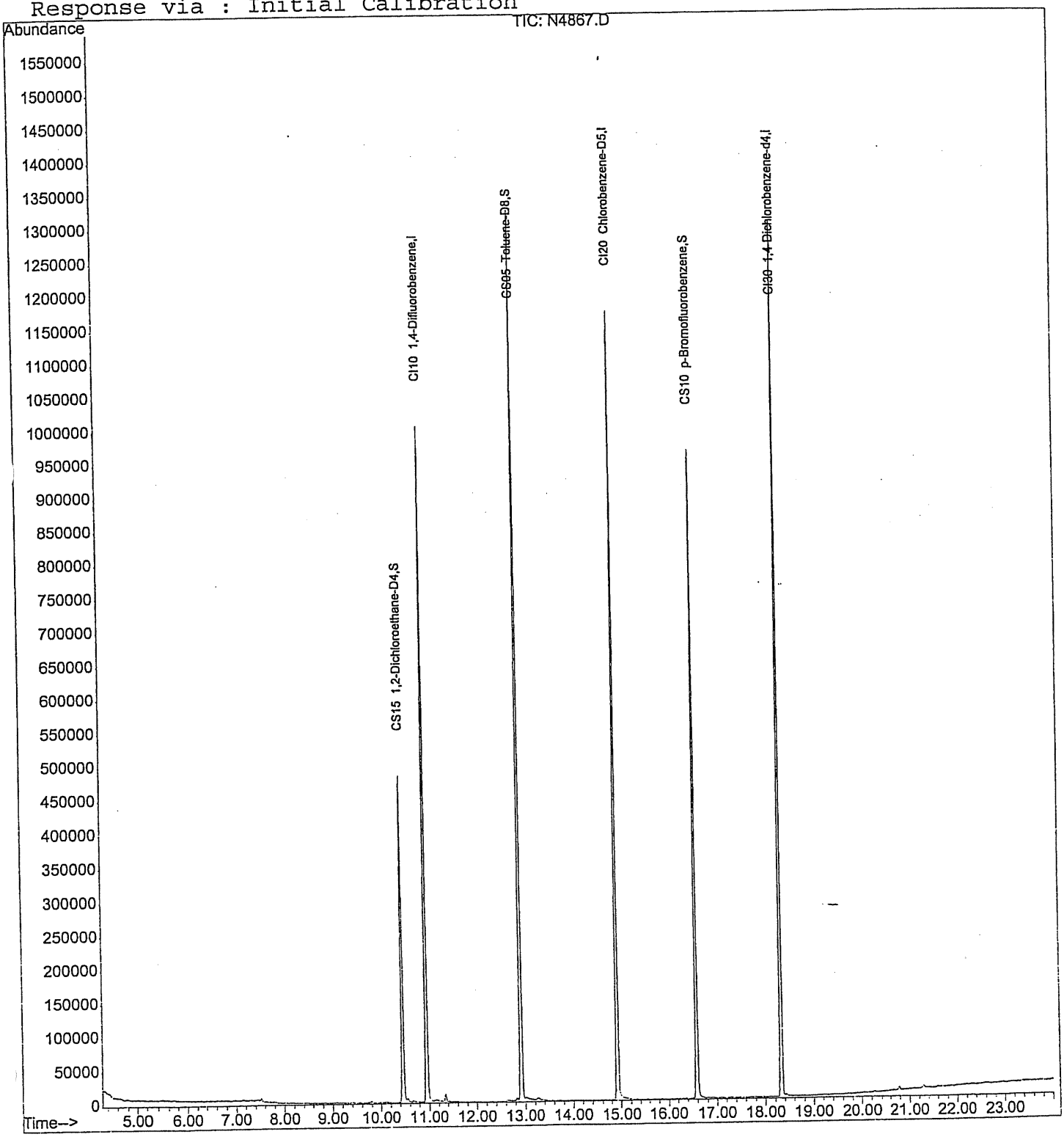


Data File : C:\MSDCHEM\1\DATA\091701\N4867.D
Acq On : 17 Sep 2001 20:28
Sample : A1877206 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 6 000016
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

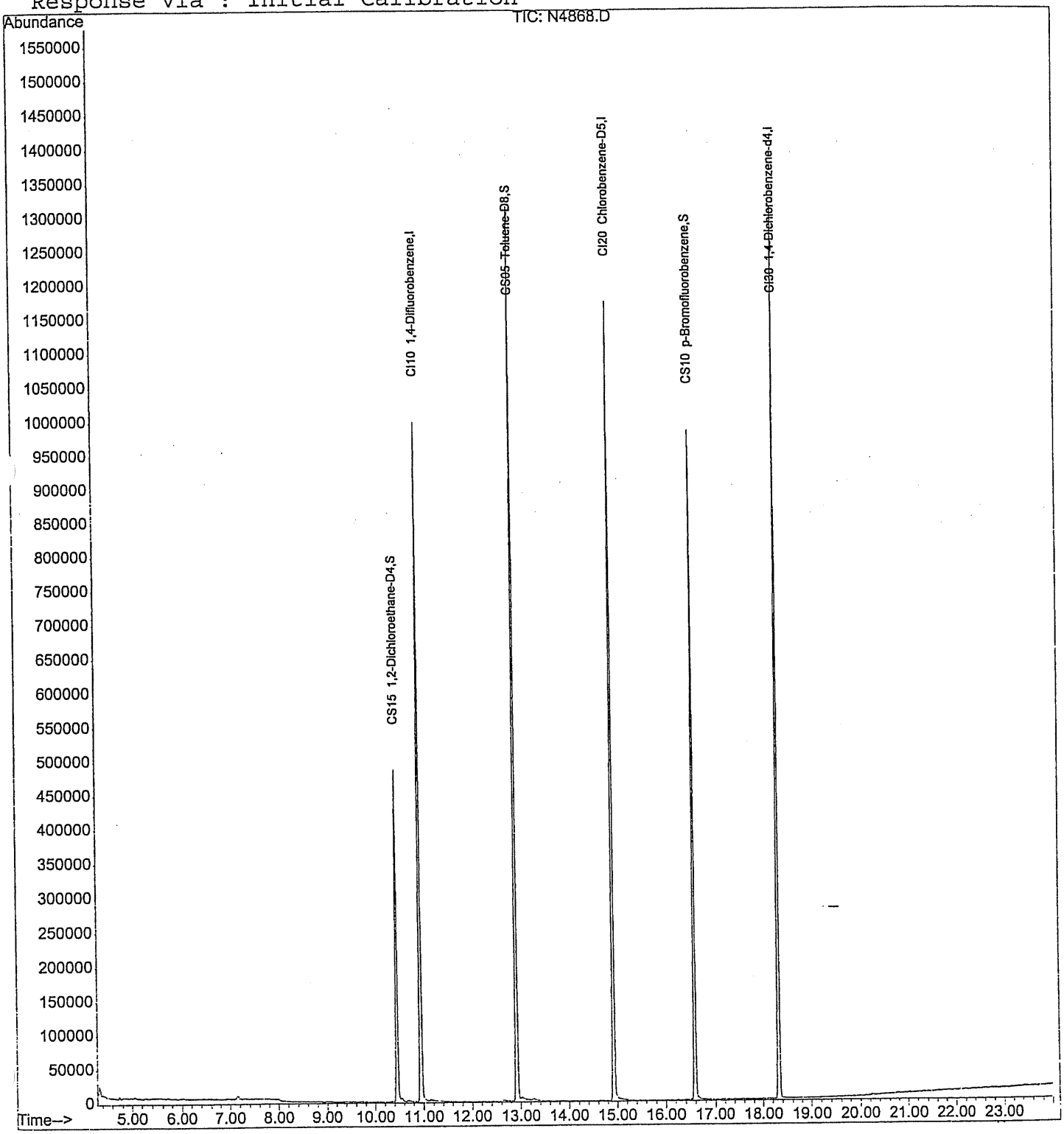


Data File : C:\MSDCHEM\1\DATA\091701\N4868.D
Acq On : 17 Sep 2001 20:59
Sample : A1877207 B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 090017
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

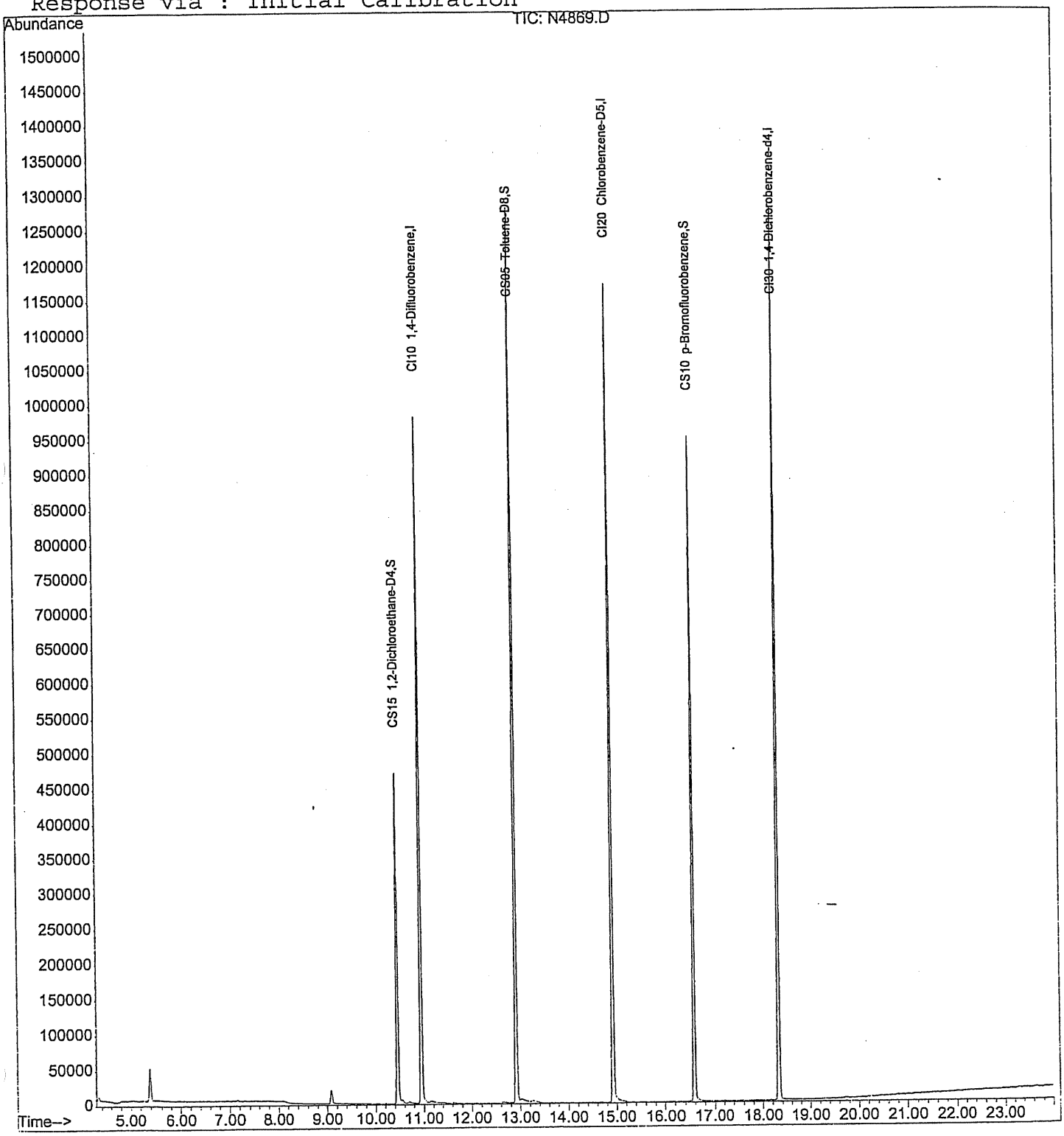


Data File : C:\MSDCHEM\1\DATA\091701\N4869.D
Acq On : 17 Sep 2001 21:30
Sample : A1877208 B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 8
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

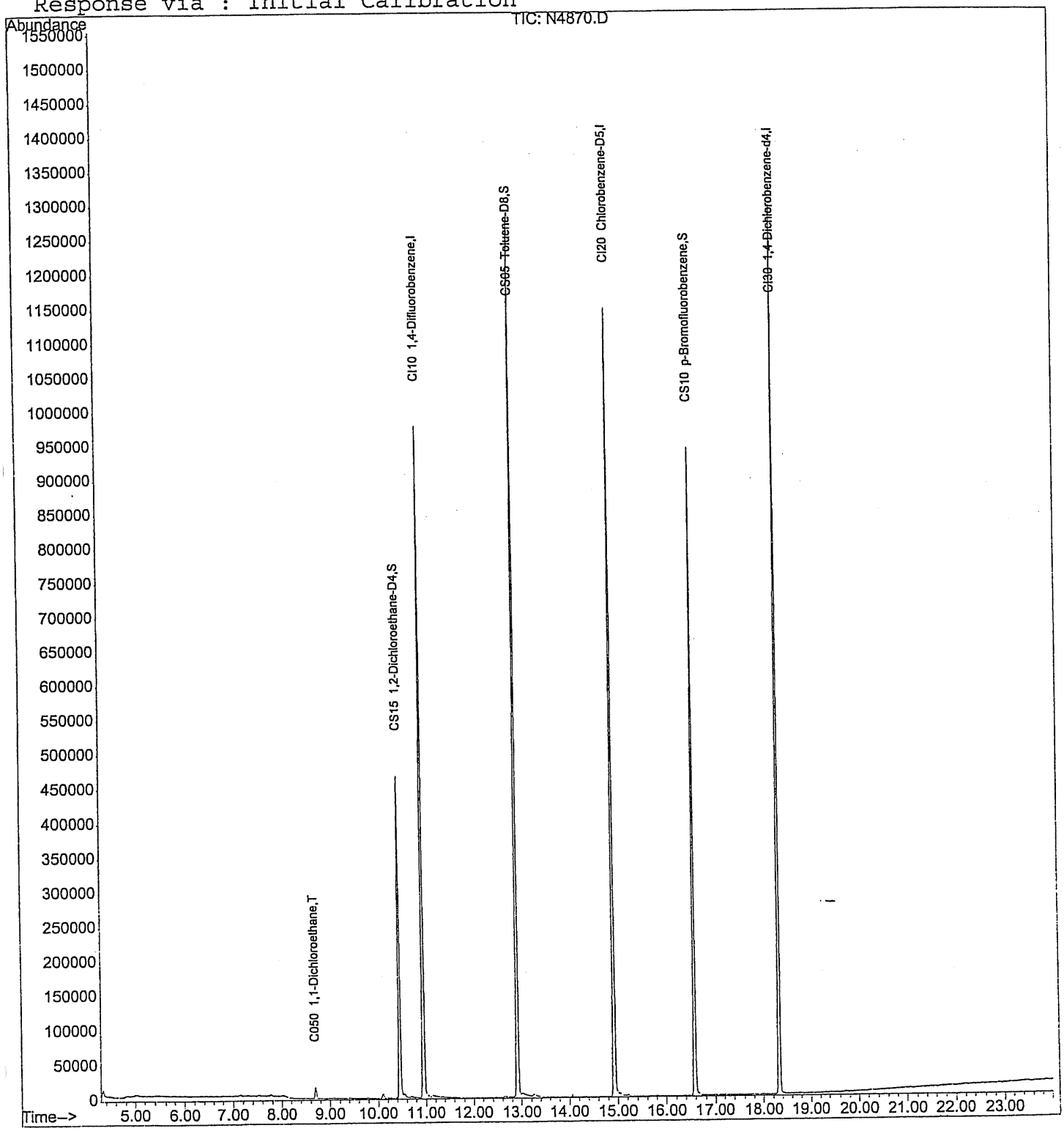


Data File : C:\MSDCHEM\1\DATA\091701\N4870.D
Acq On : 17 Sep 2001 22:02
Sample : A1877209 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 000019
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

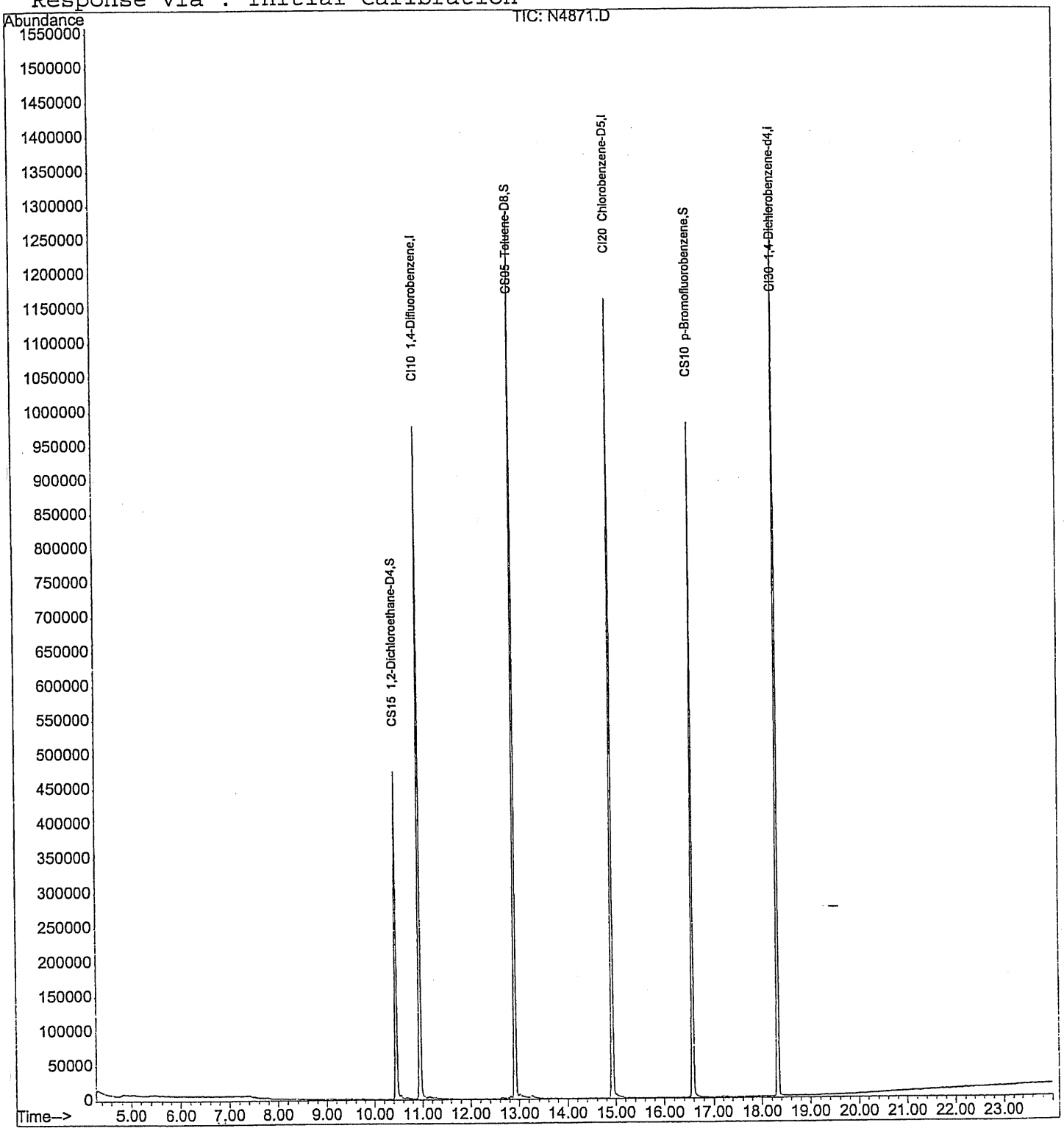


Data File : C:\MSDCHEM\1\DATA\091701\N4871.D
Acq On : 17 Sep 2001 22:33
Sample : A1877210 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 000020
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

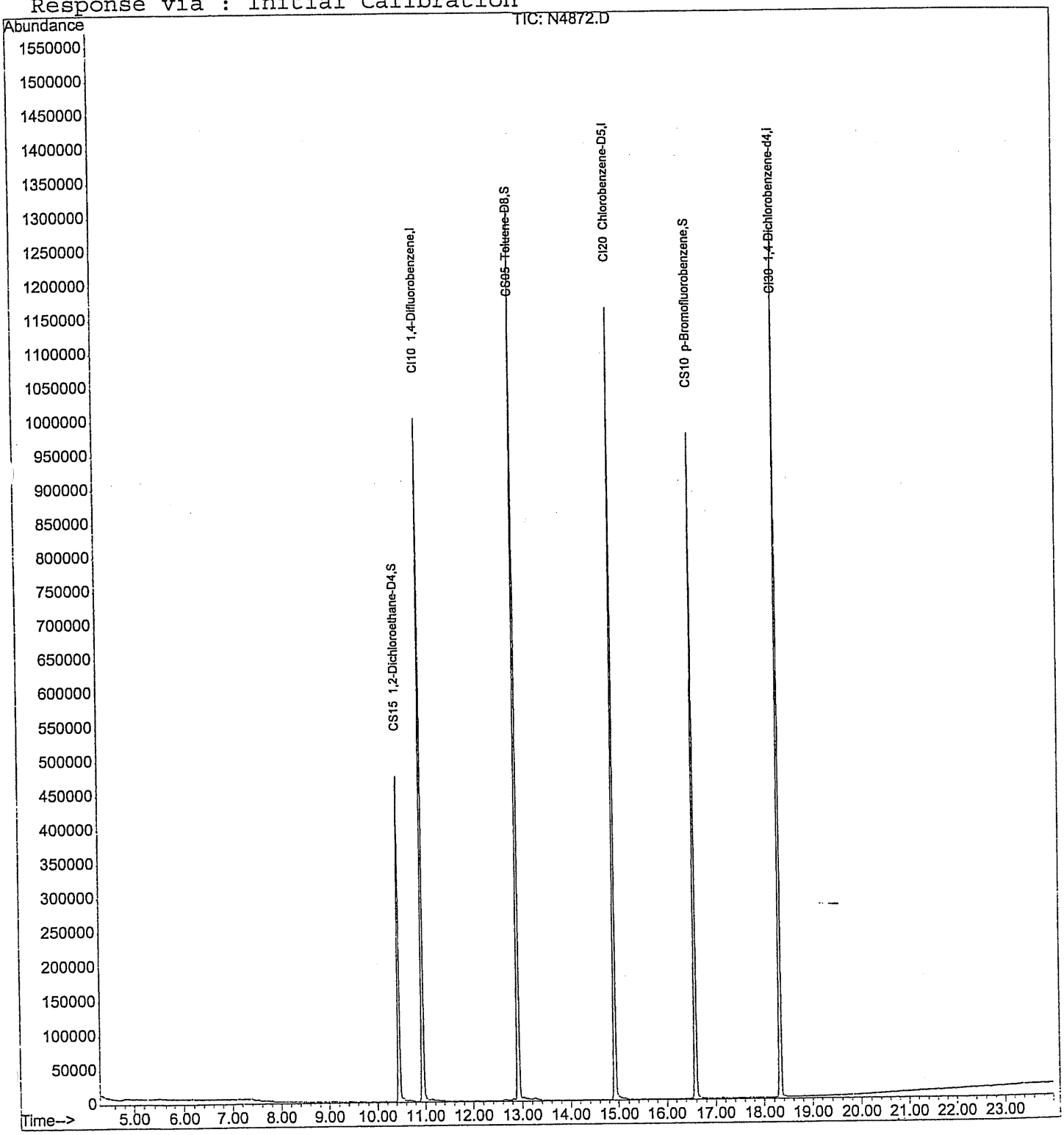


Data File : C:\MSDCHEM\1\DATA\091701\N4872.D
Acq On : 17 Sep 2001 23:05
Sample : A18772011 B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 10
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

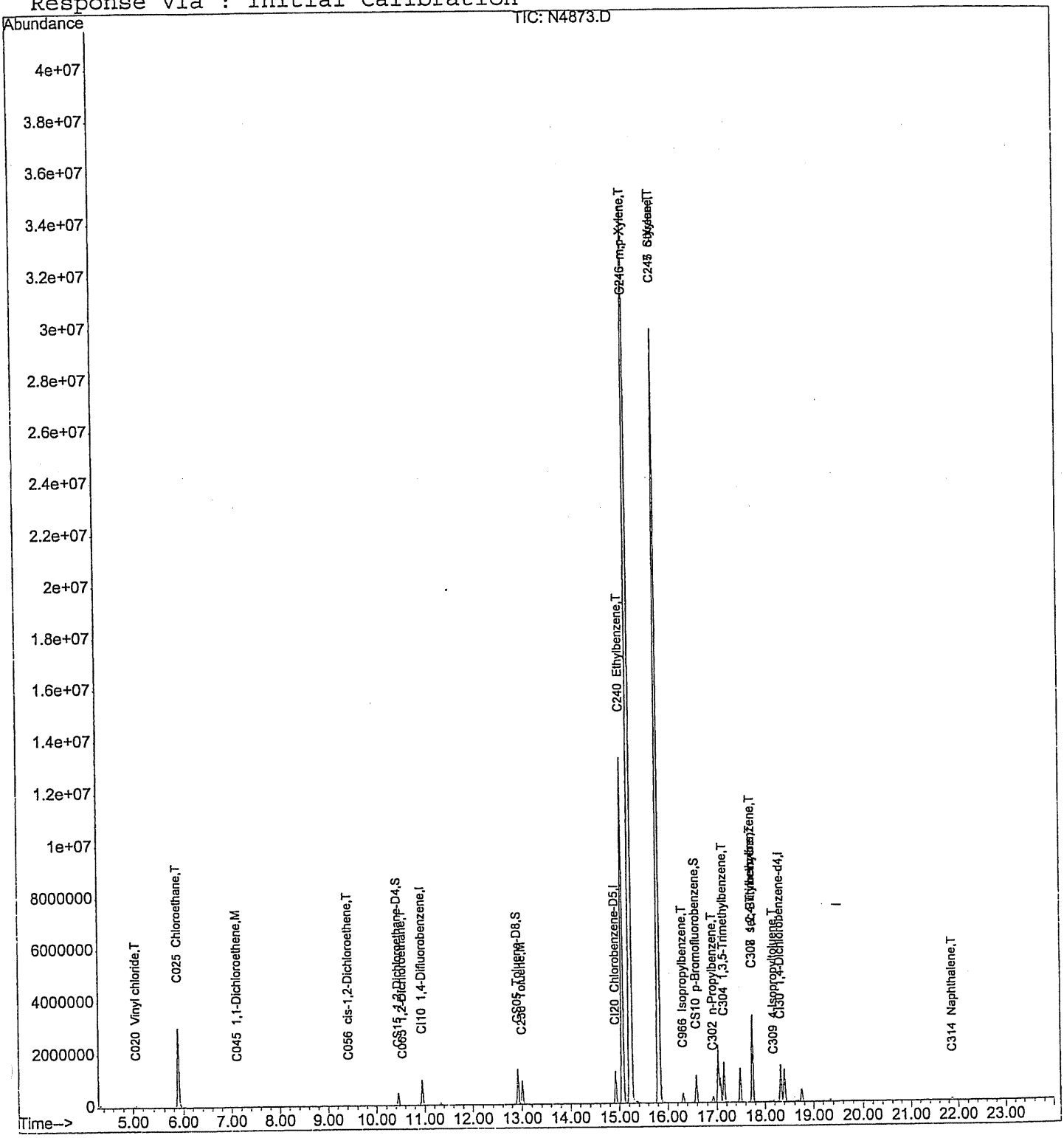


Data File : C:\MSDCHEM\1\DATA\091701\N4873.D
Acq On : 17 Sep 2001 23:36
Sample : A1877212 B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 12
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration



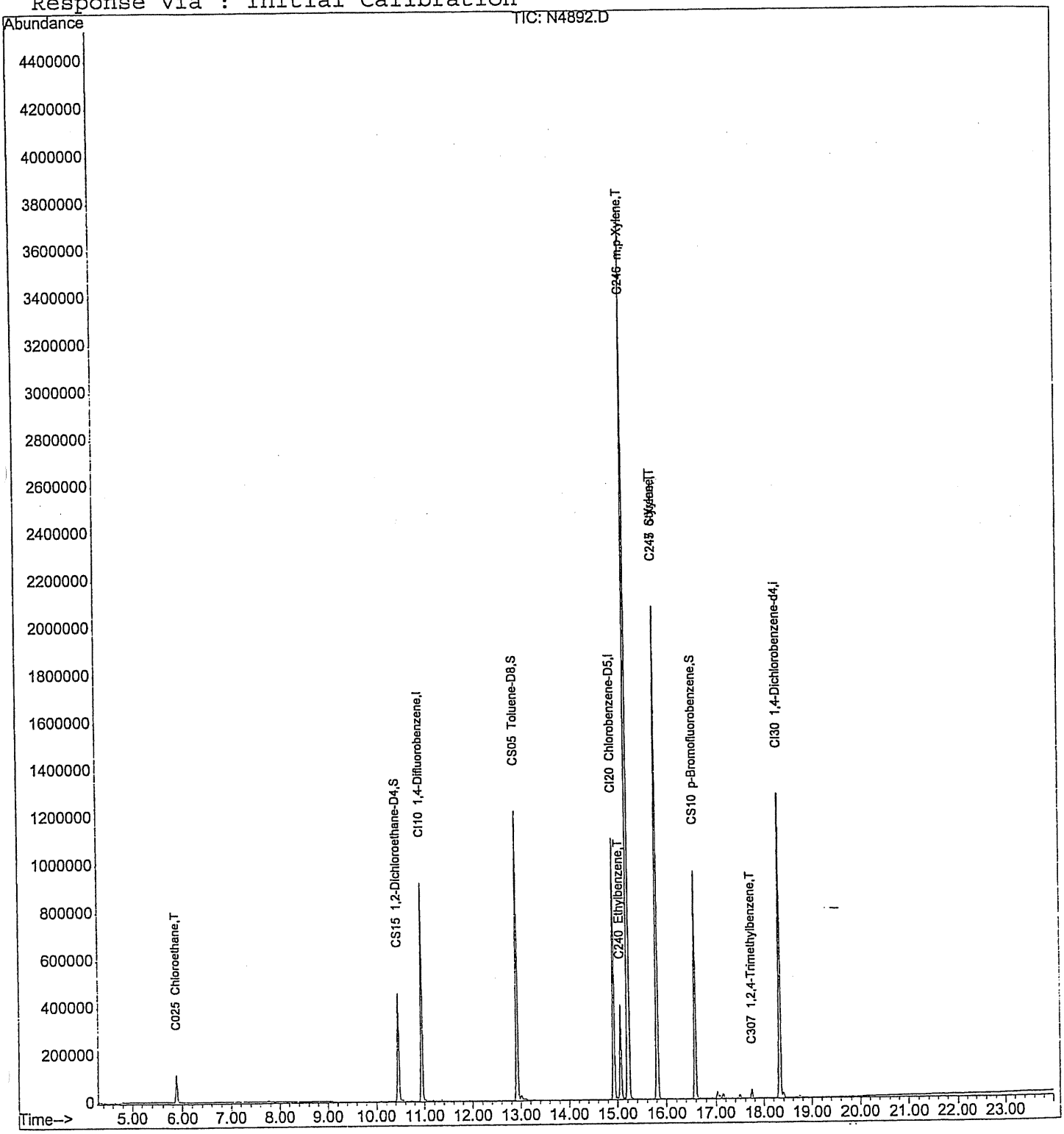
Data File : C:\MSDCHEM\1\DATA\091801\N4892.D
Acq On : 18 Sep 2001 13:47
Sample : A1877212DL DF-25
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 22:47 2001

Vial: 4
Operator: JRS
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Tue Sep 18 22:46:51 2001
Response via : Initial Calibration

000023

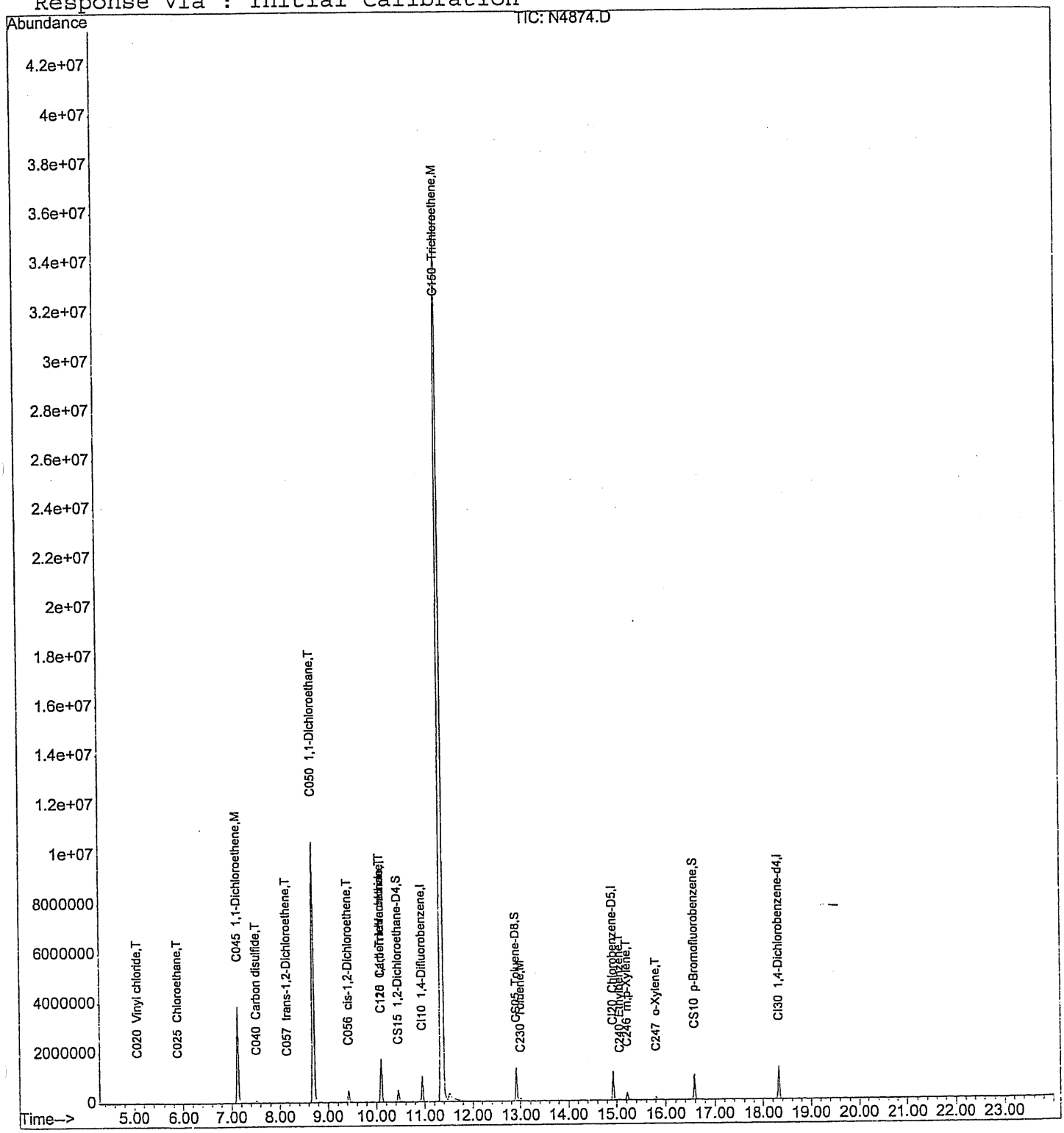


Data File : C:\MSDCHEM\1\DATA\091701\N4874.D
Acq On : 18 Sep 2001 00:07
Sample : A1877213 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 13
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

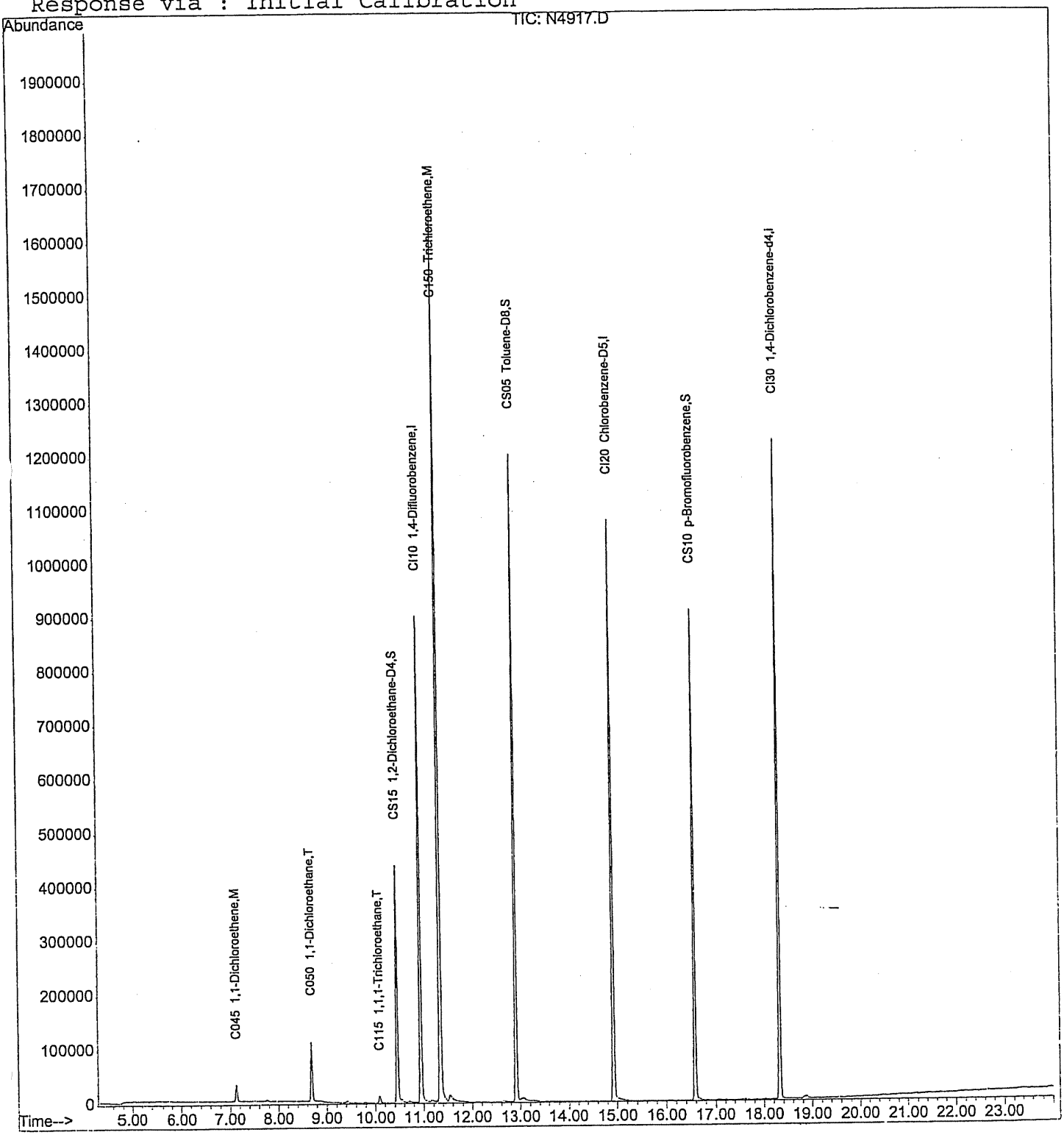


Data File : C:\MSDCHEM\1\DATA\091801\N4917.D
Acq On : 19 Sep 2001 5:35
Sample : A1877213DL B DF100
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 19 13:20 2001

Vial: 9 000025
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Wed Sep 19 01:52:10 2001
Response via : Initial Calibration

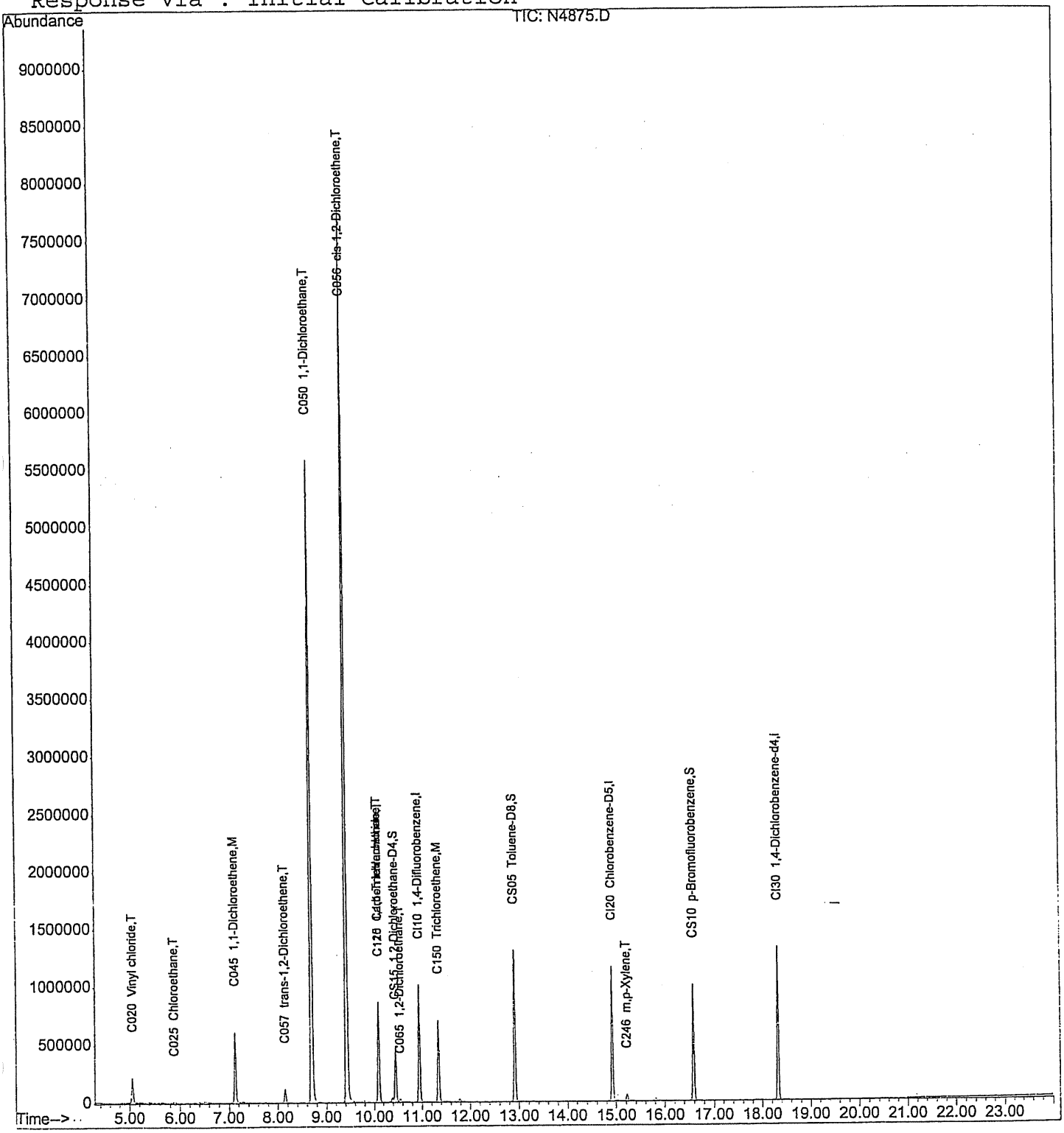


Data File : C:\MSDCHEM\1\DATA\091701\N4875.D
Acq On : 18 Sep 2001 00:39
Sample : A1877214 B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 14
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

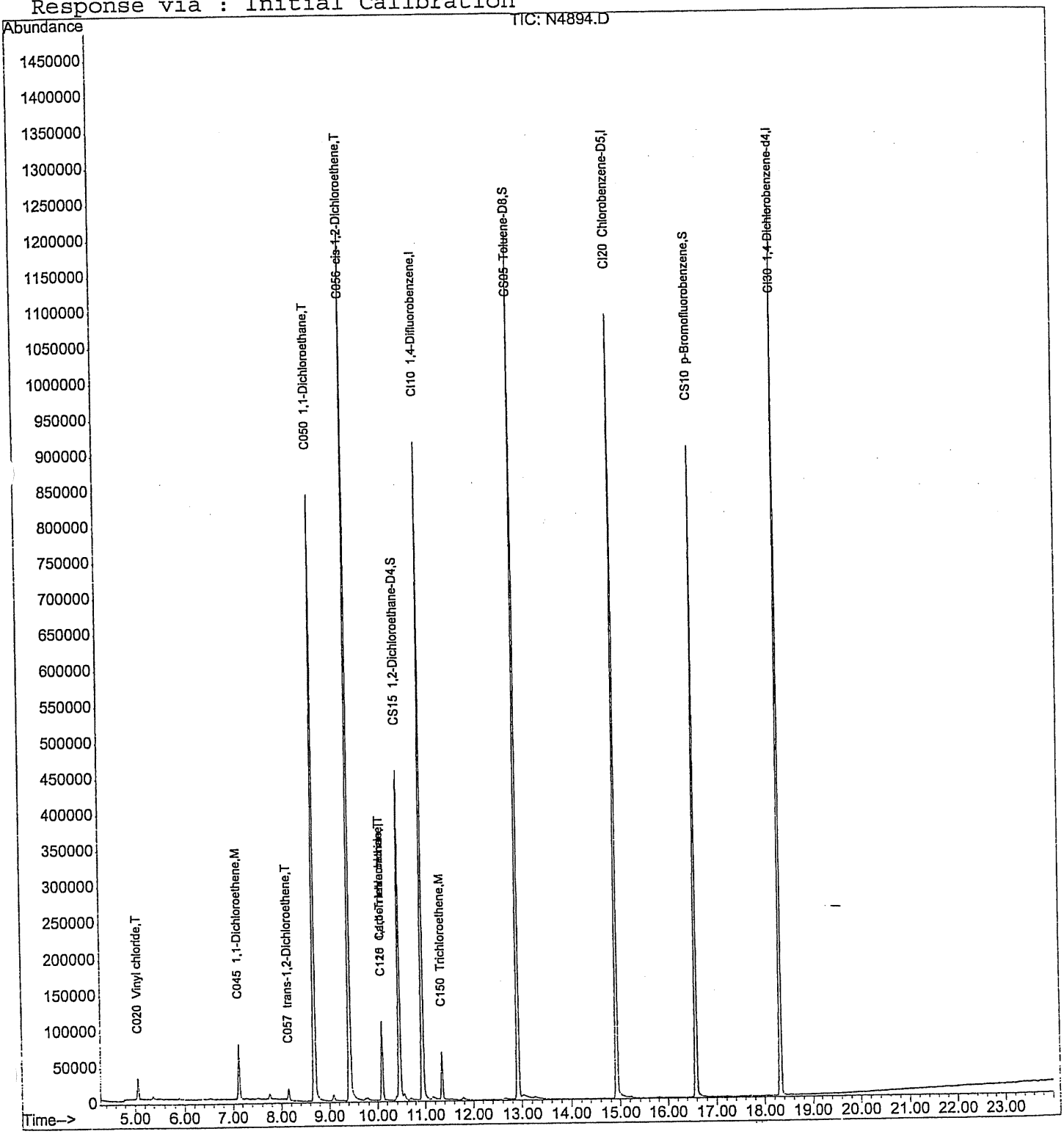


Data File : C:\MSDCHEM\1\DATA\091801\N4894.D
Acq On : 18 Sep 2001 14:50
Sample : A1877214DL DF-5
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 22:47 2001

Vial: 6
Operator: JRS
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Tue Sep 18 22:46:51 2001
Response via : Initial Calibration

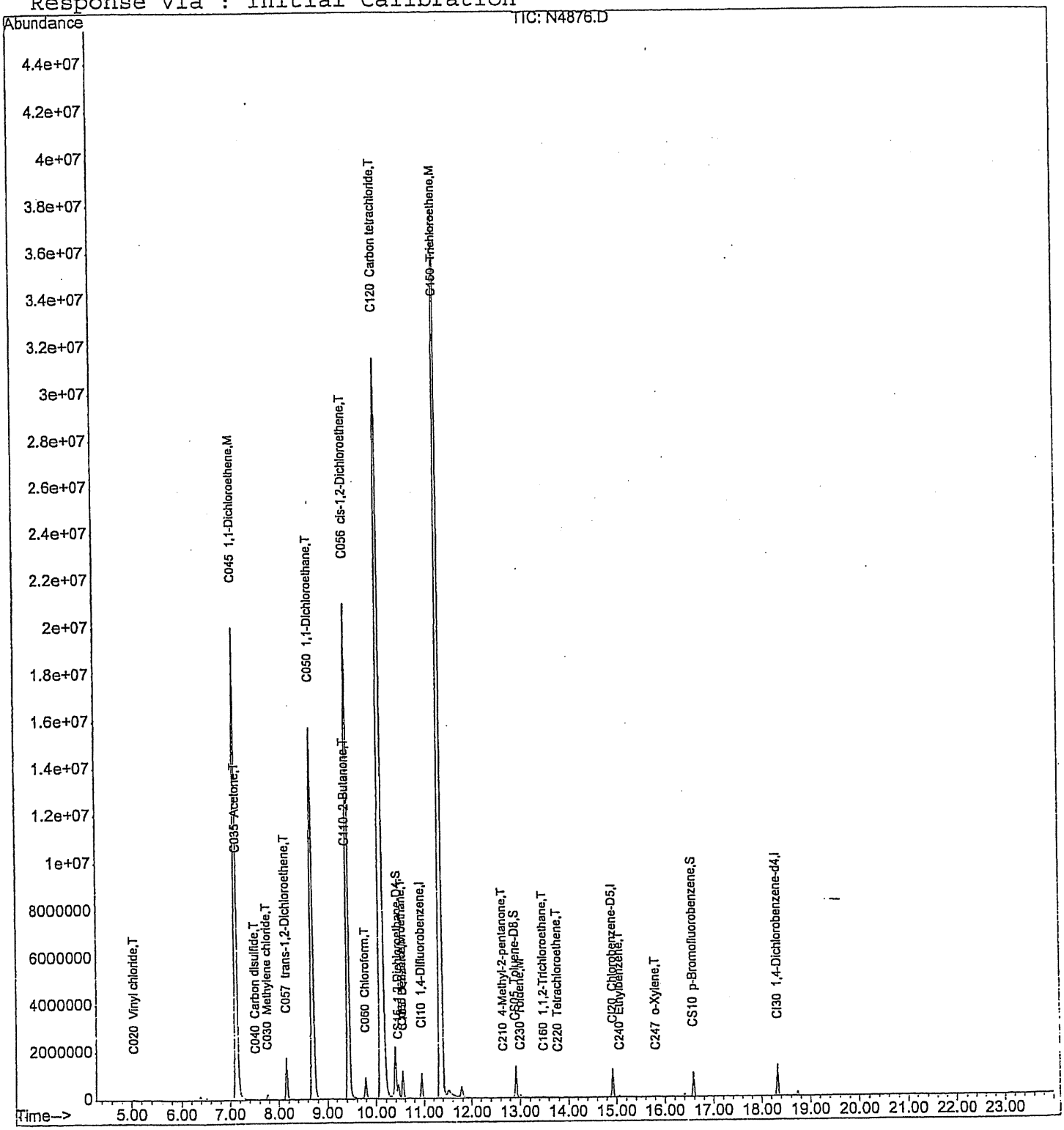


Data File : C:\MSDCHEM\1\DATA\091701\N4876.D
Acq On : 18 Sep 2001 1:10
Sample : A1877215 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 15
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration

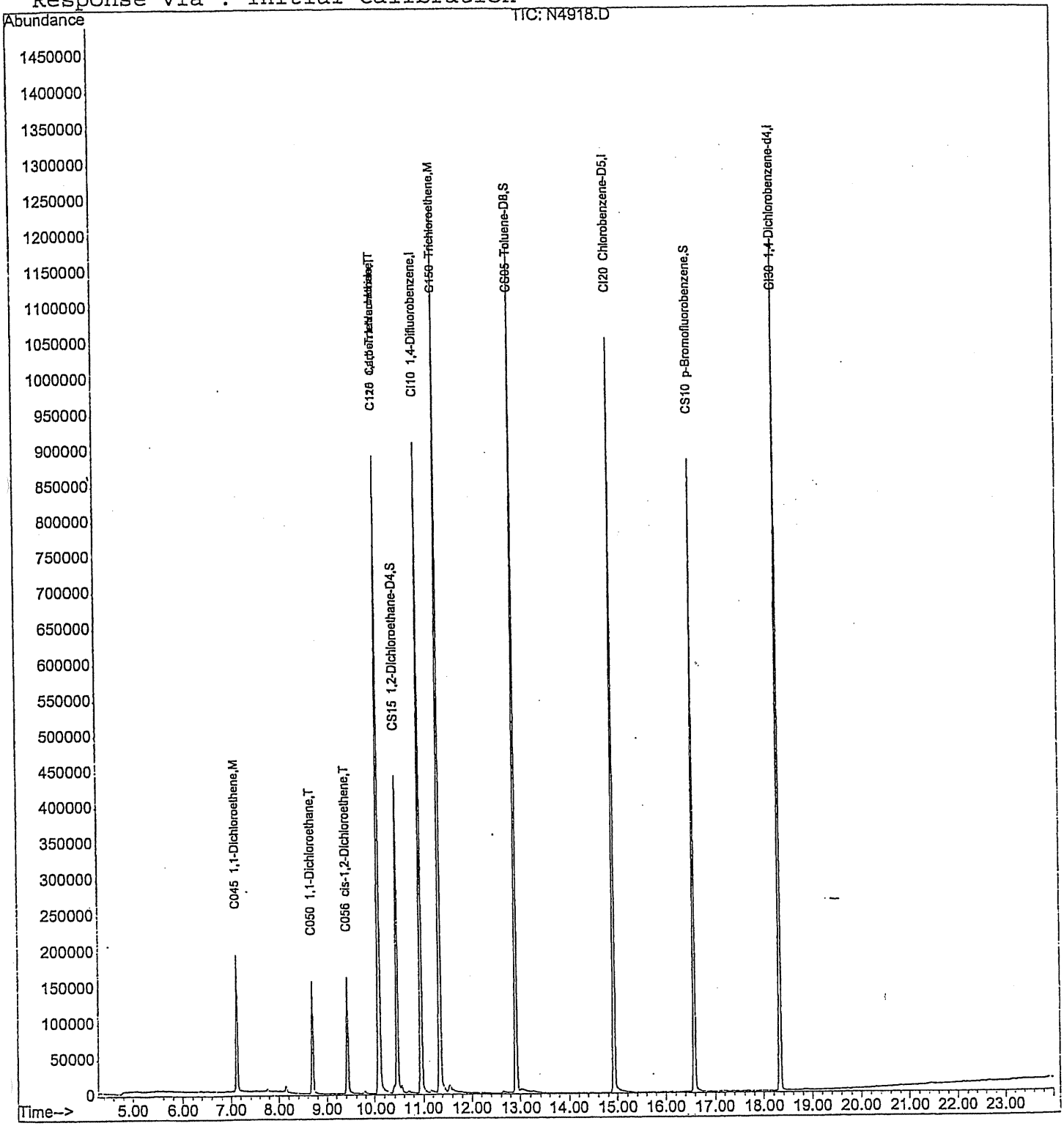


Data File : C:\MSDCHEM\1\DATA\091801\N4918.D
Acq On : 19 Sep 2001 6:07
Sample : A1877215DL B DF200
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 19 13:20 2001

Vial: 10
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Wed Sep 19 01:52:10 2001
Response via : Initial Calibration

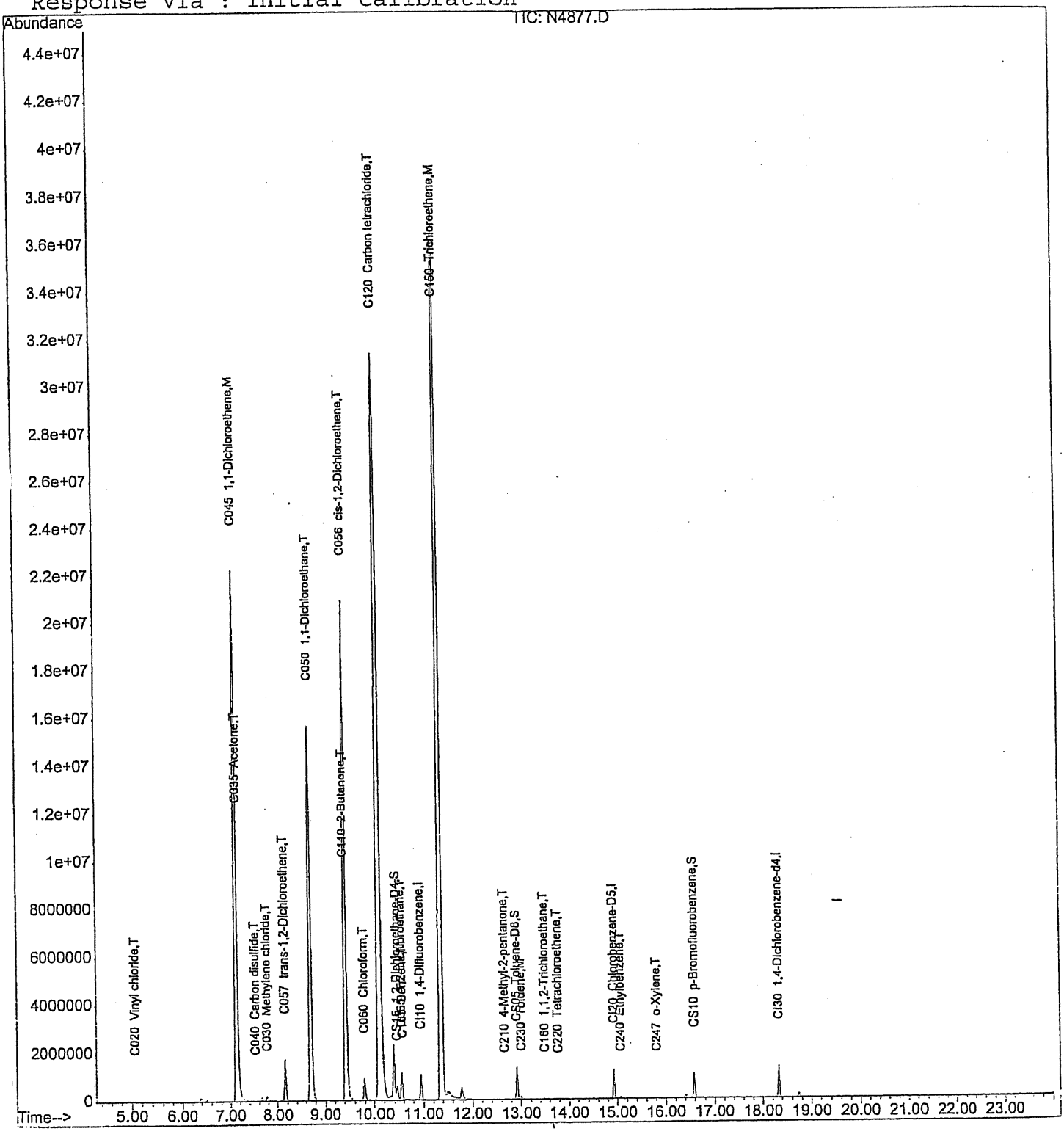


Data File : C:\MSDCHEM\1\DATA\091701\N4877.D
Acq On : 18 Sep 2001 1:42
Sample : A1877216 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 8:47 2001

Vial: 16
Operator: KG
Inst : HP5973 N
Multiplr: 1.00

Quant Results File: N8260W.RES

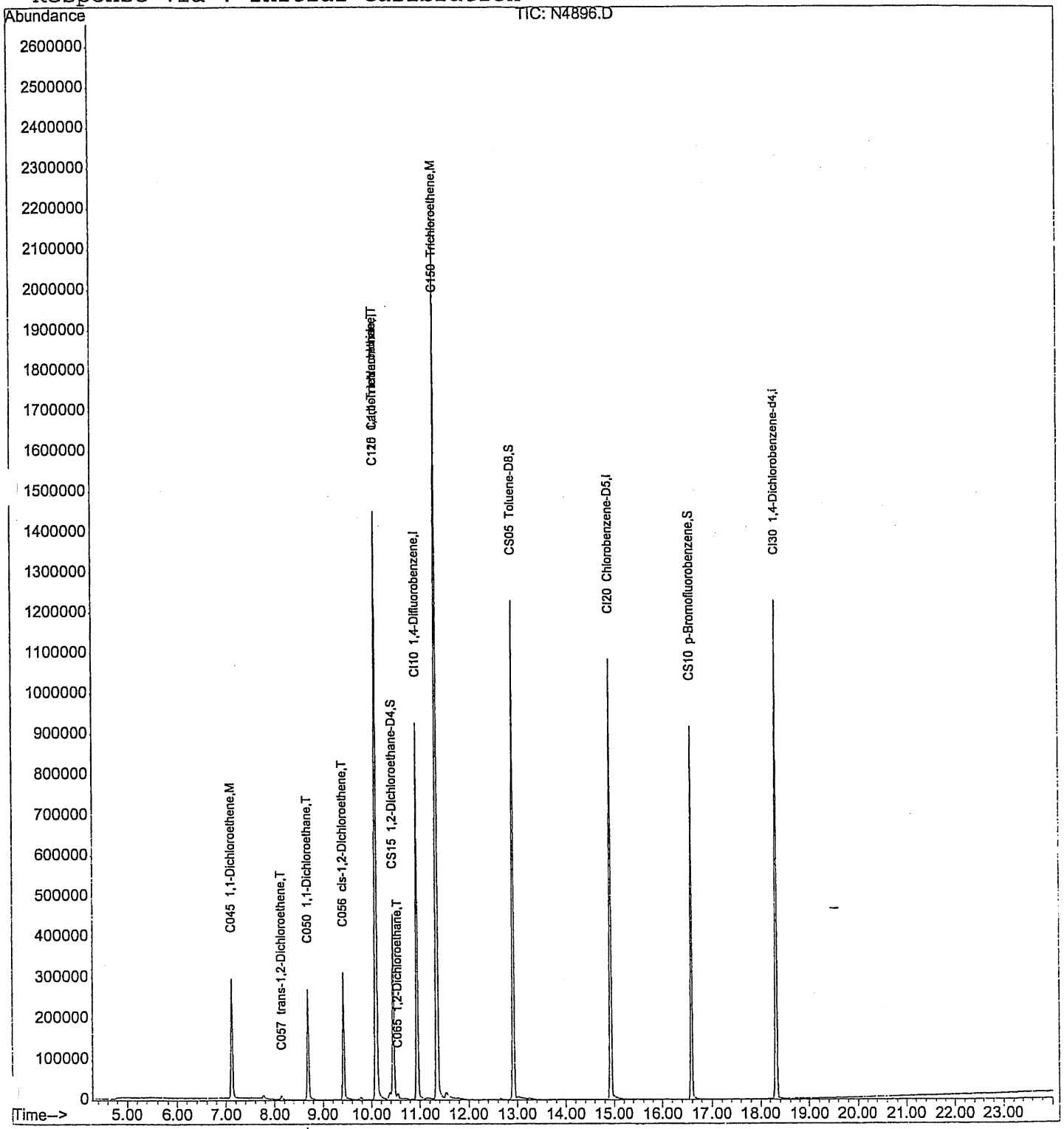
Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Mon Sep 17 18:16:03 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\091801\N4896.D
Acq On : 18 Sep 2001 15:53
Sample : A1877216DL DF-100
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 22:47 2001

Vial: 8
Operator: JRS
Inst : HP5973 N
Multiplr: 1.00
Quant Results File: N8260W.RES

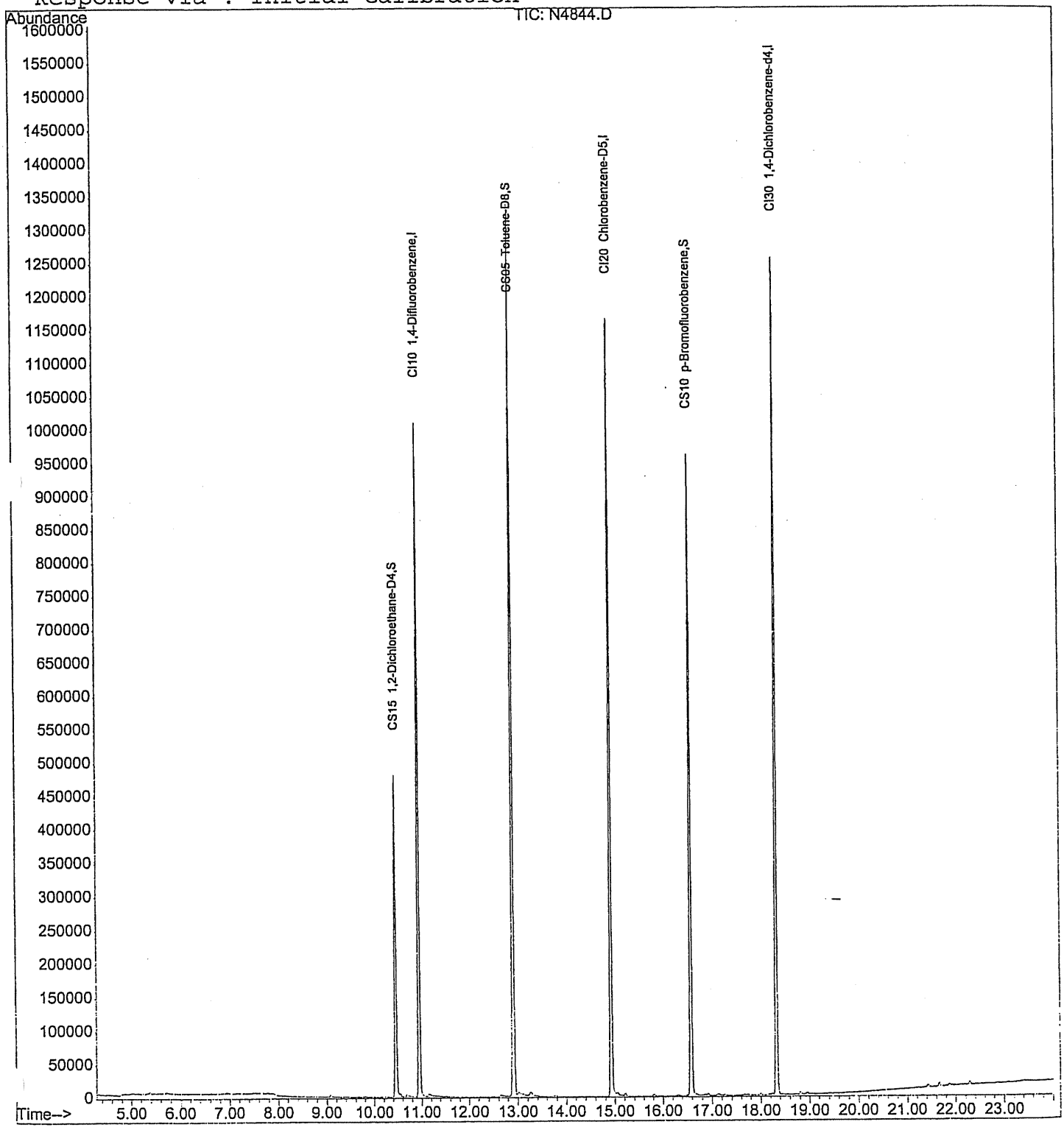
Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Tue Sep 18 22:46:51 2001
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\091401\N4844.D
Acq On : 14 Sep 2001 23:20
Sample : A1877217 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 17 17:13 2001

Vial: 4
Operator: KG
Inst : HP5973 N
Multiplr: 1.00
Quant Results File: N8260W.RES

Method : C:\MSDCHEM\1\METHODS\N8260W.M (RTE Integrator)
Title : 8260 5ML WATERS
Last Update : Fri Sep 14 22:12:22 2001
Response via : Initial Calibration



Date: 09/[illegible]01
Time: 15:0[illegible]

ERM - [illegible] BROS. SITE
GRE[illegible]ROS. SITE
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Rept: AN0326

Client ID		GBRI-CV-1		GBRI-DUPE1		GBRI-MW-10		GBRI-MW-11	
Job No / Lab ID		A01-8772 / A1877212		A01-8772 / A1877216		A01-8772 / A1877208		A01-8772 / A1877204	
Sample Date		09/12/2001		09/12/2001		09/12/2001		09/12/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/L	ND	10	ND	9	ND	9	ND	9
Acenaphthylene	UG/L	ND	10	ND	9	ND	9	ND	9
Anthracene	UG/L	ND	10	ND	9	ND	9	ND	9
Benzo(a)anthracene	UG/L	ND	10	ND	9	ND	9	ND	9
Benzo(b)fluoranthene	UG/L	ND	10	ND	9	ND	9	ND	9
Benzo(k)fluoranthene	UG/L	ND	10	ND	9	ND	9	ND	9
Benzo(ghi)perylene	UG/L	ND	10	ND	9	ND	9	ND	9
Benzo(a)pyrene	UG/L	ND	10	ND	9	ND	9	ND	9
Benzoic acid	UG/L	ND	48	ND	47	ND	47	ND	47
Benzyl alcohol	UG/L	ND	19	ND	19	ND	19	ND	19
Bis(2-chloroethoxy) methane	UG/L	ND	10	ND	9	ND	9	ND	9
Bis(2-chloroethyl) ether	UG/L	ND	10	ND	9	ND	9	ND	9
2,2'-Oxybis(1-Chloropropane)	UG/L	ND	10	ND	9	ND	9	ND	9
Bis(2-ethylhexyl) phthalate	UG/L	4 J	10	ND	9	ND	9	2 J	9
4-Bromophenyl phenyl ether	UG/L	ND	10	ND	9	ND	9	ND	9
Butyl benzyl phthalate	UG/L	ND	10	ND	9	ND	9	ND	9
4-Chloroaniline	UG/L	ND	10	ND	9	ND	9	ND	9
4-Chloro-3-methylphenol	UG/L	ND	10	ND	9	ND	9	ND	9
2-Chloronaphthalene	UG/L	ND	10	ND	9	ND	9	ND	9
2-Chlorophenol	UG/L	ND	10	ND	9	ND	9	ND	9
4-Chlorophenyl phenyl ether	UG/L	ND	10	ND	9	ND	9	ND	9
Chrysene	UG/L	ND	10	ND	9	ND	9	ND	9
Dibenzo(a,h)anthracene	UG/L	ND	10	ND	9	ND	9	ND	9
Dibenzofuran	UG/L	ND	10	ND	9	ND	9	ND	9
Di-n-butyl phthalate	UG/L	ND	10	ND	9	ND	9	ND	9
1,2-Dichlorobenzene	UG/L	ND	10	ND	9	ND	9	ND	9
1,3-Dichlorobenzene	UG/L	ND	10	ND	9	ND	9	ND	9
1,4-Dichlorobenzene	UG/L	ND	10	ND	9	ND	9	ND	9
3,3'-Dichlorobenzidine	UG/L	ND	19	ND	19	ND	19	ND	19
2,4-Dichlorophenol	UG/L	ND	10	ND	9	ND	9	ND	9
Diethyl phthalate	UG/L	ND	10	ND	9	ND	9	ND	9
2,4-Dimethylphenol	UG/L	45	10	ND	9	ND	9	ND	9
Dimethyl phthalate	UG/L	ND	10	ND	9	ND	9	ND	9
4,6-Dinitro-2-methylphenol	UG/L	ND	48	ND	47	ND	47	ND	47
2,4-Dinitrophenol	UG/L	ND	48	ND	47	ND	47	ND	47
2,4-Dinitrotoluene	UG/L	ND	10	ND	9	ND	9	ND	9
2,6-Dinitrotoluene	UG/L	ND	10	ND	9	ND	9	ND	9
Di-n-octyl phthalate	UG/L	ND	10	ND	9	ND	9	ND	9
Fluoranthene	UG/L	ND	10	ND	9	ND	9	ND	9
Fluorene	UG/L	ND	10	ND	9	ND	9	ND	9
Hexachlorobenzene	UG/L	ND	10	ND	9	ND	9	ND	9
Hexachlorobutadiene	UG/L	ND	10	ND	9	ND	9	ND	9
Hexachlorocyclopentadiene	UG/L	ND	10	ND	9	ND	9	ND	9

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID Job No Lab ID Sample Date		GBRI-CV-1 A01-8772 A1877212 09/12/2001		GBRI-DUPE1 A01-8772 A1877216 09/12/2001		GBRI-MW-10 A01-8772 A1877208 09/12/2001		GBRI-MW-11 A01-8772 A1877204 09/12/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/L	ND	10	ND	9	ND	9	ND	9
Indeno(1,2,3-cd)pyrene	UG/L	ND	10	ND	9	ND	9	ND	9
Isophorone	UG/L	ND	10	ND	9	ND	9	ND	9
2-Methylnaphthalene	UG/L	ND	10	ND	9	ND	9	ND	9
2-Methylphenol	UG/L	2 J	10	ND	9	ND	9	ND	9
4-Methylphenol	UG/L	ND	10	ND	9	ND	9	ND	9
Naphthalene	UG/L	3 J	10	ND	9	ND	9	ND	9
2-Nitroaniline	UG/L	ND	48	ND	47	ND	47	ND	47
3-Nitroaniline	UG/L	ND	48	ND	47	ND	47	ND	47
4-Nitroaniline	UG/L	ND	48	ND	47	ND	47	ND	47
Nitrobenzene	UG/L	ND	10	ND	9	ND	9	ND	9
2-Nitrophenol	UG/L	ND	10	ND	9	ND	9	ND	9
4-Nitrophenol	UG/L	ND	48	ND	47	ND	47	ND	47
N-nitrosodiphenylamine	UG/L	ND	10	ND	9	ND	9	ND	9
N-Nitroso-Di-n-propylamine	UG/L	ND	10	ND	9	ND	9	ND	9
Pentachlorophenol	UG/L	ND	48	ND	47	ND	47	ND	47
Phenanthrene	UG/L	ND	10	ND	9	ND	9	ND	9
Phenol	UG/L	ND	10	ND	9	ND	9	ND	9
Pyrene	UG/L	ND	10	ND	9	ND	9	ND	9
1,2,4-Trichlorobenzene	UG/L	ND	10	ND	9	ND	9	ND	9
2,4,5-Trichlorophenol	UG/L	ND	10	ND	9	ND	9	ND	9
2,4,6-Trichlorophenol	UG/L	ND	10	ND	9	ND	9	ND	9
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	117	50-200	90	50-200	102	50-200	96	50-200
Naphthalene-D8	%	115	50-200	89	50-200	99	50-200	93	50-200
Acenaphthene-D10	%	110	50-200	91	50-200	98	50-200	92	50-200
Phenanthrene-D10	%	105	50-200	94	50-200	98	50-200	92	50-200
Chrysene-D12	%	123	50-200	110	50-200	108	50-200	99	50-200
Perylene-D12	%	100	50-200	95	50-200	101	50-200	96	50-200
Nitrobenzene-D5	%	95	24-120	111	24-120	78	24-120	100	24-120
2-Fluorobiphenyl	%	84	33-120	93	33-120	71	33-120	86	33-120
p-Terphenyl-d14	%	75	24-130	82	24-130	72	24-130	86	24-130
Phenol-D5	%	35	10-120	38	10-120	29	10-120	34	10-120
2-Fluorophenol	%	49	10-120	54	10-120	38	10-120	48	10-120
2,4,6-Tribromophenol	%	79	24-143	89	24-143	70	24-143	83	24-143

NA = Not Applicable ND = Not Detected

Client ID Job No Sample Date	Lab ID	GBRI-MW-12 A01-8772 09/12/2001	A1877214		GBRI-MW-13 A01-8772 09/12/2001	A1877215		GBRI-MW-14 A01-8772 09/12/2001	A1877213		GBRI-MW-6 A01-8772 09/12/2001	A1877206	
Analyte	Units	Sample Value		Reporting Limit	Sample Value		Reporting Limit	Sample Value		Reporting Limit	Sample Value		Reporting Limit
Acenaphthene	UG/L	ND		9	ND		9	ND		10	ND		9
Acenaphthylene	UG/L	ND		9	ND		9	ND		10	ND		9
Anthracene	UG/L	ND		9	ND		9	ND		10	ND		9
Benzo(a)anthracene	UG/L	ND		9	ND		9	ND		10	ND		9
Benzo(b)fluoranthene	UG/L	ND		9	ND		9	ND		10	ND		9
Benzo(k)fluoranthene	UG/L	ND		9	ND		9	ND		10	ND		9
Benzo(ghi)perylene	UG/L	ND		9	ND		9	ND		10	ND		9
Benzo(a)pyrene	UG/L	ND		9	ND		9	ND		10	ND		9
Benzoic acid	UG/L	ND		47	ND		47	ND		48	ND		47
Benzyl alcohol	UG/L	ND		19	ND		19	ND		19	ND		19
Bis(2-chloroethoxy) methane	UG/L	ND		9	ND		9	ND		10	ND		9
Bis(2-chloroethyl) ether	UG/L	ND		9	ND		9	ND		10	ND		9
2,2'-Oxybis(1-Chloropropane)	UG/L	ND		9	ND		9	ND		10	ND		9
Bis(2-ethylhexyl) phthalate	UG/L	2	J	9	ND		9	ND		10	4	J	9
4-Bromophenyl phenyl ether	UG/L	ND		9	ND		9	ND		10	ND		9
Butyl benzyl phthalate	UG/L	ND		9	ND		9	ND		10	ND		9
4-Chloroaniline	UG/L	ND		9	ND		9	ND		10	ND		9
4-Chloro-3-methylphenol	UG/L	ND		9	ND		9	ND		10	ND		9
2-Chloronaphthalene	UG/L	ND		9	ND		9	ND		10	ND		9
2-Chlorophenol	UG/L	ND		9	ND		9	ND		10	ND		9
4-Chlorophenyl phenyl ether	UG/L	ND		9	ND		9	ND		10	ND		9
Chrysene	UG/L	ND		9	ND		9	ND		10	ND		9
Dibenzo(a,h)anthracene	UG/L	ND		9	ND		9	ND		10	ND		9
Dibenzofuran	UG/L	ND		9	ND		9	ND		10	ND		9
Di-n-butyl phthalate	UG/L	ND		9	ND		9	ND		10	ND		9
1,2-Dichlorobenzene	UG/L	ND		9	ND		9	ND		10	ND		9
1,3-Dichlorobenzene	UG/L	ND		9	ND		9	ND		10	ND		9
1,4-Dichlorobenzene	UG/L	ND		9	ND		9	ND		10	ND		9
3,3'-Dichlorobenzidine	UG/L	ND		19	ND		19	ND		19	ND		19
2,4-Dichlorophenol	UG/L	ND		9	ND		9	ND		10	ND		9
Diethyl phthalate	UG/L	ND		9	ND		9	ND		10	ND		9
2,4-Dimethylphenol	UG/L	ND		9	ND		9	ND		10	ND		9
Dimethyl phthalate	UG/L	ND		9	ND		9	ND		10	ND		9
4,6-Dinitro-2-methylphenol	UG/L	ND		47	ND		47	ND		48	ND		47
2,4-Dinitrophenol	UG/L	ND		47	ND		47	ND		48	ND		47
2,4-Dinitrotoluene	UG/L	ND		9	ND		9	ND		10	ND		9
2,6-Dinitrotoluene	UG/L	ND		9	ND		9	ND		10	ND		9
Di-n-octyl phthalate	UG/L	ND		9	ND		9	ND		10	ND		9
Fluoranthene	UG/L	ND		9	ND		9	ND		10	ND		9
Fluorene	UG/L	ND		9	ND		9	ND		10	ND		9
Hexachlorobenzene	UG/L	ND		9	ND		9	ND		10	ND		9
Hexachlorobutadiene	UG/L	ND		9	ND		9	ND		10	ND		9
Hexachlorocyclopentadiene	UG/L	ND		9	ND		9	ND		10	ND		9

Client ID Job No Sample Date	Lab ID	GBRI-MW-12 A01-8772 09/12/2001	A1877214	GBRI-MW-13 A01-8772 09/12/2001	A1877215	GBRI-MW-14 A01-8772 09/12/2001	A1877213	GBRI-MW-6 A01-8772 09/12/2001	A1877206
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/L	ND	9	ND	9	ND	10	ND	9
Indeno(1,2,3-cd)pyrene	UG/L	ND	9	ND	9	ND	10	ND	9
Isophorone	UG/L	ND	9	ND	9	ND	10	ND	9
2-Methylnaphthalene	UG/L	ND	9	ND	9	ND	10	ND	9
2-Methylphenol	UG/L	ND	9	ND	9	ND	10	ND	9
4-Methylphenol	UG/L	ND	9	ND	9	ND	10	ND	9
Naphthalene	UG/L	ND	9	ND	9	ND	10	ND	9
2-Nitroaniline	UG/L	ND	47	ND	47	ND	48	ND	47
3-Nitroaniline	UG/L	ND	47	ND	47	ND	48	ND	47
4-Nitroaniline	UG/L	ND	47	ND	47	ND	48	ND	47
Nitrobenzene	UG/L	ND	9	ND	9	ND	10	ND	9
2-Nitrophenol	UG/L	ND	9	ND	9	ND	10	ND	9
4-Nitrophenol	UG/L	ND	47	ND	47	ND	48	ND	47
N-nitrosodiphenylamine	UG/L	ND	9	ND	9	ND	10	ND	9
N-Nitroso-Di-n-propylamine	UG/L	ND	9	ND	9	ND	10	ND	9
Pentachlorophenol	UG/L	ND	47	ND	47	ND	48	ND	47
Phenanthrene	UG/L	ND	9	ND	9	ND	10	ND	9
Phenol	UG/L	ND	9	ND	9	ND	10	ND	9
Pyrene	UG/L	ND	9	ND	9	ND	10	ND	9
1,2,4-Trichlorobenzene	UG/L	ND	9	ND	9	ND	10	ND	9
2,4,5-Trichlorophenol	UG/L	ND	9	ND	9	ND	10	ND	9
2,4,6-Trichlorophenol	UG/L	ND	9	ND	9	ND	10	ND	9
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	88	50-200	88	50-200	93	50-200	110	50-200
Naphthalene-D8	%	83	50-200	88	50-200	89	50-200	106	50-200
Acenaphthene-D10	%	85	50-200	89	50-200	90	50-200	106	50-200
Phenanthrene-D10	%	87	50-200	92	50-200	94	50-200	108	50-200
Chrysene-D12	%	99	50-200	107	50-200	118	50-200	113	50-200
Perylene-D12	%	85	50-200	90	50-200	100	50-200	106	50-200
Nitrobenzene-D5	%	102	24-120	97	24-120	116	24-120	98	24-120
2-Fluorobiphenyl	%	88	33-120	78	33-120	93	33-120	80	33-120
p-Terphenyl-d14	%	81	24-130	82	24-130	79	24-130	78	24-130
Phenol-D5	%	34	10-120	35	10-120	42	10-120	32	10-120
2-Fluorophenol	%	52	10-120	50	10-120	63	10-120	48	10-120
2,4,6-Tribromophenol	%	84	24-143	86	24-143	88	24-143	80	24-143

Client ID		GBRI-MW-7		GBRI-MW-8		GBRI-MW-9			
Job No	Lab ID	A01-8772	A1877207	A01-8772	A1877201	A01-8772	A1877209		
Sample Date		09/12/2001		09/12/2001		09/12/2001			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/L	ND	10	ND	9	ND	9	NA	
Acenaphthylene	UG/L	ND	10	ND	9	ND	9	NA	
Anthracene	UG/L	ND	10	ND	9	ND	9	NA	
Benzo(a)anthracene	UG/L	ND	10	ND	9	ND	9	NA	
Benzo(b)fluoranthene	UG/L	ND	10	ND	9	ND	9	NA	
Benzo(k)fluoranthene	UG/L	ND	10	ND	9	ND	9	NA	
Benzo(ghi)perylene	UG/L	ND	10	ND	9	ND	9	NA	
Benzo(a)pyrene	UG/L	ND	10	ND	9	ND	9	NA	
Benzoic acid	UG/L	ND	50	ND	47	ND	47	NA	
Benzyl alcohol	UG/L	ND	20	0.3 J	19	ND	19	NA	
Bis(2-chloroethoxy) methane	UG/L	ND	10	ND	9	ND	9	NA	
Bis(2-chloroethyl) ether	UG/L	ND	10	ND	9	ND	9	NA	
2,2'-Oxybis(1-Chloropropane)	UG/L	ND	10	ND	9	ND	9	NA	
Bis(2-ethylhexyl) phthalate	UG/L	ND	10	4 J	9	ND	9	NA	
4-Bromophenyl phenyl ether	UG/L	ND	10	ND	9	ND	9	NA	
Butyl benzyl phthalate	UG/L	ND	10	ND	9	ND	9	NA	
4-Chloroaniline	UG/L	ND	10	ND	9	ND	9	NA	
4-Chloro-3-methylphenol	UG/L	ND	10	ND	9	ND	9	NA	
2-Chloronaphthalene	UG/L	ND	10	ND	9	ND	9	NA	
2-Chlorophenol	UG/L	ND	10	ND	9	ND	9	NA	
4-Chlorophenyl phenyl ether	UG/L	ND	10	ND	9	ND	9	NA	
Chrysene	UG/L	ND	10	ND	9	ND	9	NA	
Dibenzo(a,h)anthracene	UG/L	ND	10	ND	9	ND	9	NA	
Dibenzofuran	UG/L	ND	10	ND	9	ND	9	NA	
Di-n-butyl phthalate	UG/L	ND	10	ND	9	ND	9	NA	
1,2-Dichlorobenzene	UG/L	ND	10	ND	9	ND	9	NA	
1,3-Dichlorobenzene	UG/L	ND	10	ND	9	ND	9	NA	
1,4-Dichlorobenzene	UG/L	ND	10	ND	9	ND	9	NA	
3,3'-Dichlorobenzidine	UG/L	ND	20	ND	19	ND	19	NA	
2,4-Dichlorophenol	UG/L	ND	10	ND	9	ND	9	NA	
Diethyl phthalate	UG/L	ND	10	ND	9	ND	9	NA	
2,4-Dimethylphenol	UG/L	ND	10	ND	9	ND	9	NA	
Dimethyl phthalate	UG/L	ND	10	ND	9	ND	9	NA	
4,6-Dinitro-2-methylphenol	UG/L	ND	50	ND	47	ND	47	NA	
2,4-Dinitrophenol	UG/L	ND	50	ND	47	ND	47	NA	
2,4-Dinitrotoluene	UG/L	ND	10	ND	9	ND	9	NA	
2,6-Dinitrotoluene	UG/L	ND	10	ND	9	ND	9	NA	
Di-n-octyl phthalate	UG/L	ND	10	ND	9	ND	9	NA	
Fluoranthene	UG/L	ND	10	ND	9	ND	9	NA	
Fluorene	UG/L	ND	10	ND	9	ND	9	NA	
Hexachlorobenzene	UG/L	ND	10	ND	9	ND	9	NA	
Hexachlorobutadiene	UG/L	ND	10	ND	9	ND	9	NA	
Hexachlorocyclopentadiene	UG/L	ND	10	ND	9	ND	9	NA	

NA = Not Applicable ND = Not Detected

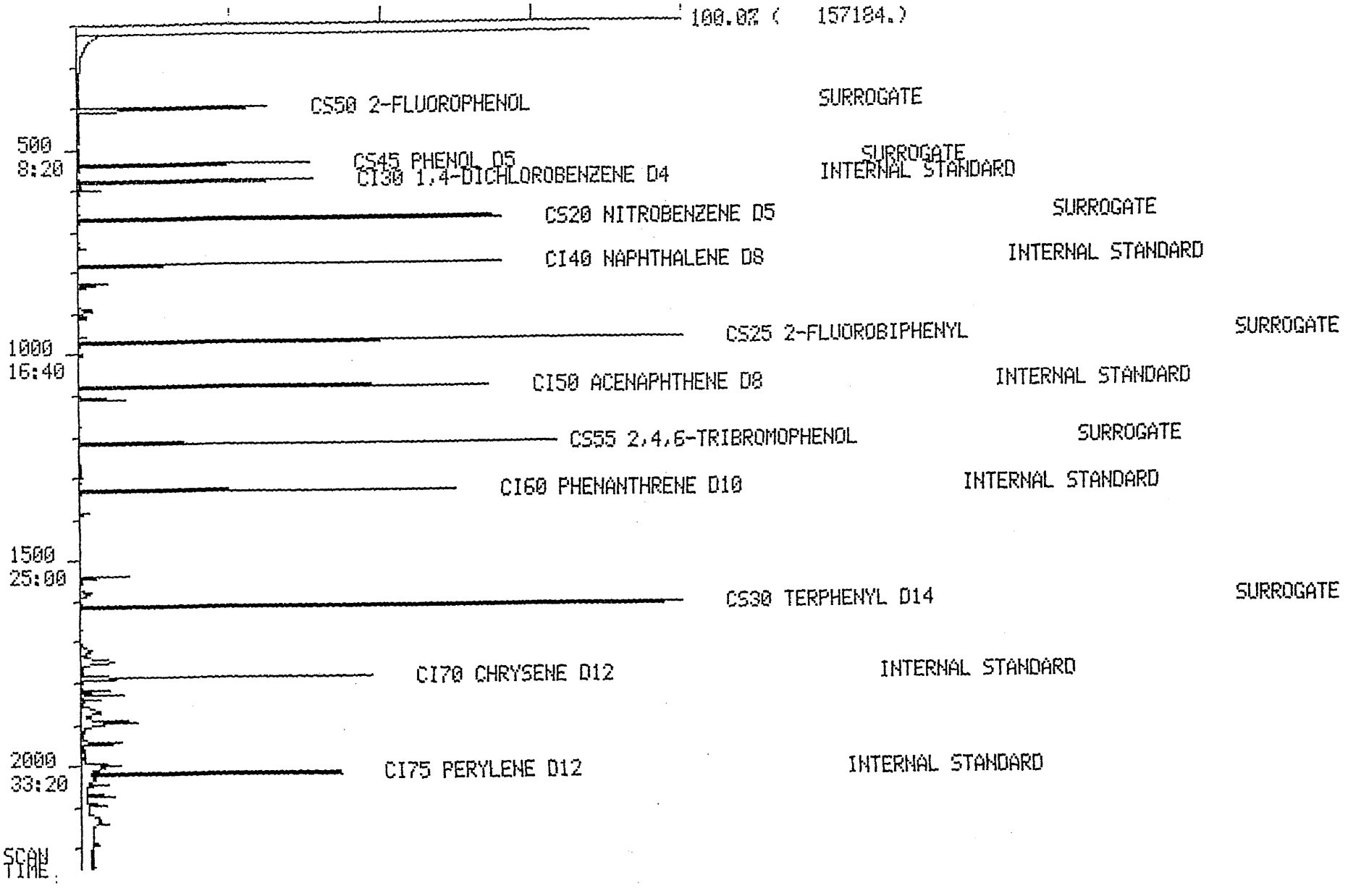
Client ID		GBRI-MW-7		GBRI-MW-8		GBRI-MW-9			
Job No	Lab ID	A01-8772	A1877207	A01-8772	A1877201	A01-8772	A1877209		
Sample Date		09/12/2001		09/12/2001		09/12/2001			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/L	ND	10	ND	9	ND	9	NA	
Indeno(1,2,3-cd)pyrene	UG/L	ND	10	ND	9	ND	9	NA	
Isophorone	UG/L	ND	10	ND	9	ND	9	NA	
2-Methylnaphthalene	UG/L	ND	10	ND	9	ND	9	NA	
2-Methylphenol	UG/L	ND	10	ND	9	ND	9	NA	
4-Methylphenol	UG/L	ND	10	ND	9	ND	9	NA	
Naphthalene	UG/L	ND	10	ND	9	ND	9	NA	
2-Nitroaniline	UG/L	ND	50	ND	47	ND	47	NA	
3-Nitroaniline	UG/L	ND	50	ND	47	ND	47	NA	
4-Nitroaniline	UG/L	ND	50	ND	47	ND	47	NA	
Nitrobenzene	UG/L	ND	10	ND	9	ND	9	NA	
2-Nitrophenol	UG/L	ND	10	ND	9	ND	9	NA	
4-Nitrophenol	UG/L	ND	50	ND	47	ND	47	NA	
N-nitrosodiphenylamine	UG/L	ND	10	ND	9	ND	9	NA	
N-Nitroso-Di-n-propylamine	UG/L	ND	10	ND	9	ND	9	NA	
Pentachlorophenol	UG/L	ND	50	ND	47	ND	47	NA	
Phenanthrene	UG/L	ND	10	ND	9	ND	9	NA	
Phenol	UG/L	ND	10	ND	9	ND	9	NA	
Pyrene	UG/L	ND	10	ND	9	ND	9	NA	
1,2,4-Trichlorobenzene	UG/L	ND	10	ND	9	ND	9	NA	
2,4,5-Trichlorophenol	UG/L	ND	10	ND	9	ND	9	NA	
2,4,6-Trichlorophenol	UG/L	ND	10	ND	9	ND	9	NA	
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	100	50-200	98	50-200	99	50-200	NA	
Naphthalene-D8	%	97	50-200	96	50-200	95	50-200	NA	
Acenaphthene-D10	%	95	50-200	97	50-200	95	50-200	NA	
Phenanthrene-D10	%	97	50-200	94	50-200	97	50-200	NA	
Chrysene-D12	%	103	50-200	100	50-200	105	50-200	NA	
Perylene-D12	%	99	50-200	97	50-200	98	50-200	NA	
Nitrobenzene-D5	%	106	24-120	104	24-120	98	24-120	NA	
2-Fluorobiphenyl	%	88	33-120	77	33-120	82	33-120	NA	
p-Terphenyl-d14	%	80	24-130	83	24-130	74	24-130	NA	
Phenol-D5	%	35	10-120	33	10-120	36	10-120	NA	
2-Fluorophenol	%	52	10-120	48	10-120	50	10-120	NA	
2,4,6-Tribromophenol	%	82	24-143	78	24-143	76	24-143	NA	

000038

NA = Not Applicable ND = Not Detected

DATA FROM FILE: W45055 SCANS 200 TO 2250 ACQUIRED: 09/17/01 14:01:00
CALI: W45055 #3

SAMPLE: A1877201 AW10012454
CONDS.: AUTOSAMPLR I50W



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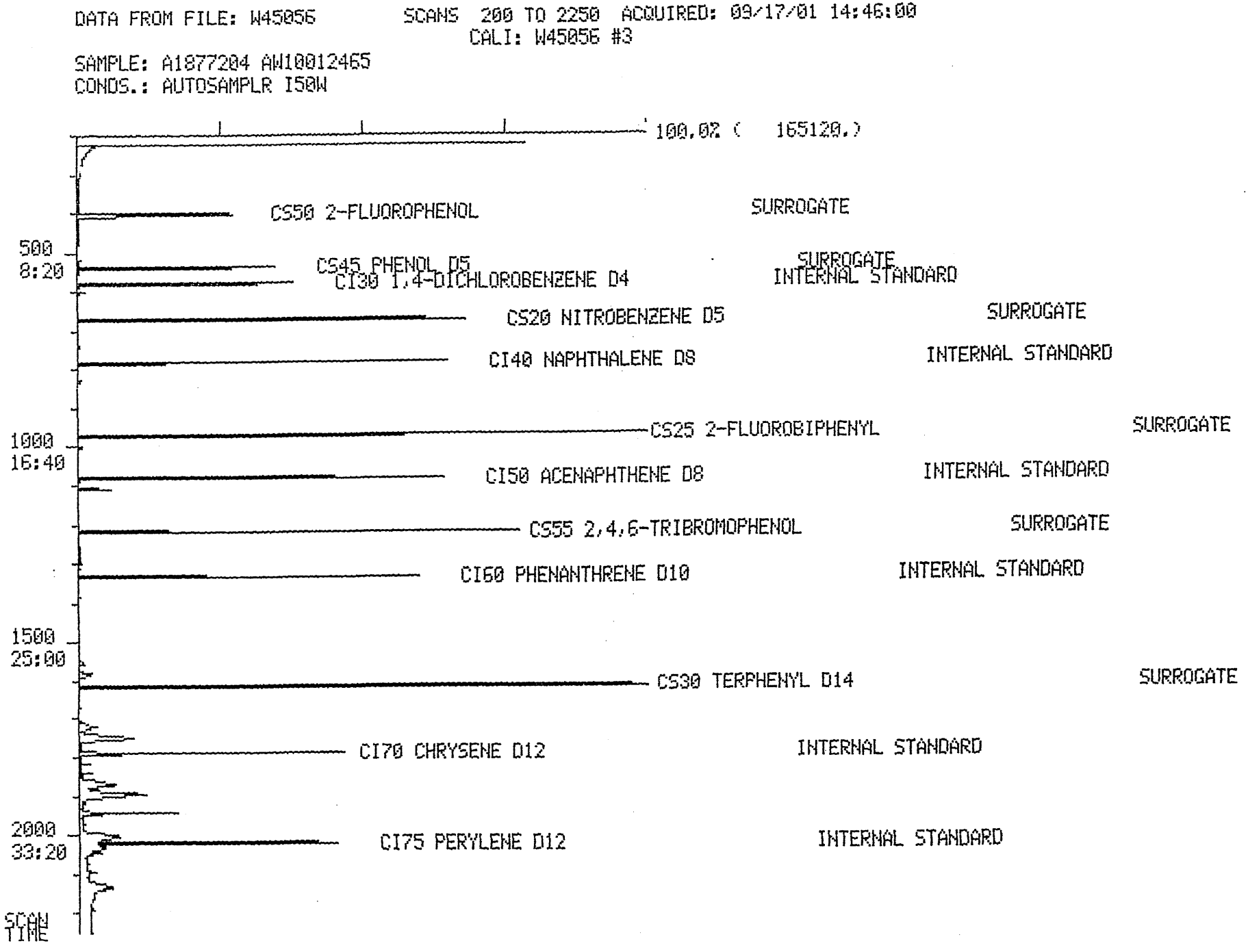
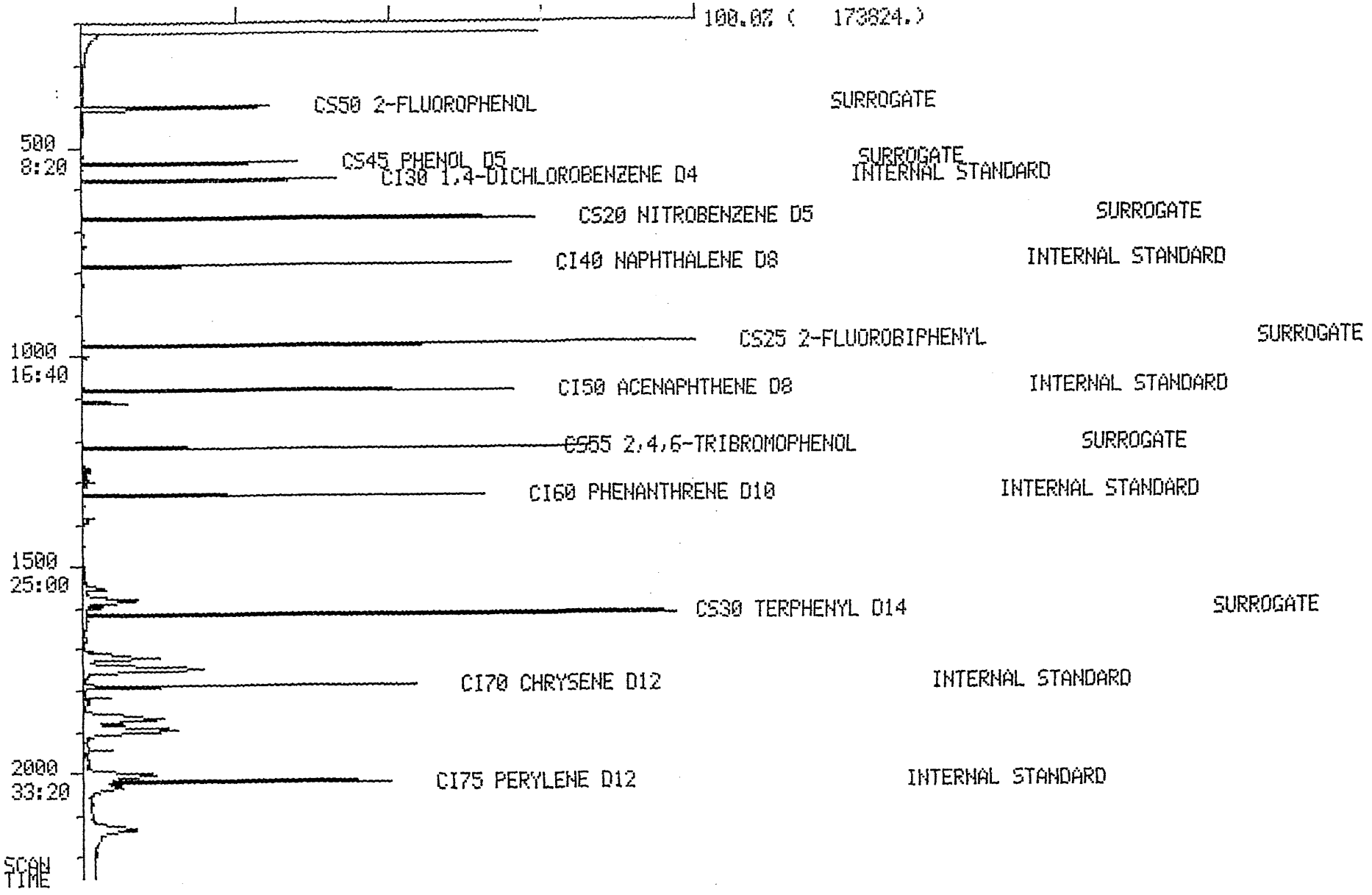
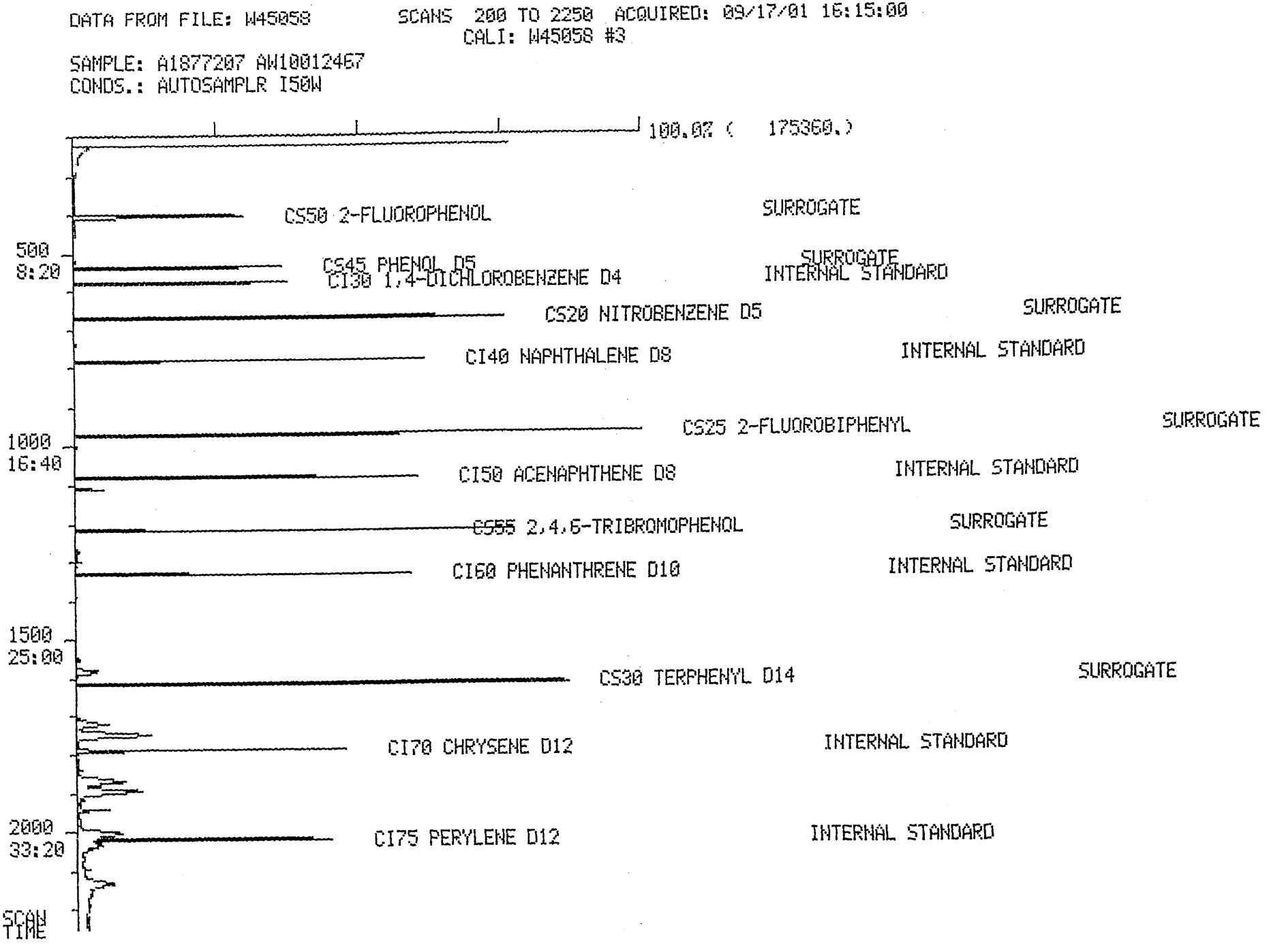

DATA FROM FILE: W45056
SCANS 200 TO 2250 ACQUIRED: 09/17/01 14:46:00
CALI: W45056 #3
SAMPLE: A1877204 AW10012465
CONDS.: AUTOSAMPLR I50W
100.0% (165120.)
CS50 2-FLUOROPHENOL
SURROGATE
500
8:20
CS45 PHENOL D5
SURROGATE
CI30 1,4-DICHLOROBENZENE D4
INTERNAL STANDARD
CS20 NITROBENZENE D5
SURROGATE
CI40 NAPHTHALENE D8
INTERNAL STANDARD
CS25 2-FLUOROBIPHENYL
SURROGATE
1000
16:40
CI50 ACENAPHTHENE D8
INTERNAL STANDARD
CS55 2,4,6-TRIBROMOPHENOL
SURROGATE
CI60 PHENANTHRENE D10
INTERNAL STANDARD
1500
25:00
CS30 TERPHENYL D14
SURROGATE
CI70 CHRYSENE D12
INTERNAL STANDARD
2000
33:20
CI75 PERYLENE D12
INTERNAL STANDARD
SCAN
TIME

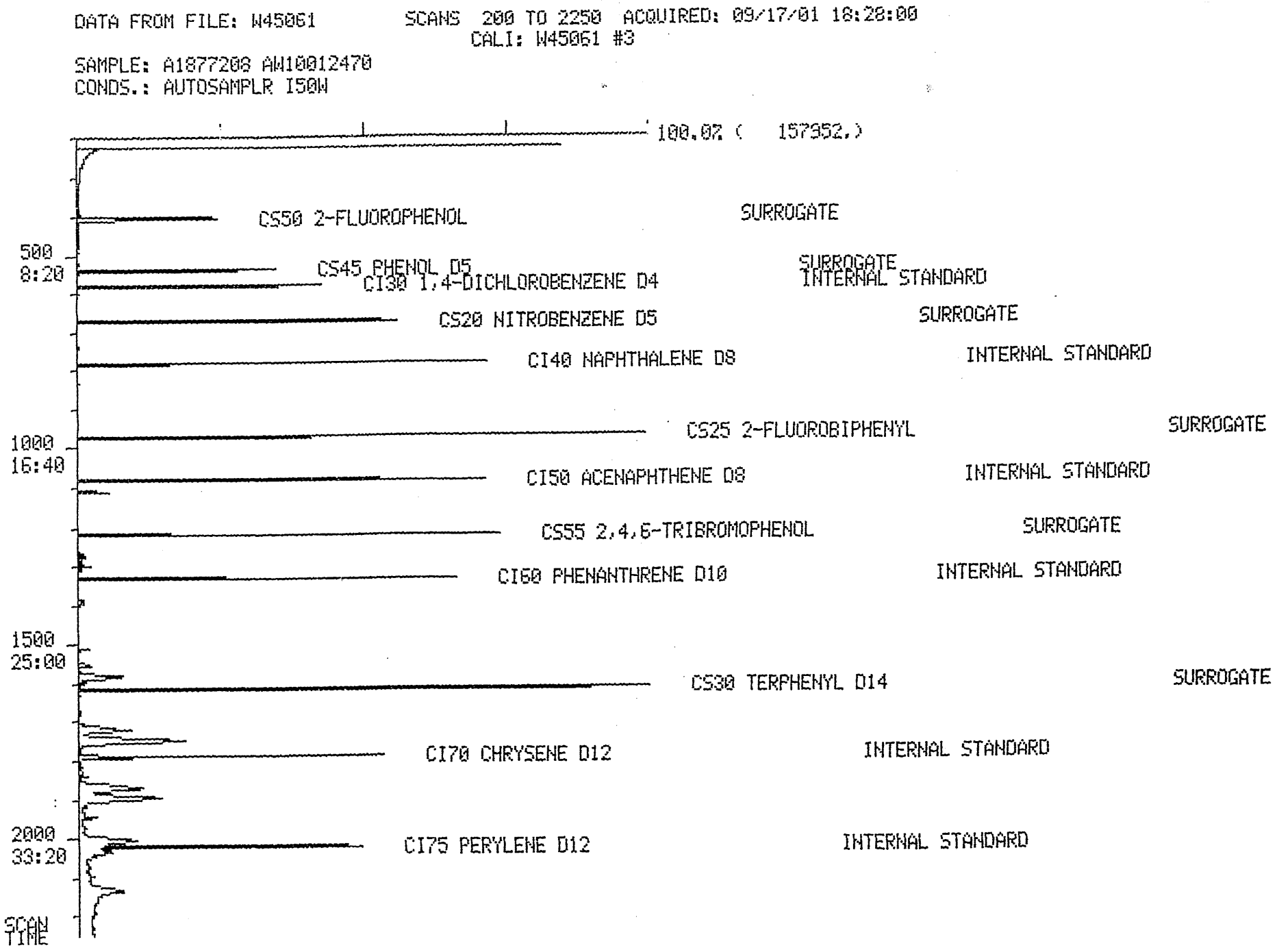
DATA FROM FILE: W45057 SCANS 200 TO 2250 ACQUIRED: 09/17/01 15:30:00
CALI: W45057 #3

SAMPLE: A1877206 AW10012466
CONDS.: AUTOSAMPLR I50W



000041

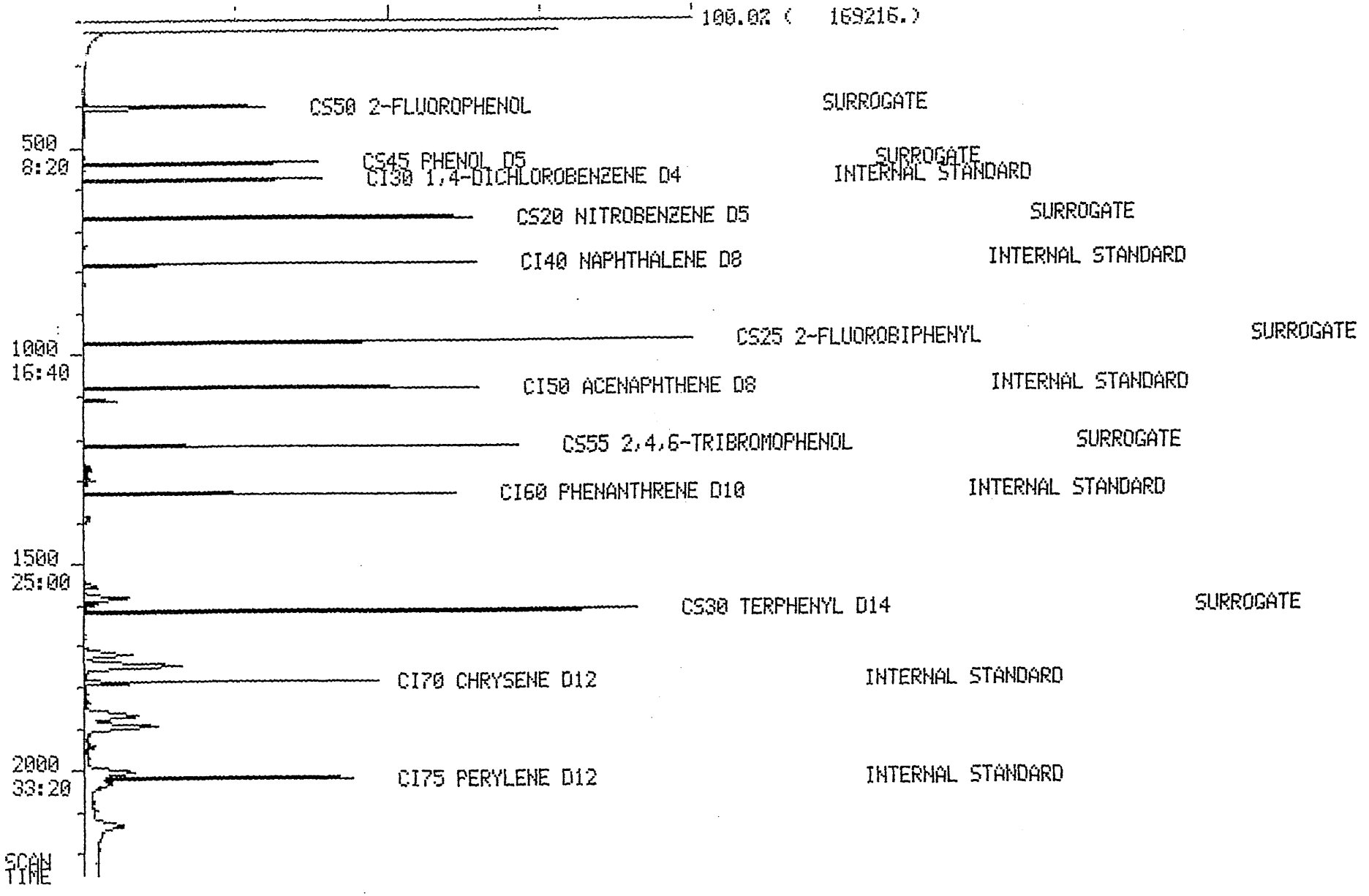

DATA FROM FILE: W45058
SCANS 200 TO 2250 ACQUIRED: 09/17/01 16:15:00
CALI: W45058 #3
SAMPLE: A1877207 AW10012467
CONDS.: AUTOSAMPLR I50W
100.0% (175360.)
CS50 2-FLUOROPHENOL
SURROGATE
500
8:20
CS45 PHENOL D5
SURROGATE
CI30 1,4-DICHLOROBENZENE D4
INTERNAL STANDARD
CS20 NITROBENZENE D5
SURROGATE
CI40 NAPHTHALENE D8
INTERNAL STANDARD
1000
16:40
CS25 2-FLUOROBIPHENYL
SURROGATE
CI50 ACENAPHTHENE D8
INTERNAL STANDARD
CS55 2,4,6-TRIBROMOPHENOL
SURROGATE
CI60 PHENANTHRENE D10
INTERNAL STANDARD
1500
25:00
CS30 TERPHENYL D14
SURROGATE
CI70 CHRYSENE D12
INTERNAL STANDARD
2000
33:20
CI75 PERYLENE D12
INTERNAL STANDARD
SCAN
TIME

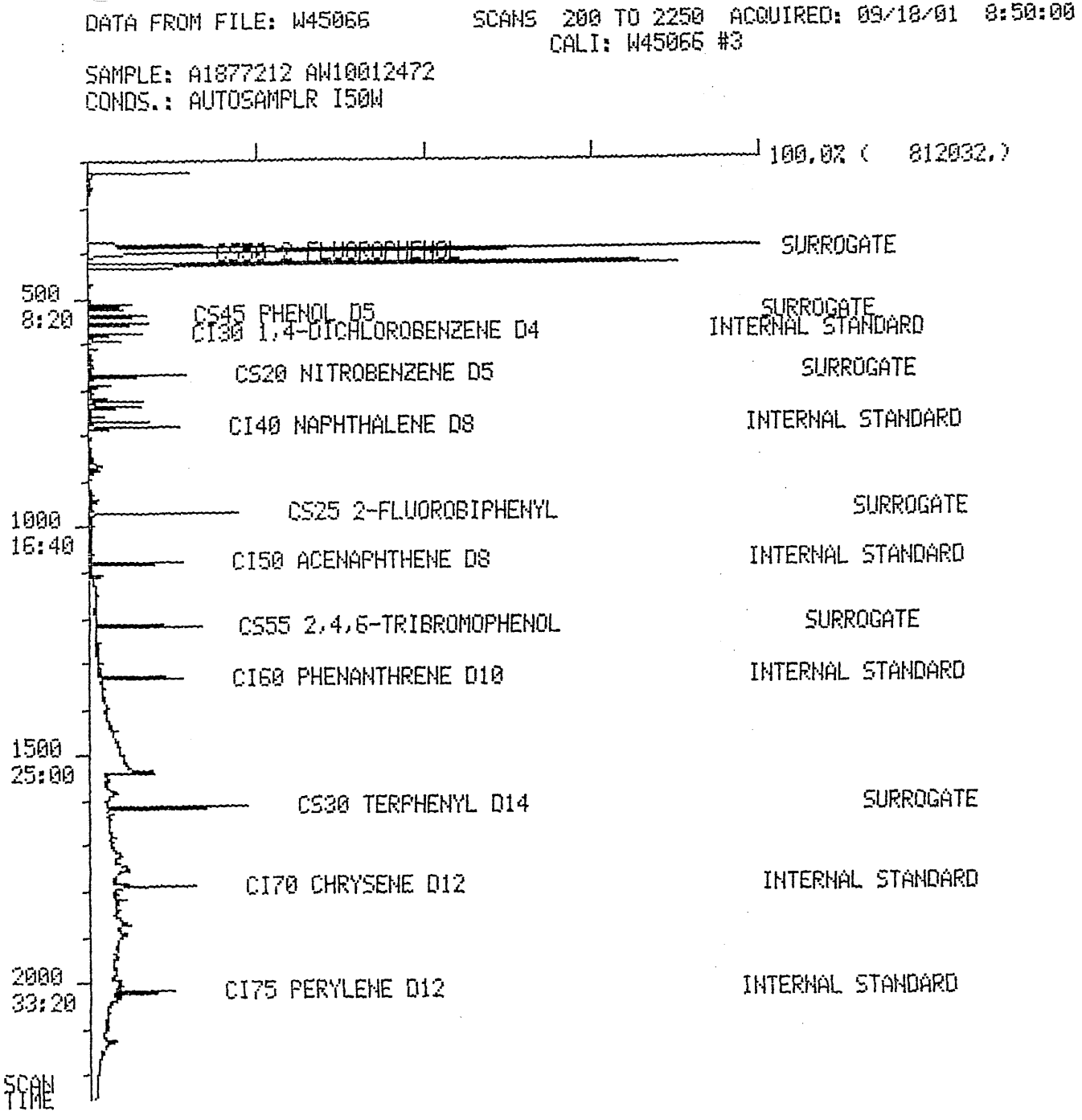

DATA FROM FILE: W45061
SCANS 200 TO 2250 ACQUIRED: 09/17/01 18:20:00
CALI: W45061 #3
SAMPLE: A1877208 AW10012470
CONDS.: AUTOSAMPLR I50W
100.0% (157952.)
CS50 2-FLUOROPHENOL
SURROGATE
500
8:20
CS45 PHENOL D5
SURROGATE
CI30 1,4-DICHLOROBENZENE D4
INTERNAL STANDARD
CS20 NITROBENZENE D5
SURROGATE
CI40 NAPHTHALENE D8
INTERNAL STANDARD
CS25 2-FLUOROBIPHENYL
SURROGATE
1000
16:40
CI50 ACENAPHTHENE D8
INTERNAL STANDARD
CS55 2,4,6-TRIBROMOPHENOL
SURROGATE
CI60 PHENANTHRENE D10
INTERNAL STANDARD
1500
25:00
CS30 TERPHENYL D14
SURROGATE
CI70 CHRYSENE D12
INTERNAL STANDARD
2000
33:20
CI75 PERYLENE D12
INTERNAL STANDARD
SCAN
TIME

000043

DATA FROM FILE: W45062 SCANS 200 TO 2250 ACQUIRED: 09/17/01 19:13:00
CALI: W45062 #3

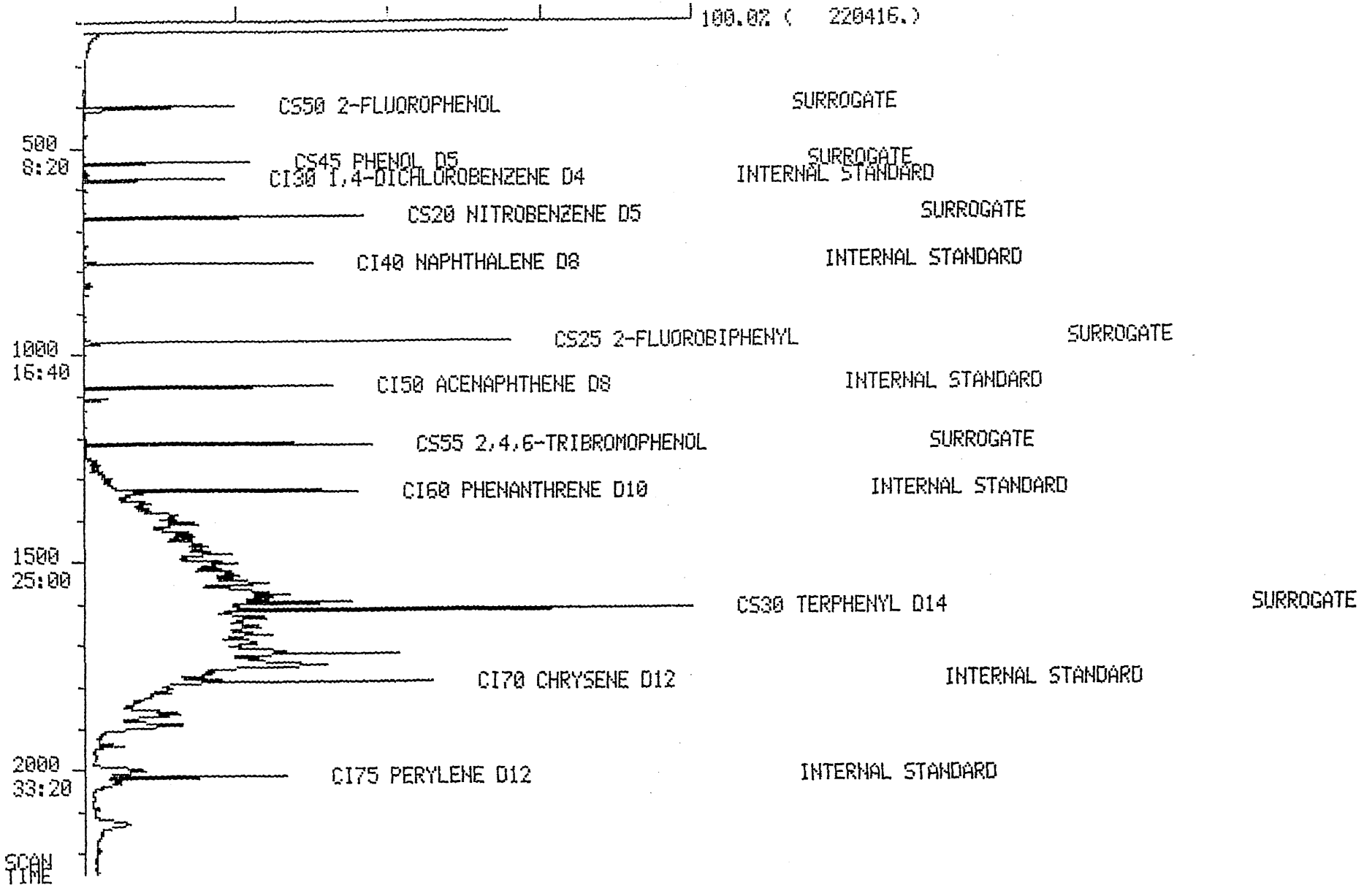
SAMPLE: A1877209 AW10012471
CONDS.: AUTOSAMPLR I50W




DATA FROM FILE: W45066
SCANS 200 TO 2250 ACQUIRED: 09/18/01 8:50:00
CALI: W45066 #3
SAMPLE: A1877212 AW10012472
CONDS.: AUTOSAMPLR I50W
100.0% (812032.)
SURROGATE
500
8:20
CS45 PHENOL D5
CI30 1,4-DICHLOROBENZENE D4
SURROGATE
INTERNAL STANDARD
CS20 NITROBENZENE D5
SURROGATE
CI40 NAPHTHALENE D8
INTERNAL STANDARD
1000
16:40
CS25 2-FLUOROBIPHENYL
SURROGATE
CI50 ACENAPHTHENE D8
INTERNAL STANDARD
CS55 2,4,6-TRIBROMOPHENOL
SURROGATE
CI60 PHENANTHRENE D10
INTERNAL STANDARD
1500
25:00
CS30 TERPHENYL D14
SURROGATE
CI70 CHRYSENE D12
INTERNAL STANDARD
2000
33:20
CI75 PERYLENE D12
INTERNAL STANDARD
SCAN
TIME

DATA FROM FILE: W45067 SCANS 200 TO 2250 ACQUIRED: 09/18/01 9:30:00
CALI: W45067 #3

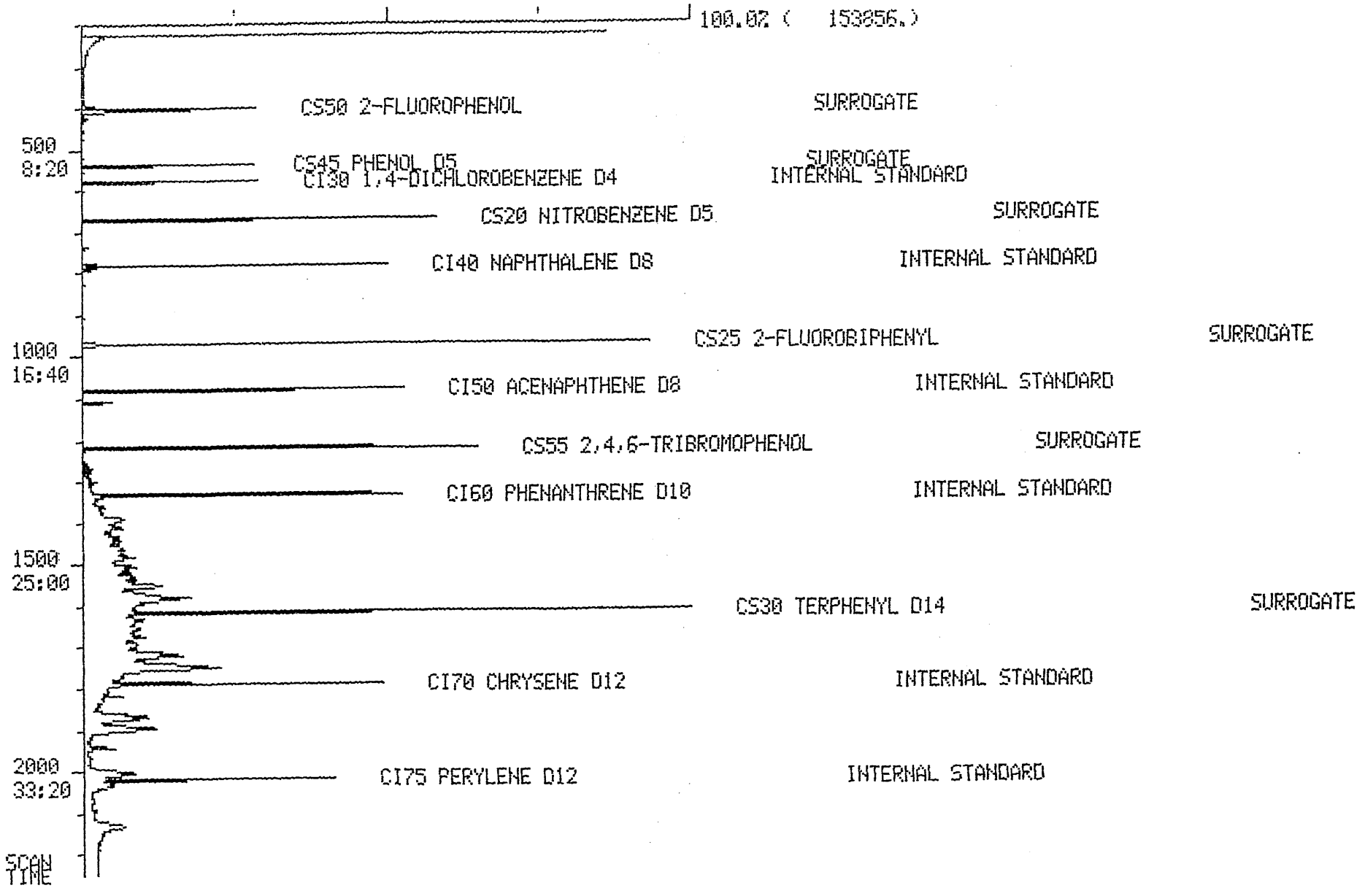
SAMPLE: A1877213 AW10012473
CONDS.: AUTOSAMPLR I50W



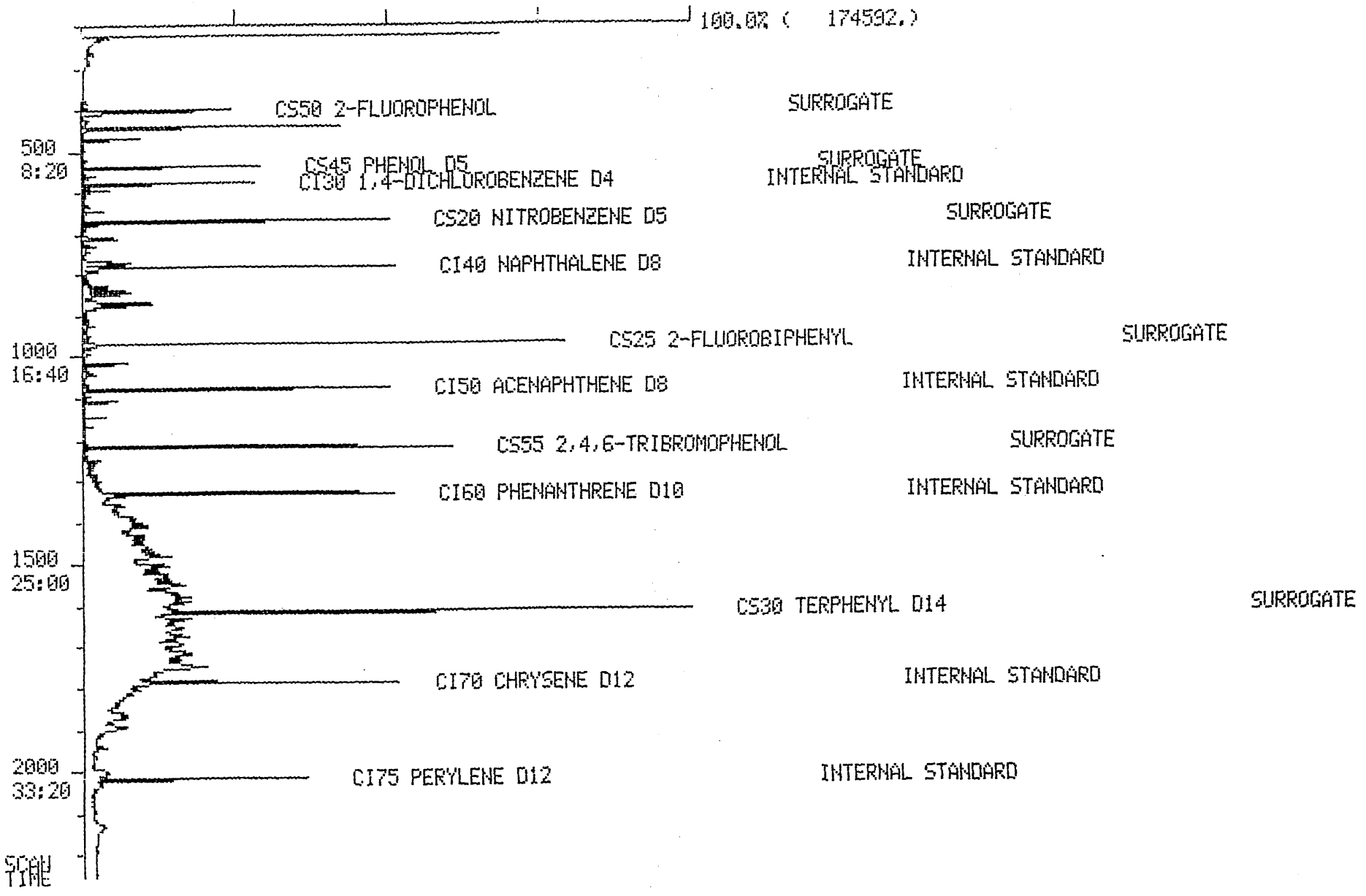
000046

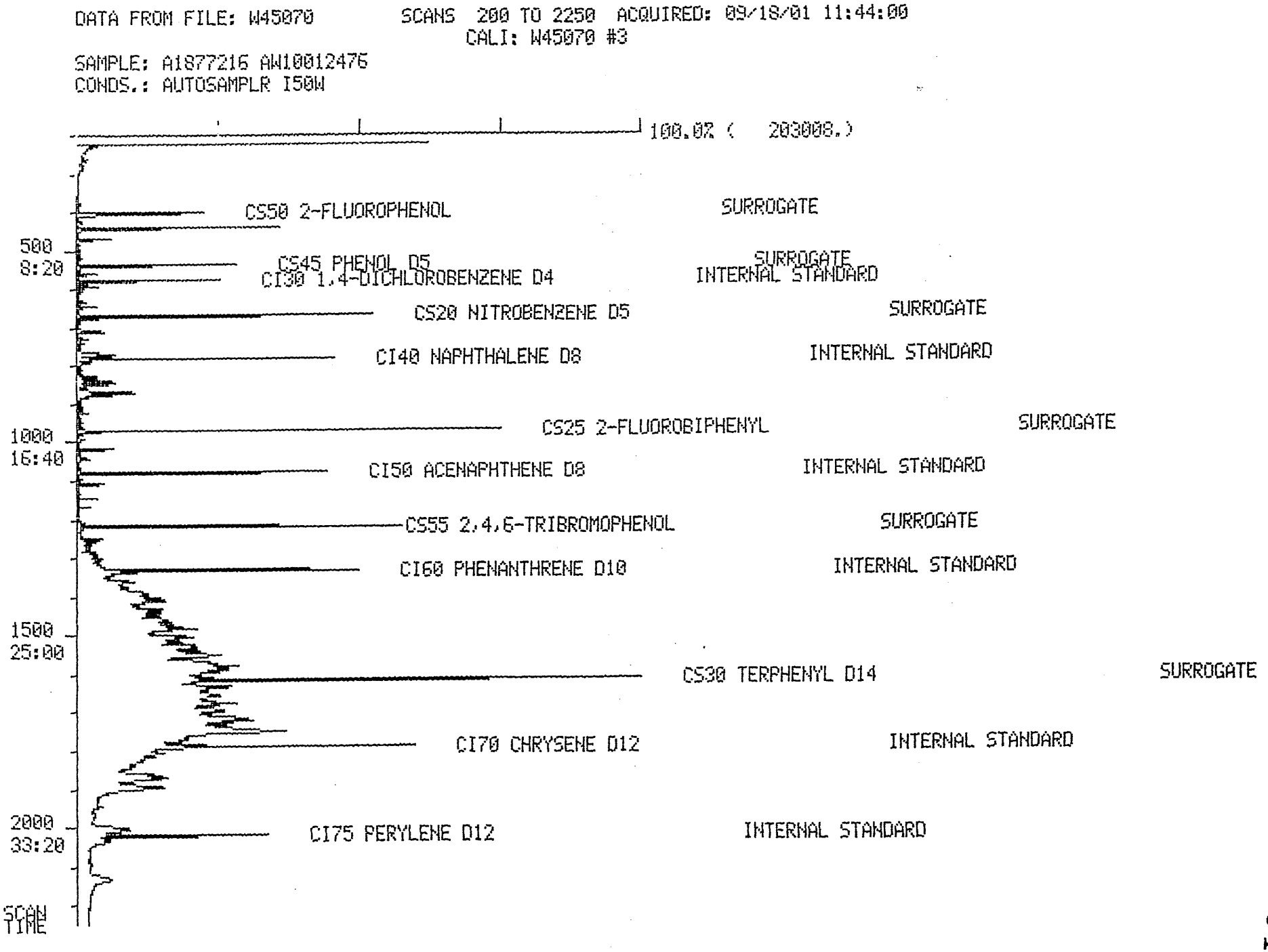
DATA FROM FILE: W45068 SCANS 200 TO 2250 ACQUIRED: 09/18/01 10:14:00
CALI: W45068 #3

SAMPLE: A1877214 AW10012474
CONDS.: AUTOSAMPLR I50W



000047


DATA FROM FILE: W45069
SCANS 200 TO 2250 ACQUIRED: 09/18/01 10:59:00
CALI: W45069 #3
SAMPLE: A1877215 AW10012475
CONDS.: AUTOSAMPLR I50W
100.0% (174592.)
CS50 2-FLUOROPHENOL
SURROGATE
500
8:20
CS45 PHENOL D5
SURROGATE
CI30 1,4-DICHLOROBENZENE D4
INTERNAL STANDARD
CS20 NITROBENZENE D5
SURROGATE
CI40 NAPHTHALENE D8
INTERNAL STANDARD
1000
16:40
CS25 2-FLUOROBIPHENYL
SURROGATE
CI50 ACENAPHTHENE D8
INTERNAL STANDARD
CS55 2,4,6-TRIBROMOPHENOL
SURROGATE
CI60 PHENANTHRENE D10
INTERNAL STANDARD
1500
25:00
CS30 TERPHENYL D14
SURROGATE
CI70 CHRYSENE D12
INTERNAL STANDARD
2000
33:20
CI75 PERYLENE D12
INTERNAL STANDARD
SCAN
TIME


DATA FROM FILE: W45070
SCANS 200 TO 2250 ACQUIRED: 09/18/01 11:44:00
CALI: W45070 #3
SAMPLE: A1877216 AW10012476
CONDS.: AUTOSAMPLR I50W
100.0% (203008.)
CS50 2-FLUOROPHENOL
SURROGATE
500
8:20
CS45 PHENOL D5
SURROGATE
CI30 1,4-DICHLOROBENZENE D4
INTERNAL STANDARD
CS20 NITROBENZENE D5
SURROGATE
CI40 NAPHTHALENE D8
INTERNAL STANDARD
1000
16:40
CS25 2-FLUOROBIPHENYL
SURROGATE
CI50 ACENAPHTHENE D8
INTERNAL STANDARD
CS55 2,4,6-TRIBROMOPHENOL
SURROGATE
CI60 PHENANTHRENE D10
INTERNAL STANDARD
1500
25:00
CS30 TERPHENYL D14
SURROGATE
CI70 CHRYSENE D12
INTERNAL STANDARD
2000
33:20
CI75 PERYLENE D12
INTERNAL STANDARD
SCAN
TIME

Client ID Job No Lab ID Sample Date		GBRI-CV-1 A01-8772 A1877212 09/12/2001		GBRI-DUPE1 A01-8772 A1877216 09/12/2001		GBRI-MW-13 A01-8772 A1877215 09/12/2001		GBRI-MW-3 A01-8772 A1877210 09/12/2001	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Aluminum - Total	MG/L	ND	0.20	0.20	0.20	0.37	0.20	3.8	0.20
Antimony - Total	MG/L	ND	0.020	ND	0.020	ND	0.020	ND	0.020
Arsenic - Total	MG/L	ND	0.0070	ND	0.0070	ND	0.0070	0.020	0.0070
Barium - Total	MG/L	0.18	0.0010	0.090	0.0010	0.089	0.0010	0.044	0.0010
Beryllium - Total	MG/L	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050
Cadmium - Total	MG/L	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Calcium - Total	MG/L	88.9	0.50	153	0.50	148	0.50	52.9	0.50
Chromium - Total	MG/L	0.0020	0.0020	ND	0.0020	ND	0.0020	0.0046	0.0020
Cobalt - Total	MG/L	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050
Copper - Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Iron - Total	MG/L	14.8	0.050	0.13	0.050	0.35	0.050	4.5	0.050
Lead - Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Magnesium - Total	MG/L	33.2	0.20	240	0.20	228	0.20	136	0.20
Manganese - Total	MG/L	0.59	0.0030	0.49	0.0030	0.50	0.0030	0.16	0.0030
Mercury - Total	MG/L	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020
Nickel - Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Potassium - Total	MG/L	4.6	0.50	4.9	0.50	4.8	0.50	4.6	0.50
Selenium - Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Silver - Total	MG/L	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030
Sodium - Total	MG/L	10.1	1.0	60.4	1.0	58.0	1.0	93.4	1.0
Thallium - Total	MG/L	ND	0.020	ND	0.020	ND	0.020	ND	0.020
Vanadium - Total	MG/L	ND	0.0050	ND	0.0050	ND	0.0050	0.0063	0.0050
Zinc - Total	MG/L	0.050	0.020	ND	0.020	ND	0.020	0.022	0.020

000050

NA = Not Applicable ND = Not Detected

Client ID		GBRI-MW-7		GBRI-MW-8					
Job No	Lab ID	A01-8772	A1877207	A01-8772	A1877201				
Sample Date		09/12/2001		09/12/2001					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Aluminum - Total	MG/L	1.2	0.20	1.1	0.20	NA		NA	
Antimony - Total	MG/L	ND	0.020	ND	0.020	NA		NA	
Arsenic - Total	MG/L	0.014	0.0070	ND	0.0070	NA		NA	
Barium - Total	MG/L	0.027	0.0010	0.023	0.0010	NA		NA	
Beryllium - Total	MG/L	ND	0.0050	ND	0.0050	NA		NA	
Cadmium - Total	MG/L	ND	0.0010	ND	0.0010	NA		NA	
Calcium - Total	MG/L	78.1	0.50	400	0.50	NA		NA	
Chromium - Total	MG/L	ND	0.0020	ND	0.0020	NA		NA	
Cobalt - Total	MG/L	ND	0.0050	ND	0.0050	NA		NA	
Copper - Total	MG/L	ND	0.010	ND	0.010	NA		NA	
Iron - Total	MG/L	1.5	0.050	1.1	0.050	NA		NA	
Lead - Total	MG/L	ND	0.010	ND	0.010	NA		NA	
Magnesium - Total	MG/L	91.9	0.20	147	0.20	NA		NA	
Manganese - Total	MG/L	0.053	0.0030	0.18	0.0030	NA		NA	
Mercury - Total	MG/L	ND	0.00020	ND	0.00020	NA		NA	
Nickel - Total	MG/L	ND	0.010	ND	0.010	NA		NA	
Potassium - Total	MG/L	3.7	0.50	18.8	0.50	NA		NA	
Selenium - Total	MG/L	ND	0.010	ND	0.010	NA		NA	
Silver - Total	MG/L	ND	0.0030	ND	0.0030	NA		NA	
Sodium - Total	MG/L	140	1.0	370	10	NA		NA	
Thallium - Total	MG/L	ND	0.020	ND	0.020	NA		NA	
Vanadium - Total	MG/L	ND	0.0050	ND	0.0050	NA		NA	
Zinc - Total	MG/L	ND	0.020	ND	0.020	NA		NA	

000051

NA = Not Applicable ND = Not Detected

Chronology and QC Summary Package

ERM - \ BROS. SITE
GREIF BROS. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Client ID		GBRI-TB1							
Job No	Lab ID	A01-8772	A1877217						
Sample Date		09/12/2001							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	NA		NA		NA	
Benzene	UG/L	ND	5.0	NA		NA		NA	
Bromodichloromethane	UG/L	ND	5.0	NA		NA		NA	
Bromoform	UG/L	ND	5.0	NA		NA		NA	
Bromomethane	UG/L	ND	10	NA		NA		NA	
2-Butanone	UG/L	ND	10	NA		NA		NA	
Carbon Disulfide	UG/L	ND	5.0	NA		NA		NA	
Carbon Tetrachloride	UG/L	ND	5.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	5.0	NA		NA		NA	
Chloroethane	UG/L	ND	10	NA		NA		NA	
Chloroform	UG/L	ND	5.0	NA		NA		NA	
Chloromethane	UG/L	ND	10	NA		NA		NA	
Dibromochloromethane	UG/L	ND	5.0	NA		NA		NA	
1,1-Dichloroethane	UG/L	ND	5.0	NA		NA		NA	
1,2-Dichloroethane	UG/L	ND	5.0	NA		NA		NA	
1,1-Dichloroethene	UG/L	ND	5.0	NA		NA		NA	
1,2-Dichloroethene (Total)	UG/L	ND	5.0	NA		NA		NA	
1,2-Dichloropropane	UG/L	ND	5.0	NA		NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	5.0	NA		NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	5.0	NA		NA		NA	
Ethylbenzene	UG/L	ND	5.0	NA		NA		NA	
2-Hexanone	UG/L	ND	10	NA		NA		NA	
Methylene chloride	UG/L	ND	5.0	NA		NA		NA	
4-Methyl-2-pentanone	UG/L	ND	10	NA		NA		NA	
Styrene	UG/L	ND	5.0	NA		NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	NA		NA		NA	
Tetrachloroethene	UG/L	ND	5.0	NA		NA		NA	
Toluene	UG/L	ND	5.0	NA		NA		NA	
1,1,1-Trichloroethane	UG/L	ND	5.0	NA		NA		NA	
1,1,2-Trichloroethane	UG/L	ND	5.0	NA		NA		NA	
Trichloroethene	UG/L	ND	5.0	NA		NA		NA	
Vinyl acetate	UG/L	ND	10	NA		NA		NA	
Vinyl chloride	UG/L	ND	5.0	NA		NA		NA	
Total Xylenes	UG/L	ND	15	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	91	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	92	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	87	50-200	NA		NA		NA	
Toluene-D8	%	110	77-115	NA		NA		NA	
p-Bromofluorobenzene	%	104	77-112	NA		NA		NA	
1,2-Dichloroethane-D4	%	103	84-126	NA		NA		NA	

000053

NA = Not Applicable ND = Not Detected

Client ID		VBLK69		VBLK70		VBLK71		VBLK72	
Job No	Lab ID	A01-8772	A1877218	A01-8772	A1877220	A01-8772	A1877222	A01-8772	A1877224
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	ND	25	ND	25	ND	25
Benzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromodichloromethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromoform	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Bromomethane	UG/L	ND	10	ND	10	ND	10	ND	10
2-Butanone	UG/L	ND	10	ND	10	ND	10	ND	10
Carbon Disulfide	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Carbon Tetrachloride	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chlorobenzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chloroethane	UG/L	ND	10	ND	10	ND	10	ND	10
Chloroform	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Chloromethane	UG/L	ND	10	ND	10	ND	10	ND	10
Dibromochloromethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1-Dichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1-Dichloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloroethene (Total)	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloropropane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
cis-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
trans-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Ethylbenzene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
2-Hexanone	UG/L	ND	10	ND	10	ND	10	ND	10
Methylene chloride	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
4-Methyl-2-pentanone	UG/L	ND	10	ND	10	ND	10	ND	10
Styrene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Tetrachloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Toluene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1,1-Trichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,1,2-Trichloroethane	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Trichloroethene	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Vinyl acetate	UG/L	ND	10	ND	10	ND	10	ND	10
Vinyl chloride	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Total Xylenes	UG/L	ND	15	ND	15	ND	15	ND	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	93	50-200	77	50-200	92	50-200	91	50-200
1,4-Difluorobenzene	%	94	50-200	77	50-200	93	50-200	94	50-200
1,4-Dichlorobenzene-D4	%	91	50-200	79	50-200	82	50-200	82	50-200
Toluene-D8	%	109	77-115	105	77-115	108	77-115	108	77-115
p-Bromofluorobenzene	%	104	77-112	101	77-112	102	77-112	102	77-112
1,2-Dichloroethane-D4	%	101	84-126	109	84-126	113	84-126	114	84-126

NA = Not Applicable ND = Not Detected

Date: 09/ 01
Time: 15:0

ERM - BROS. SITE
GREI BROS. SITE
METHOD 8260 - TCL VOLATILE ORGANICS

Rept: AN0326

Client ID		GBRI-MW-7 MS		GBRI-MW-7 SD		MSB		MSB	
Job No	Lab ID	A01-8772	A1877207MS	A01-8772	A1877207SD	A01-8772	A1877219	A01-8772	A1877221
Sample Date		09/12/2001		09/12/2001					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	ND	25	240	25	ND	25
Benzene	UG/L	54	5.0	56	5.0	49	5.0	50	5.0
Bromodichloromethane	UG/L	ND	5.0	ND	5.0	48	5.0	ND	5.0
Bromoform	UG/L	ND	5.0	ND	5.0	48	5.0	ND	5.0
Bromomethane	UG/L	ND	10	ND	10	30	10	ND	10
2-Butanone	UG/L	ND	10	ND	10	240	10	ND	10
Carbon Disulfide	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Carbon Tetrachloride	UG/L	ND	5.0	ND	5.0	52	5.0	ND	5.0
Chlorobenzene	UG/L	56	5.0	57	5.0	48	5.0	51	5.0
Chloroethane	UG/L	ND	10	ND	10	44	10	ND	10
Chloroform	UG/L	ND	5.0	ND	5.0	47	5.0	ND	5.0
Chloromethane	UG/L	ND	10	ND	10	37	10	ND	10
Dibromochloromethane	UG/L	ND	5.0	ND	5.0	48	5.0	ND	5.0
1,1-Dichloroethane	UG/L	ND	5.0	ND	5.0	58	5.0	ND	5.0
1,2-Dichloroethane	UG/L	ND	5.0	ND	5.0	47	5.0	ND	5.0
1,1-Dichloroethene	UG/L	56	5.0	56	5.0	46	5.0	52	5.0
1,2-Dichloroethene (Total)	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
1,2-Dichloropropane	UG/L	ND	5.0	ND	5.0	48	5.0	ND	5.0
cis-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	47	5.0	ND	5.0
trans-1,3-Dichloropropene	UG/L	ND	5.0	ND	5.0	48	5.0	ND	5.0
Ethylbenzene	UG/L	ND	5.0	ND	5.0	51	5.0	ND	5.0
2-Hexanone	UG/L	ND	10	ND	10	260	10	ND	10
Methylene chloride	UG/L	ND	5.0	ND	5.0	63	5.0	ND	5.0
4-Methyl-2-pentanone	UG/L	ND	10	ND	10	250	10	ND	10
Styrene	UG/L	ND	5.0	ND	5.0	52	5.0	ND	5.0
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	ND	5.0	49	5.0	ND	5.0
Tetrachloroethene	UG/L	ND	5.0	ND	5.0	49	5.0	ND	5.0
Toluene	UG/L	58	5.0	59	5.0	50	5.0	52	5.0
1,1,1-Trichloroethane	UG/L	ND	5.0	ND	5.0	48	5.0	ND	5.0
1,1,2-Trichloroethane	UG/L	ND	5.0	ND	5.0	46	5.0	ND	5.0
Trichloroethene	UG/L	52	5.0	53	5.0	49	5.0	49	5.0
Vinyl acetate	UG/L	ND	10	ND	10	ND	10	ND	10
Vinyl chloride	UG/L	ND	5.0	ND	5.0	43	5.0	ND	5.0
Total Xylenes	UG/L	ND	15	ND	15	ND	15	ND	15
IS/SURROGATE(S)									
Chlorobenzene-D5	%	90	50-200	90	50-200	98	50-200	82	50-200
1,4-Difluorobenzene	%	94	50-200	94	50-200	98	50-200	83	50-200
1,4-Dichlorobenzene-D4	%	79	50-200	80	50-200	100	50-200	83	50-200
Toluene-D8	%	109	77-115	109	77-115	106	77-115	107	77-115
p-Bromofluorobenzene	%	103	77-112	101	77-112	104	77-112	103	77-112
1,2-Dichloroethane-D4	%	111	84-126	111	84-126	98	84-126	103	84-126

000055

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		MSB		MSB					
Job No	Lab ID	A01-8772	A1877223	A01-8772	A1877225				
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	ND	25	270	25	NA		NA	
Benzene	UG/L	50	5.0	53	5.0	NA		NA	
Bromodichloromethane	UG/L	ND	5.0	52	5.0	NA		NA	
Bromoform	UG/L	ND	5.0	48	5.0	NA		NA	
Bromomethane	UG/L	ND	10	28	10	NA		NA	
2-Butanone	UG/L	ND	10	280	10	NA		NA	
Carbon Disulfide	UG/L	ND	5.0	54	5.0	NA		NA	
Carbon Tetrachloride	UG/L	ND	5.0	56	5.0	NA		NA	
Chlorobenzene	UG/L	52	5.0	48	5.0	NA		NA	
Chloroethane	UG/L	ND	10	58	10	NA		NA	
Chloroform	UG/L	ND	5.0	51	5.0	NA		NA	
Chloromethane	UG/L	ND	10	58	10	NA		NA	
Dibromochloromethane	UG/L	ND	5.0	49	5.0	NA		NA	
1,1-Dichloroethane	UG/L	ND	5.0	61	5.0	NA		NA	
1,2-Dichloroethane	UG/L	ND	5.0	53	5.0	NA		NA	
1,1-Dichloroethene	UG/L	54	5.0	50	5.0	NA		NA	
1,2-Dichloroethene (Total)	UG/L	ND	5.0	ND	5.0	NA		NA	
1,2-Dichloropropane	UG/L	ND	5.0	51	5.0	NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	5.0	52	5.0	NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	5.0	49	5.0	NA		NA	
Ethylbenzene	UG/L	ND	5.0	51	5.0	NA		NA	
2-Hexanone	UG/L	ND	10	270	10	NA		NA	
Methylene chloride	UG/L	ND	5.0	53	5.0	NA		NA	
4-Methyl-2-pentanone	UG/L	ND	10	270	10	NA		NA	
Styrene	UG/L	ND	5.0	52	5.0	NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	5.0	48	5.0	NA		NA	
Tetrachloroethene	UG/L	ND	5.0	50	5.0	NA		NA	
Toluene	UG/L	53	5.0	50	5.0	NA		NA	
1,1,1-Trichloroethane	UG/L	ND	5.0	54	5.0	NA		NA	
1,1,2-Trichloroethane	UG/L	ND	5.0	48	5.0	NA		NA	
Trichloroethene	UG/L	50	5.0	51	5.0	NA		NA	
Vinyl acetate	UG/L	ND	10	330	10	NA		NA	
Vinyl chloride	UG/L	ND	5.0	57	5.0	NA		NA	
Total Xylenes	UG/L	ND	15	ND	15	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	96	50-200	102	50-200	NA		NA	
1,4-Difluorobenzene	%	100	50-200	103	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	85	50-200	99	50-200	NA		NA	
Toluene-D8	%	108	77-115	102	77-115	NA		NA	
p-Bromofluorobenzene	%	103	77-112	101	77-112	NA		NA	
1,2-Dichloroethane-D4	%	107	84-126	104	84-126	NA		NA	

000056

NA = Not Applicable ND = Not Detected

Date: 09/2_ _ 01
Time: 15:01:57

ERM - L BROS. SITE
GREIF BROS. SITE
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Rept: AN0326

Client ID	S BLANK							
Job No Lab ID	A01-8772	A1B0819902						
Sample Date								
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/L	ND	10	NA		NA		NA	
Acenaphthylene	UG/L	ND	10	NA		NA		NA	
Anthracene	UG/L	ND	10	NA		NA		NA	
Benzo(a)anthracene	UG/L	ND	10	NA		NA		NA	
Benzo(b)fluoranthene	UG/L	ND	10	NA		NA		NA	
Benzo(k)fluoranthene	UG/L	ND	10	NA		NA		NA	
Benzo(ghi)perylene	UG/L	ND	10	NA		NA		NA	
Benzo(a)pyrene	UG/L	ND	10	NA		NA		NA	
Benzoic acid	UG/L	ND	50	NA		NA		NA	
Benzyl alcohol	UG/L	ND	20	NA		NA		NA	
Bis(2-chloroethoxy) methane	UG/L	ND	10	NA		NA		NA	
Bis(2-chloroethyl) ether	UG/L	ND	10	NA		NA		NA	
2,2'-Oxybis(1-Chloropropane)	UG/L	ND	10	NA		NA		NA	
Bis(2-ethylhexyl) phthalate	UG/L	ND	10	NA		NA		NA	
4-Bromophenyl phenyl ether	UG/L	ND	10	NA		NA		NA	
Butyl benzyl phthalate	UG/L	ND	10	NA		NA		NA	
4-Chloroaniline	UG/L	ND	10	NA		NA		NA	
4-Chloro-3-methylphenol	UG/L	ND	10	NA		NA		NA	
2-Chloronaphthalene	UG/L	ND	10	NA		NA		NA	
2-Chlorophenol	UG/L	ND	10	NA		NA		NA	
4-Chlorophenyl phenyl ether	UG/L	ND	10	NA		NA		NA	
Chrysene	UG/L	ND	10	NA		NA		NA	
Dibenzo(a,h)anthracene	UG/L	ND	10	NA		NA		NA	
Dibenzofuran	UG/L	ND	10	NA		NA		NA	
Di-n-butyl phthalate	UG/L	ND	10	NA		NA		NA	
1,2-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
1,3-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
1,4-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
3,3'-Dichlorobenzidine	UG/L	ND	20	NA		NA		NA	
2,4-Dichlorophenol	UG/L	ND	10	NA		NA		NA	
Diethyl phthalate	UG/L	ND	10	NA		NA		NA	
2,4-Dimethylphenol	UG/L	ND	10	NA		NA		NA	
Dimethyl phthalate	UG/L	ND	10	NA		NA		NA	
4,6-Dinitro-2-methylphenol	UG/L	ND	50	NA		NA		NA	
2,4-Dinitrophenol	UG/L	ND	50	NA		NA		NA	
2,4-Dinitrotoluene	UG/L	ND	10	NA		NA		NA	
2,6-Dinitrotoluene	UG/L	ND	10	NA		NA		NA	
Di-n-octyl phthalate	UG/L	ND	10	NA		NA		NA	
Fluoranthene	UG/L	ND	10	NA		NA		NA	
Fluorene	UG/L	ND	10	NA		NA		NA	
Hexachlorobenzene	UG/L	ND	10	NA		NA		NA	
Hexachlorobutadiene	UG/L	ND	10	NA		NA		NA	
Hexachlorocyclopentadiene	UG/L	ND	10	NA		NA		NA	

000057

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		S BLANK							
Job No	Lab ID	A01-8772	A1B0819902						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/L	ND	10	NA		NA		NA	
Indeno(1,2,3-cd)pyrene	UG/L	ND	10	NA		NA		NA	
Isophorone	UG/L	ND	10	NA		NA		NA	
2-Methylnaphthalene	UG/L	ND	10	NA		NA		NA	
2-Methylphenol	UG/L	ND	10	NA		NA		NA	
4-Methylphenol	UG/L	ND	10	NA		NA		NA	
Naphthalene	UG/L	ND	10	NA		NA		NA	
2-Nitroaniline	UG/L	ND	50	NA		NA		NA	
3-Nitroaniline	UG/L	ND	50	NA		NA		NA	
4-Nitroaniline	UG/L	ND	50	NA		NA		NA	
Nitrobenzene	UG/L	ND	10	NA		NA		NA	
2-Nitrophenol	UG/L	ND	10	NA		NA		NA	
4-Nitrophenol	UG/L	ND	50	NA		NA		NA	
N-nitrosodiphenylamine	UG/L	ND	10	NA		NA		NA	
N-Nitroso-Di-n-propylamine	UG/L	ND	10	NA		NA		NA	
Pentachlorophenol	UG/L	ND	50	NA		NA		NA	
Phenanthrene	UG/L	ND	10	NA		NA		NA	
Phenol	UG/L	ND	10	NA		NA		NA	
Pyrene	UG/L	ND	10	NA		NA		NA	
1,2,4-Trichlorobenzene	UG/L	ND	10	NA		NA		NA	
2,4,5-Trichlorophenol	UG/L	ND	10	NA		NA		NA	
2,4,6-Trichlorophenol	UG/L	ND	10	NA		NA		NA	
==========IS/SURROGATE(S)==========									
1,4-Dichlorobenzene-D4	%	94	50-200	NA		NA		NA	
Naphthalene-D8	%	92	50-200	NA		NA		NA	
Acenaphthene-D10	%	90	50-200	NA		NA		NA	
Phenanthrene-D10	%	90	50-200	NA		NA		NA	
Chrysene-D12	%	97	50-200	NA		NA		NA	
Perylene-D12	%	93	50-200	NA		NA		NA	
Nitrobenzene-D5	%	98	24-120	NA		NA		NA	
2-Fluorobiphenyl	%	84	33-120	NA		NA		NA	
p-Terphenyl-d14	%	81	24-130	NA		NA		NA	
Phenol-D5	%	38	10-120	NA		NA		NA	
2-Fluorophenol	%	53	10-120	NA		NA		NA	
2,4,6-Tribromophenol	%	70	24-143	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Client ID		GBRI-MW-7 MS		GBRI-MW-7 SD		Matrix Spike Blank			
Job No / Lab ID		A01-8772 / A1877207MS		A01-8772 / A1877207SD		A01-8772 / A1B0819901			
Sample Date		09/12/2001		09/12/2001					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/L	74	9	80	9	85	10	NA	
Acenaphthylene	UG/L	ND	9	ND	9	ND	10	NA	
Anthracene	UG/L	ND	9	ND	9	ND	10	NA	
Benzo(a)anthracene	UG/L	ND	9	ND	9	ND	10	NA	
Benzo(b)fluoranthene	UG/L	ND	9	ND	9	ND	10	NA	
Benzo(k)fluoranthene	UG/L	ND	9	ND	9	ND	10	NA	
Benzo(ghi)perylene	UG/L	ND	9	ND	9	ND	10	NA	
Benzo(a)pyrene	UG/L	ND	9	ND	9	ND	10	NA	
Benzoic acid	UG/L	ND	47	ND	47	ND	50	NA	
Benzyl alcohol	UG/L	ND	19	ND	19	ND	20	NA	
Bis(2-chloroethoxy) methane	UG/L	ND	9	ND	9	ND	10	NA	
Bis(2-chloroethyl) ether	UG/L	ND	9	ND	9	ND	10	NA	
2,2'-Oxybis(1-Chloropropane)	UG/L	ND	9	ND	9	ND	10	NA	
Bis(2-ethylhexyl) phthalate	UG/L	ND	9	ND	9	ND	10	NA	
4-Bromophenyl phenyl ether	UG/L	ND	9	ND	9	ND	10	NA	
Butyl benzyl phthalate	UG/L	ND	9	ND	9	ND	10	NA	
4-Chloroaniline	UG/L	ND	9	ND	9	ND	10	NA	
4-Chloro-3-methylphenol	UG/L	100	9	100	9	110	10	NA	
2-Chloronaphthalene	UG/L	ND	9	ND	9	ND	10	NA	
2-Chlorophenol	UG/L	69	9	73	9	79	10	NA	
4-Chlorophenyl phenyl ether	UG/L	ND	9	ND	9	ND	10	NA	
Chrysene	UG/L	ND	9	ND	9	ND	10	NA	
Dibenzo(a,h)anthracene	UG/L	ND	9	ND	9	ND	10	NA	
Dibenzofuran	UG/L	ND	9	ND	9	ND	10	NA	
Di-n-butyl phthalate	UG/L	ND	9	ND	9	ND	10	NA	
1,2-Dichlorobenzene	UG/L	ND	9	ND	9	ND	10	NA	
1,3-Dichlorobenzene	UG/L	ND	9	ND	9	ND	10	NA	
1,4-Dichlorobenzene	UG/L	56	9	62	9	64	10	NA	
3,3'-Dichlorobenzidine	UG/L	ND	19	ND	19	ND	20	NA	
2,4-Dichlorophenol	UG/L	ND	9	ND	9	ND	10	NA	
Diethyl phthalate	UG/L	ND	9	ND	9	ND	10	NA	
2,4-Dimethylphenol	UG/L	ND	9	ND	9	ND	10	NA	
Dimethyl phthalate	UG/L	ND	9	ND	9	ND	10	NA	
4,6-Dinitro-2-methylphenol	UG/L	ND	47	ND	47	ND	50	NA	
2,4-Dinitrophenol	UG/L	ND	47	ND	47	ND	50	NA	
2,4-Dinitrotoluene	UG/L	94	9	96	9	100	10	NA	
2,6-Dinitrotoluene	UG/L	ND	9	ND	9	ND	10	NA	
Di-n-octyl phthalate	UG/L	ND	9	ND	9	ND	10	NA	
Fluoranthene	UG/L	ND	9	ND	9	ND	10	NA	
Fluorene	UG/L	ND	9	ND	9	ND	10	NA	
Hexachlorobenzene	UG/L	ND	9	ND	9	ND	10	NA	
Hexachlorobutadiene	UG/L	ND	9	ND	9	ND	10	NA	
Hexachlorocyclopentadiene	UG/L	ND	9	ND	9	ND	10	NA	

000059

NA = Not Applicable ND = Not Detected

Client ID Job No Lab ID Sample Date		GBRI-MW-7 MS A01-8772 A1877207MS 09/12/2001		GBRI-MW-7 SD A01-8772 A1877207SD 09/12/2001		Matrix Spike Blank A01-8772 A1B0819901			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Hexachloroethane	UG/L	ND	9	ND	9	ND	10	NA	
Indeno(1,2,3-cd)pyrene	UG/L	ND	9	ND	9	ND	10	NA	
Isophorone	UG/L	ND	9	ND	9	ND	10	NA	
2-Methylnaphthalene	UG/L	ND	9	ND	9	ND	10	NA	
2-Methylphenol	UG/L	ND	9	ND	9	ND	10	NA	
4-Methylphenol	UG/L	ND	9	ND	9	ND	10	NA	
Naphthalene	UG/L	ND	9	ND	9	ND	10	NA	
2-Nitroaniline	UG/L	ND	47	ND	47	ND	50	NA	
3-Nitroaniline	UG/L	ND	47	ND	47	ND	50	NA	
4-Nitroaniline	UG/L	ND	47	ND	47	ND	50	NA	
Nitrobenzene	UG/L	ND	9	ND	9	ND	10	NA	
2-Nitrophenol	UG/L	ND	9	ND	9	ND	10	NA	
4-Nitrophenol	UG/L	32 J	47	36 J	47	39 J	50	NA	
N-nitrosodiphenylamine	UG/L	ND	9	ND	9	ND	10	NA	
N-Nitroso-Di-n-propylamine	UG/L	88	9	94	9	100	10	NA	
Pentachlorophenol	UG/L	77	47	74	47	70	50	NA	
Phenanthrene	UG/L	ND	9	ND	9	ND	10	NA	
Phenol	UG/L	30	9	35	9	39	10	NA	
Pyrene	UG/L	86	9	89	9	93	10	NA	
1,2,4-Trichlorobenzene	UG/L	56	9	63	9	67	10	NA	
2,4,5-Trichlorophenol	UG/L	ND	9	ND	9	ND	10	NA	
2,4,6-Trichlorophenol	UG/L	ND	9	ND	9	ND	10	NA	
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	101	50-200	95	50-200	98	50-200	NA	
Naphthalene-D8	%	99	50-200	94	50-200	96	50-200	NA	
Acenaphthene-D10	%	103	50-200	96	50-200	98	50-200	NA	
Phenanthrene-D10	%	98	50-200	95	50-200	96	50-200	NA	
Chrysene-D12	%	106	50-200	100	50-200	103	50-200	NA	
Perylene-D12	%	101	50-200	94	50-200	99	50-200	NA	
Nitrobenzene-D5	%	99	24-120	103	24-120	107	24-120	NA	
2-Fluorobiphenyl	%	75	33-120	81	33-120	82	33-120	NA	
p-Terphenyl-d14	%	74	24-130	73	24-130	80	24-130	NA	
Phenol-D5	%	31	10-120	37	10-120	38	10-120	NA	
2-Fluorophenol	%	45	10-120	54	10-120	52	10-120	NA	
2,4,6-Tribromophenol	%	70	24-143	72	24-143	71	24-143	NA	

000060

NA = Not Applicable ND = Not Detected

Date: 09/2 11
Time: 15:0[illegible]

ERM - BROS. SITE
GRE[illegible]KOS. SITE
TOTAL TAL METALS

Rept: AN0326

Client ID Job No Lab ID Sample Date		Method Blank A01-8772 A1B0822502		Method Blank A01-8772 A1B0824402					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Sodium - Total	MG/L	NA		ND	1.0	NA		NA	
Potassium - Total	MG/L	NA		ND	0.50	NA		NA	
Nickel - Total	MG/L	NA		ND	0.010	NA		NA	
Copper - Total	MG/L	NA		ND	0.010	NA		NA	
Cobalt - Total	MG/L	NA		ND	0.0050	NA		NA	
Cadmium - Total	MG/L	NA		ND	0.0010	NA		NA	
Beryllium - Total	MG/L	NA		ND	0.0050	NA		NA	
Thallium - Total	MG/L	NA		ND	0.020	NA		NA	
Selenium - Total	MG/L	NA		ND	0.010	NA		NA	
Aluminum - Total	MG/L	NA		ND	0.20	NA		NA	
Antimony - Total	MG/L	NA		ND	0.020	NA		NA	
Arsenic - Total	MG/L	NA		ND	0.0070	NA		NA	
Barium - Total	MG/L	NA		ND	0.0010	NA		NA	
Calcium - Total	MG/L	NA		ND	0.50	NA		NA	
Chromium - Total	MG/L	NA		ND	0.0020	NA		NA	
Iron - Total	MG/L	NA		ND	0.050	NA		NA	
Lead - Total	MG/L	NA		ND	0.010	NA		NA	
Magnesium - Total	MG/L	NA		ND	0.20	NA		NA	
Manganese - Total	MG/L	NA		ND	0.0030	NA		NA	
Mercury - Total	MG/L	ND	0.00020	NA		NA		NA	
Silver - Total	MG/L	NA		ND	0.0030	NA		NA	
Vanadium - Total	MG/L	NA		ND	0.0050	NA		NA	
Zinc - Total	MG/L	NA		ND	0.020	NA		NA	

000061

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		GBRI-MW-7 MS		GBRI-MW-7 SD		LCS		LFB	
Job No	Lab ID	A01-8772	A1877207MS	A01-8772	A1877207SD	A01-8772	A1B0822501	A01-8772	A1B0822503
Sample Date		09/12/2001		09/12/2001					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Aluminum - Total	MG/L	10.8	0.20	10.3	0.20	NA		NA	
Antimony - Total	MG/L	0.20	0.020	0.19	0.020	NA		NA	
Arsenic - Total	MG/L	0.21	0.0070	0.20	0.0070	NA		NA	
Barium - Total	MG/L	0.23	0.0010	0.22	0.0010	NA		NA	
Beryllium - Total	MG/L	0.20	0.0050	0.18	0.0050	NA		NA	
Cadmium - Total	MG/L	0.20	0.0010	0.19	0.0010	NA		NA	
Calcium - Total	MG/L	89.6	0.50	86.1	0.50	NA		NA	
Chromium - Total	MG/L	0.19	0.0020	0.18	0.0020	NA		NA	
Cobalt - Total	MG/L	0.20	0.0050	0.19	0.0050	NA		NA	
Copper - Total	MG/L	0.20	0.010	0.19	0.010	NA		NA	
Iron - Total	MG/L	2.0	0.050	2.2	0.050	NA		NA	
Lead - Total	MG/L	0.20	0.010	0.19	0.010	NA		NA	
Magnesium - Total	MG/L	104	0.20	98.6	0.20	NA		NA	
Manganese - Total	MG/L	0.26	0.0030	0.25	0.0030	NA		NA	
Mercury - Total	MG/L	0.0065	0.00020	0.0066	0.00020	0.0068	0.00020	0.0068	0.00020
Nickel - Total	MG/L	0.20	0.010	0.18	0.010	NA		NA	
Potassium - Total	MG/L	15.0	0.50	14.2	0.50	NA		NA	
Selenium - Total	MG/L	0.20	0.010	0.18	0.010	NA		NA	
Silver - Total	MG/L	0.052	0.0030	0.049	0.0030	NA		NA	
Sodium - Total	MG/L	155	1.0	146	1.0	NA		NA	
Thallium - Total	MG/L	0.19	0.020	0.19	0.020	NA		NA	
Vanadium - Total	MG/L	0.20	0.0050	0.18	0.0050	NA		NA	
Zinc - Total	MG/L	0.21	0.020	0.21	0.020	NA		NA	

290062

NA = Not Applicable ND = Not Detected

ERM - BROS. SITE
GREI BROS. SITE
TOTAL TAL METALS

Client ID Job No Lab ID Sample Date		LFB A01-8772 A1B0824401							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Lead - Total	MG/L	0.19	0.010	NA		NA		NA	
Sodium - Total	MG/L	9.1	1.0	NA		NA		NA	
Silver - Total	MG/L	0.050	0.0030	NA		NA		NA	
Potassium - Total	MG/L	9.8	0.50	NA		NA		NA	
Manganese - Total	MG/L	0.19	0.0030	NA		NA		NA	
Magnesium - Total	MG/L	9.3	0.20	NA		NA		NA	
Copper - Total	MG/L	0.19	0.010	NA		NA		NA	
Cobalt - Total	MG/L	0.20	0.0050	NA		NA		NA	
Calcium - Total	MG/L	9.6	0.50	NA		NA		NA	
Cadmium - Total	MG/L	0.20	0.0010	NA		NA		NA	
Antimony - Total	MG/L	0.18	0.020	NA		NA		NA	
Selenium - Total	MG/L	0.18	0.010	NA		NA		NA	
Aluminum - Total	MG/L	9.1	0.20	NA		NA		NA	
Arsenic - Total	MG/L	0.18	0.0070	NA		NA		NA	
Barium - Total	MG/L	0.20	0.0010	NA		NA		NA	
Beryllium - Total	MG/L	0.19	0.0050	NA		NA		NA	
Chromium - Total	MG/L	0.19	0.0020	NA		NA		NA	
Iron - Total	MG/L	0.37	0.050	NA		NA		NA	
Nickel - Total	MG/L	0.19	0.010	NA		NA		NA	
Thallium - Total	MG/L	0.20	0.020	NA		NA		NA	
Vanadium - Total	MG/L	0.19	0.0050	NA		NA		NA	
Zinc - Total	MG/L	0.20	0.020	NA		NA		NA	

000063

NA = Not Applicable ND = Not Detected

Client Sample ID: GBRI-MW-7 GBRI-MW-7 MS GBRI-MW-7 SD
Lab Sample ID: A1877207 A1877207MS A1877207SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			%	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg	RPD	RPD	REC.
METHOD 8260 - TCL VOLATILE ORGANICS												
1,1-Dichloroethene	UG/L	0	55.5	55.9	50.0	50.0	111	112	112	0.	16.0	65-14
Trichloroethene	UG/L	0	52.5	53.3	50.0	50.0	105	107	106	2	16.0	72-12
Benzene	UG/L	0	54.3	55.5	50.0	50.0	109	111	110	2	13.0	71-12
Toluene	UG/L	0	57.7	58.7	50.0	50.0	115	118	117	2	18.0	69-12
Chlorobenzene	UG/L	0	56.4	57.1	50.0	50.0	113	114	114	0.	19.0	73-12

000064

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: VBLK69 MSB
Lab Sample ID: A1877218 A1877219

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/L	46.2	50.0	92	65-143
Trichloroethene	UG/L	49.0	50.0	98	72-120
Benzene	UG/L	49.3	50.0	99	71-120
Toluene	UG/L	50.0	50.0	100	69-120
Chlorobenzene	UG/L	48.1	50.0	96	73-120

000065

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: VBLK70 MSB
Lab Sample ID: A1877220 A1877221

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/L	51.7	50.0	103	65-143
Trichloroethene	UG/L	48.7	50.0	98	72-120
Benzene	UG/L	49.7	50.0	100	71-120
Toluene	UG/L	51.6	50.0	103	69-120
Chlorobenzene	UG/L	50.6	50.0	101	73-120

990006

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: VBLK71 MSB
Lab Sample ID: A1877222 A1877223

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/L	54.4	50.0	109	65-143
Trichloroethene	UG/L	49.9	50.0	100	72-120
Benzene	UG/L	50.3	50.0	101	71-120
Toluene	UG/L	53.2	50.0	106	69-120
Chlorobenzene	UG/L	52.1	50.0	104	73-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: VBLK72 MSB
Lab Sample ID: A1877224 A1877225

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL VOLATILE ORGANICS					
1,1-Dichloroethene	UG/L	50.3	50.0	101	65-143
Trichloroethene	UG/L	51.2	50.0	102	72-120
Benzene	UG/L	52.9	50.0	106	71-120
Toluene	UG/L	49.7	50.0	100	69-120
Chlorobenzene	UG/L	47.6	50.0	95	73-120

000089

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: GBRI-MW-7 GBRI-MW-7 MS GBRI-MW-7 SD
Lab Sample ID: A1877207 A1877207MS A1877207SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			% RPD	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg		RPD	REC.
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS												
Phenol	UG/L	0	29.9	35.3	93.4	93.4	32	38	35	17	35.0	5-12
2-Chlorophenol	UG/L	0	69.1	73.2	93.4	93.4	74	78	76	5	35.0	27-12
1,4-Dichlorobenzene	UG/L	0	56.4	62.4	93.4	93.4	60	67	64	11	35.0	19-12
N-Nitroso-Di-n-propylamine	UG/L	0	88.0	94.5	93.4	93.4	94	101	98	7	35.0	33-12
1,2,4-Trichlorobenzene	UG/L	0	56.3	62.7	93.4	93.4	60	67	64	11	35.0	23-12
4-Chloro-3-methylphenol	UG/L	0	100	103	93.4	93.4	107	110	109	3	35.0	43-12
Acenaphthene	UG/L	0	73.6	79.8	93.4	93.4	79	85	82	7	35.0	36-12
4-Nitrophenol	UG/L	0	31.7	35.8	93.4	93.4	34	38	36	11	35.0	1-12
2,4-Dinitrotoluene	UG/L	0	93.7	96.3	93.4	93.4	100	103	102	3	35.0	49-12
Pentachlorophenol	UG/L	0	76.7	74.3	93.4	93.4	82	80	81	2	35.0	18-14
Pyrene	UG/L	0	85.7	89.4	93.4	93.4	92	96	94	4	35.0	47-12

000069

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: S BLANK
Lab Sample ID: A1B0819902

Matrix Spike Blank
A1B0819901

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS					
Phenol	UG/L	38.6	100	39	5-120
2-Chlorophenol	UG/L	78.9	100	79	27-120
1,4-Dichlorobenzene	UG/L	64.5	100	64	19-120
N-Nitroso-Di-n-propylamine	UG/L	104	100	104	33-120
1,2,4-Trichlorobenzene	UG/L	66.7	100	67	23-120
4-Chloro-3-methylphenol	UG/L	114	100	114	43-120
Acenaphthene	UG/L	85.3	100	85	36-120
4-Nitrophenol	UG/L	38.7	100	39	1-120
2,4-Dinitrotoluene	UG/L	103	100	103	49-120
Pentachlorophenol	UG/L	70.0	100	70	18-141
Pyrene	UG/L	92.6	100	93	47-126

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: GBRI-MW-7 GBRI-MW-7 MS GBRI-MW-7 SD
Lab Sample ID: A1877207 A1877207MS A1877207SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			%	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg	RPD	RPD	REC.
TOTAL TAL METALS												
TOTAL ALUMINUM	MG/L	1.25	10.77	10.27	10	10	95	90	93	5	20.0	80-12
TOTAL ANTIMONY	MG/L	0	0.200	0.193	0.20	0.20	100	96	98	3	20.0	80-12
TOTAL ARSENIC	MG/L	0.0144	0.209	0.199	0.20	0.20	97	92	95	5	20.0	80-12
TOTAL BARIUM	MG/L	0.0269	0.227	0.216	0.20	0.20	100	94	97	6	20.0	80-12
TOTAL BERYLLIUM	MG/L	0	0.195	0.183	0.20	0.20	97	91	94	6	20.0	80-12
TOTAL CADMIUM	MG/L	0	0.199	0.188	0.20	0.20	99	94	97	6	20.0	80-12
TOTAL CALCIUM	MG/L	78.07	89.57	86.11	10	10	115	80	98	35 *	20.0	80-12
TOTAL CHROMIUM	MG/L	0	0.194	0.184	0.20	0.20	97	92	95	5	20.0	80-12
TOTAL COBALT	MG/L	0	0.200	0.188	0.20	0.20	100	94	97	6	20.0	80-12
TOTAL COPPER	MG/L	0	0.202	0.190	0.20	0.20	101	95	98	6	20.0	80-12
TOTAL IRON	MG/L	1.46	1.98	2.19	0.40	0.40	129 *	182 *	156	34 *	20.0	80-12
TOTAL LEAD	MG/L	0	0.199	0.189	0.20	0.20	99	94	97	5	20.0	80-12
TOTAL MAGNESIUM	MG/L	91.87	104.0	98.57	10	10	121 *	67 *	94	58 *	20.0	80-12
TOTAL MANGANESE	MG/L	0.0531	0.255	0.251	0.20	0.20	101	99	100	2	20.0	80-12
TOTAL MERCURY	MG/L	0	0.00650	0.00663	0.0066	0.0066	97	99	98	2	20.0	80-12
TOTAL NICKEL	MG/L	0	0.195	0.184	0.20	0.20	97	92	95	6	20.0	80-12
TOTAL POTASSIUM	MG/L	3.72	14.95	14.16	10	10	112	104	108	7	20.0	80-12
TOTAL SELENIUM	MG/L	0	0.195	0.185	0.20	0.20	97	92	95	5	20.0	80-12
TOTAL SILVER	MG/L	0	0.0519	0.0492	0.050	0.050	103	98	101	5	20.0	80-12
TOTAL SODIUM	MG/L	140.3	154.8	146.1	10	10	145 *	58 *	102	85 *	20.0	80-12
TOTAL THALLIUM	MG/L	0	0.194	0.189	0.20	0.20	97	94	96	3	20.0	80-12
TOTAL VANADIUM	MG/L	0	0.196	0.184	0.20	0.20	98	92	95	6	20.0	80-12
TOTAL ZINC	MG/L	0	0.208	0.210	0.20	0.20	104	105	105	0.	20.0	80-12

000071

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: Method Blank LFB
Lab Sample ID: A1B0822502 A1B0822503

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
TOTAL TAL METALS TOTAL MERCURY	MG/L	0.00683	0.0066	102	80-120

240000

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: Method Blank LFB
Lab Sample ID: A1B0824402 A1B0824401

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
TOTAL TAL METALS					
TOTAL ALUMINUM	MG/L	9.09	10	90	80-120
TOTAL ANTIMONY	MG/L	0.184	0.20	92	80-120
TOTAL ARSENIC	MG/L	0.183	0.20	91	80-120
TOTAL BARIUM	MG/L	0.196	0.20	98	80-120
TOTAL BERYLLIUM	MG/L	0.193	0.20	96	80-120
TOTAL CADMIUM	MG/L	0.197	0.20	98	80-120
TOTAL CALCIUM	MG/L	9.60	10	96	80-120
TOTAL CHROMIUM	MG/L	0.193	0.20	96	80-120
TOTAL COBALT	MG/L	0.196	0.20	98	80-120
TOTAL COPPER	MG/L	0.194	0.20	97	80-120
TOTAL IRON	MG/L	0.370	0.40	92	80-120
TOTAL LEAD	MG/L	0.191	0.20	95	80-120
TOTAL MAGNESIUM	MG/L	9.29	10	92	80-120
TOTAL MANGANESE	MG/L	0.193	0.20	96	80-120
TOTAL NICKEL	MG/L	0.193	0.20	96	80-120
TOTAL POTASSIUM	MG/L	9.84	10	98	80-120
TOTAL SELENIUM	MG/L	0.183	0.20	91	80-120
TOTAL SILVER	MG/L	0.0496	0.050	99	80-120
TOTAL SODIUM	MG/L	9.14	10	91	80-120
TOTAL THALLIUM	MG/L	0.197	0.20	98	80-120
TOTAL VANADIUM	MG/L	0.191	0.20	95	80-120
TOTAL ZINC	MG/L	0.195	0.20	97	80-120

000073

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-CV-1 A01-8772 A1877212	GBRI-CV-1 DL A01-8772 A1877212DL	GBRI-DUPE1 A01-8772 A1877216	GBRI-DUPE1 DL A01-8772 A1877216DL	GBRI-MW-1 A01-8772 A1877203
Sample Date	09/12/2001 19:15	09/12/2001 19:15	09/12/2001	09/12/2001	09/12/2001 17:30
Received Date	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52
Extraction Date					
Analysis Date	09/17/2001 23:36	09/18/2001 13:47	09/18/2001 01:42	09/18/2001 15:53	09/15/2001 06:39
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	WATER	WATER	WATER	WATER	WATER
Dilution Factor	1.0	25.0	1.0	100.0	1.0
Sample wt/vol	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS
% Dry					

000074

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-MW-10 A01-8772 A1877208	GBRI-MW-11 A01-8772 A1877204	GBRI-MW-12 A01-8772 A1877214	GBRI-MW-12 DL A01-8772 A1877214DL	GBRI-MW-13 A01-8772 A1877215
Sample Date	09/12/2001 18:15	09/12/2001 18:00	09/12/2001 19:15	09/12/2001 19:15	09/12/2001 19:30
Received Date	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52
Extraction Date					
Analysis Date	09/17/2001 21:30	09/15/2001 07:11	09/18/2001 00:39	09/18/2001 14:50	09/18/2001 01:10
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	WATER	WATER	WATER	WATER	WATER
Dilution Factor	1.0	1.0	1.0	5.0	1.0
Sample wt/vol	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS
% Dry					

000075

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-MW-13 DL A01-8772 A1877215DL	GBRI-MW-14 A01-8772 A1877213	GBRI-MW-14 DL A01-8772 A1877213DL	GBRI-MW-2 A01-8772 A1877205	GBRI-MW-3 A01-8772 A1877210
Sample Date	09/12/2001 19:30	09/12/2001 19:00	09/12/2001 19:00	09/12/2001 17:40	09/12/2001 18:45
Received Date	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52
Extraction Date					
Analysis Date	09/19/2001 06:07	09/18/2001 00:07	09/19/2001 05:35	09/15/2001 07:43	09/17/2001 22:33
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	WATER	WATER	WATER	WATER	WATER
Dilution Factor	200.0	1.0	100.0	1.0	1.0
Sample wt/vol	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS
% Dry					

970000

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-MW-4 A01-8772 A1877211	GBRI-MW-5 A01-8772 A1877202	GBRI-MW-6 A01-8772 A1877206	GBRI-MW-7 A01-8772 A1877207	GBRI-MW-8 A01-8772 A1877201
Sample Date	09/12/2001 18:50	09/12/2001 17:15	09/12/2001 18:00	09/12/2001 18:10	09/12/2001 17:10
Received Date	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52
Extraction Date					
Analysis Date	09/17/2001 23:05	09/15/2001 06:08	09/17/2001 20:28	09/17/2001 20:59	09/15/2001 05:36
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	WATER	WATER	WATER	WATER	WATER
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS
% Dry					

240000

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-MW-9 A01-8772 A1877209				
Sample Date	09/12/2001 18:30				
Received Date	09/12/2001 20:52				
Extraction Date					
Analysis Date	09/17/2001 22:02				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.005 LITERS				
% Dry					

000078

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-TB1 A01-8772 A1877217				
Sample Date	09/12/2001				
Received Date	09/12/2001 20:52				
Extraction Date					
Analysis Date	09/14/2001 23:20				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.005 LITERS				
% Dry					

000079

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK69 A01-8772 A1877218	VBLK70 A01-8772 A1877220	VBLK71 A01-8772 A1877222	VBLK72 A01-8772 A1877224	
Sample Date					
Received Date					
Extraction Date					
Analysis Date	09/14/2001 22:48	09/17/2001 18:54	09/18/2001 11:22	09/19/2001 03:30	
Extraction HT Met?	-	-	-	-	
Analytical HT Met?	-	-	-	-	
Sample Matrix	WATER	WATER	WATER	WATER	
Dilution Factor	1.0	1.0	1.0	1.0	
Sample wt/vol	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS	
% Dry					

080000

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-MW-7 MS A01-8772 A1877207MS	GBRI-MW-7 SD A01-8772 A1877207SD	MSB A01-8772 A1877219	MSB A01-8772 A1877221	MSB A01-8772 A1877223
Sample Date	09/12/2001 18:10	09/12/2001 18:10			
Received Date	09/12/2001 20:52	09/12/2001 20:52			
Extraction Date					
Analysis Date	09/19/2001 06:38	09/19/2001 07:09	09/14/2001 22:17	09/17/2001 18:22	09/18/2001 10:51
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	-	-	-
Sample Matrix	WATER	WATER	WATER	WATER	WATER
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS
% Dry					

000081

NA = Not Applicable

METHOD 8260 - TCL VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	MSB A01-8772 A1877225				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	09/19/2001 02:28				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.005 LITERS				
% Dry					

280082

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-CV-1 A01-8772 A1877212	GBRI-DUPE1 A01-8772 A1877216	GBRI-MW-10 A01-8772 A1877208	GBRI-MW-11 A01-8772 A1877204	GBRI-MW-12 A01-8772 A1877214
Sample Date	09/12/2001 19:15	09/12/2001	09/12/2001 18:15	09/12/2001 18:00	09/12/2001 19:15
Received Date	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52
Extraction Date	09/14/2001 07:00	09/14/2001 07:00	09/14/2001 07:00	09/14/2001 07:00	09/14/2001 07:00
Analysis Date	09/18/2001 08:50	09/18/2001 11:44	09/17/2001 18:28	09/17/2001 14:46	09/18/2001 10:14
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	WATER	WATER	WATER	WATER	WATER
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.04 LITERS	1.07 LITERS	1.06 LITERS	1.07 LITERS	1.07 LITERS
% Dry					

000083

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-MW-13 A01-8772 A1877215	GBRI-MW-14 A01-8772 A1877213	GBRI-MW-6 A01-8772 A1877206	GBRI-MW-7 A01-8772 A1877207	GBRI-MW-8 A01-8772 A1877201
Sample Date	09/12/2001 19:30	09/12/2001 19:00	09/12/2001 18:00	09/12/2001 18:10	09/12/2001 17:10
Received Date	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52	09/12/2001 20:52
Extraction Date	09/14/2001 07:00	09/14/2001 07:00	09/14/2001 07:00	09/14/2001 07:00	09/14/2001 07:00
Analysis Date	09/18/2001 10:59	09/18/2001 09:30	09/17/2001 15:30	09/17/2001 16:15	09/17/2001 14:01
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	WATER	WATER	WATER	WATER	WATER
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.06 LITERS	1.05 LITERS	1.07 LITERS	1.0 LITERS	1.06 LITERS
% Dry					

000084

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-MW-9 A01-8772 A1877209				
Sample Date	09/12/2001 18:30				
Received Date	09/12/2001 20:52				
Extraction Date	09/14/2001 07:00				
Analysis Date	09/17/2001 19:13				
Extraction HT Met?	YES				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.06 LITERS				
% Dry					

000085

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	S BLANK A01-8772 A1B0819902				
Sample Date					
Received Date					
Extraction Date	09/14/2001 07:00				
Analysis Date	09/17/2001 13:17				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

000086

NA = Not Applicable

METHOD 8270 - TCL SEMI-VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	GBRI-MW-7 MS A01-8772 A1877207MS	GBRI-MW-7 SD A01-8772 A1877207SD	Matrix Spike Blank A01-8772 A1B0819901		
Sample Date	09/12/2001 18:10	09/12/2001 18:10			
Received Date	09/12/2001 20:52	09/12/2001 20:52			
Extraction Date	09/14/2001 07:00	09/14/2001 07:00	09/14/2001 07:00		
Analysis Date	09/17/2001 17:00	09/17/2001 17:44	09/17/2001 12:32		
Extraction HT Met?	YES	YES	-		
Analytical HT Met?	YES	YES	-		
Sample Matrix	WATER	WATER	WATER		
Dilution Factor	1.0	1.0	1.0		
Sample wt/vol	1.07 LITERS	1.07 LITERS	1.0 LITERS		
% Dry					

0000087

NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matri
A1877212	GBRI-CV-1	MG/L	Aluminum - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Barium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Copper - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Iron - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Lead - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/14	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Silver - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	09/12/2001 19:15	09/12 20:52	NA	NA	09/17 14:12	Yes	WATER
A1877216	GBRI-DUPE1	MG/L	Aluminum - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Barium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Copper - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Iron - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Lead - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	09/12/2001	09/12 20:52	NA	NA	09/14	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Silver - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	09/12/2001	09/12 20:52	NA	NA	09/17 14:21	Yes	WATER
A1877215	GBRI-MW-13	MG/L	Aluminum - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matri
A1877215	GBRI-MW-13	MG/L	Arsenic - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Barium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Copper - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Iron - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Lead - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/14	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Silver - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	09/12/2001 19:30	09/12 20:52	NA	NA	09/17 14:17	Yes	WATER
A1877210	GBRI-MW-3	MG/L	Aluminum - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Barium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Copper - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Iron - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Lead - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/14	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Silver - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	09/12/2001 18:45	09/12 20:52	NA	NA	09/17 14:08	Yes	WATER
A1877207	GBRI-MW-7	MG/L	Aluminum - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Barium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

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Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matri
A1877207	GBRI-MW-7	MG/L	Beryllium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Copper - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Iron - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Lead - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/14	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Silver - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:38	Yes	WATER
A1877201	GBRI-MW-8	MG/L	Aluminum - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Barium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Copper - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Iron - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Lead - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/14	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Silver - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Sodium - Total	6010	10.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/19 09:38	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	09/12/2001 17:10	09/12 20:52	NA	NA	09/17 13:34	Yes	WATER

000090

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matri
A1877207MS	GBRI-MW-7 MS	MG/L	Aluminum - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Barium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Copper - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Iron - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Lead - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/14	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Silver - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:51	Yes	WATER
A1877207SD	GBRI-MW-7 SD	MG/L	Aluminum - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Barium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Copper - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Iron - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Lead - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Mercury - Total	7470	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/14	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Silver - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	09/12/2001 18:10	09/12 20:52	NA	NA	09/17 13:55	Yes	WATER
A1B0822502	Method Blank	MG/L	Mercury - Total	7470	1.00	-	- 20:52	NA	NA	09/14	Yes	WATER
A1B0824402	Method Blank	MG/L	Aluminum - Total	6010	1.00	-	- 20:52	NA	NA	09/17 [illegible]:20	Yes	WATER

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matri
A1B0824402	Method Blank	MG/L	Antimony - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Barium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Copper - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Iron - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Lead - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Silver - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:20	Yes	WATER
A1B0822501	LCS	MG/L	Mercury - Total	7470	1.00	-	- 20:52	NA	NA	09/14	Yes	WATER
A1B0822503	LFB	MG/L	Mercury - Total	7470	1.00	-	- 20:52	NA	NA	09/14	Yes	WATER
A1B0824401	LFB	MG/L	Aluminum - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Antimony - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Arsenic - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Barium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Beryllium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Cadmium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Calcium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Chromium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Cobalt - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Copper - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Iron - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Lead - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Magnesium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Manganese - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Nickel - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Potassium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Selenium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Silver - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Sodium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Thallium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Vanadium - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER
		MG/L	Zinc - Total	6010	1.00	-	- 20:52	NA	NA	09/17 12:25	Yes	WATER

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

260092

Chain of Custody

Chain of Custody Record

13729

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM, INC.	Project Manager: JON FOX	Date: 9/12/01	Chain of Custody Number: 006638
Address: 5788 WIDEWATERS PKWY	Telephone Number (Area Code)/Fax Number: (315) 445-2554 / (315) 445-2543	Lab Number:	Page 1 of 2
City: DEWITT / State: NY / Zip Code: 13027	Site Contact:	Lab Contact:	
Project Name and Location (State): GREIF BROS – TONAWANDA, NY	Carrier/Waybill Number: HAND DELIVERED		
Contract/Purchase Order/Quote No.: D6714.00			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Quantity	Analysis: TCL VOC's 8260	TCL SVOA 8270	TAL METALS (Total)	Special Instructions/ Conditions of Receipt
GBRI- MW-8 (09/01)	9/12/01	1710		X			X		X	X			5	2	2	1	
GBRI- MW-5 (09/01)	9/12/01	1715		X					X	X			2	2			
GBRI- MW-1 (09/01)	9/12/01	1730		X						X			2	2			
GBRI- MW-11 (09/01)	9/12/01	1800		X			X			X			4	2	2		
GBRI- MW-2 (09/01)	9/12/01	1740		X						X			2	2			
GBRI- MW-6 (09/01)	9/12/01	1805		X			X			X			4	2	2		
GBRI- MW-7 (09/01)	9/12/01	1810		X			X		X	X			5	2	2	1	
GBRI- MW-7 (MS) (09/01)	9/12/01	1810		X			X		X	X			5	2	2	1	
GBRI- MW-7 (MSD) (09/01)	9/12/01	1810		X			X		X	X			5	2	2	1	
GBRI- MW-10 (09/01)	9/12/01	1815		X			X			X			4	2	2		
GBRI- MW-9 (09/01)	9/12/01	1830		X			X			X			4	2	2		
GBRI- MW-3 (09/01)	9/12/01	1845		X					X	X			3	2		1	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ ~~7 Days~~ ☐ ~~14 Days~~ STANDARD ☐ 21 Days ☐ Other _____

QC Requirements (Specify):

1. Relinquished By	Date: 9/12/01	Time: 2052	1. ~~Received~~ By	Date: 9-12-01	Time: 2052
2. Relinquished By	Date:	Time:	2. Received By	Date:	Time:
3. Relinquished By	Date:	Time:	3. Received By	Date:	Time:

Comments:

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

000094

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client: ERM, INC.	Project Manager: Jon Fox	Date: 9/12/01	Chain of Custody Number: 006639
Address: 5788 WIDEWATERS PKWY	Telephone Number (Area Code)/Fax Number: (315) 445-2554 / (315) 445-2543	Lab Number:	Page 2 of 2
City: DEWITT	State: NY	Zip Code: 13027	Site Contact:	Lab Contact:
Project Name and Location (State): D6714.00	Carrier/Waybill Number: HAND DELIVERED		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Quantity	Analysis: TCL VOCs 8260	TCL SVOA 8270	TAL METALS (TOTAL)	Special Instructions/ Conditions of Receipt
GBRI-MW-4 (09/01)	9/12/01	1856		X						X			2				
GBRI-CV-1 (09/01)	9/12/01	1915		X			X		X	X			5	2	2	1	
GBRI-MW-14 (09/01)	9/12/01	1900		X			X			X			4	2	2		NOTES: 2nd 5 VOA BOTTLE 2/3
GBRI-MW-12 (09/01)	9/12/01	1915		X			X			X			4	2	2		
GBRI-MW-13 (09/01)	9/12/01	1930		X			X		X	X			5	2	2	1	
GBRI-DUPE1 (09/01)	9/12/01	—		X			X		X	X			5	2	2	1	
GBRI-TB1 (09/01)	9/12/01	—		X						X			2	2			

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other STANDARD

QC Requirements (Specify)

1. Relinquished By: Jon T. Fox	Date: 9/12/01	Time: 2052	1. Received By: [illegible]	Date: 9-12-01	Time: 2056
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

006639

Appendix J
Monitoring Well Construction Logs

ERM

WELL: MW-6

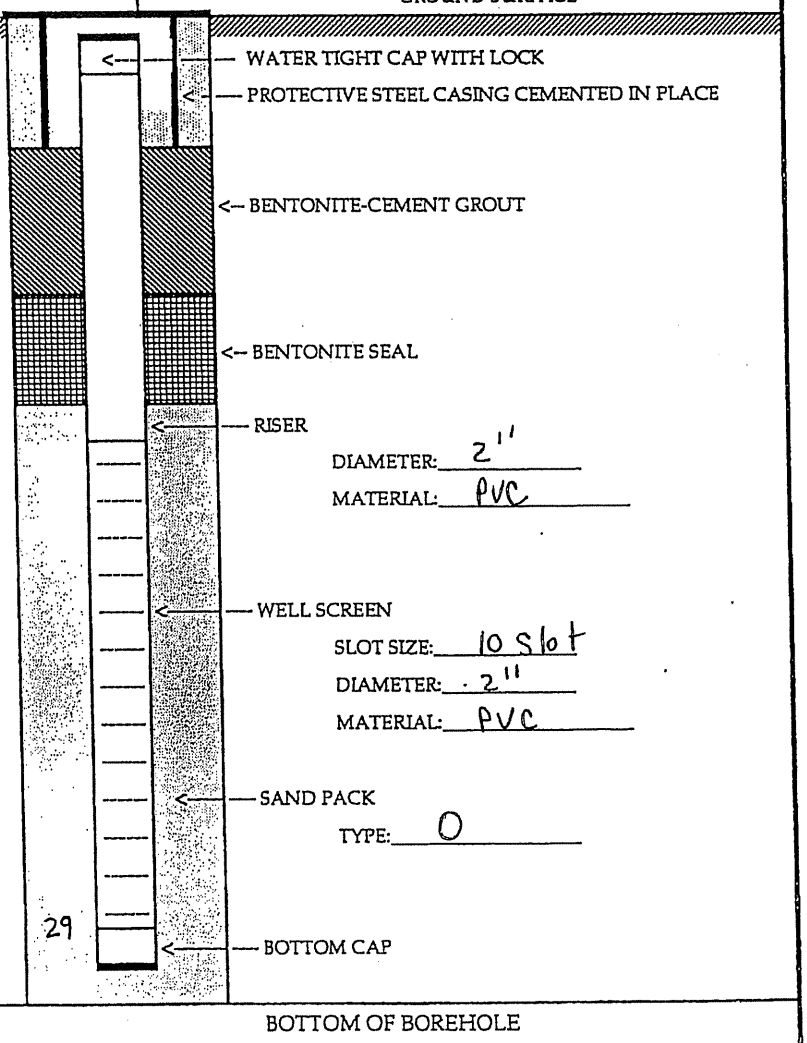
5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

MONITORING WELL CONSTRUCTION LOG

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Sonoco / Grief Bros	06714.00				
Drilling Company	Foreman	Date	Time	Level (feet)	Ground Elevation (feet)
SJB	Tony Jakubczak				
Surveyor					Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion	Geologist				Top of Riser Pipe Elevation (feet)
8/28/01 14:30	Jeremy Wolf				

Generalized Soil Description	*Elevation	**Depth
	0.00	0.0
	0.00	0.0
	0.00	1
	0.00	15
	0.00	17
	0.00	19
	0.00	29.5
	0.00	30'

CONSTRUCTION DETAILS



REMARKS _____

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

g:geoforms\Mwfish
rev. 10/99

ERM

WELL : MW-7

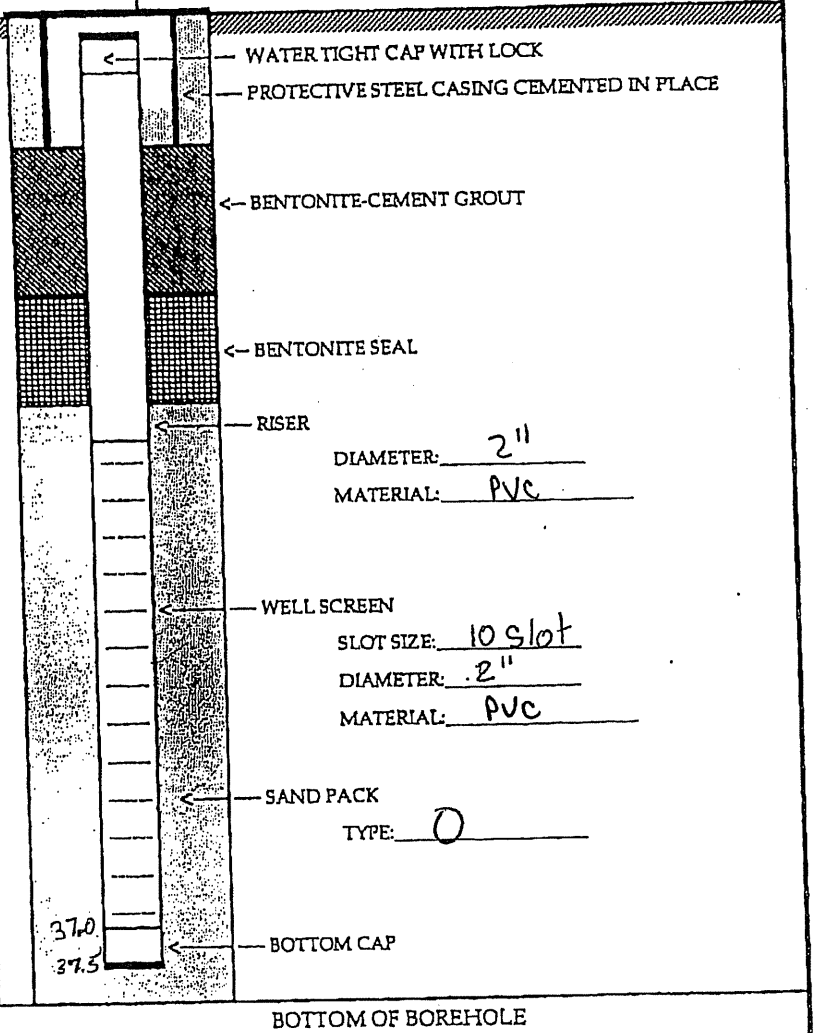
5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

MONITORING WELL CONSTRUCTION LOG

Project Name & Location: Sonoco / Grief Bros	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Drilling Company: SJB	Foreman: Tony Jakubczak	Date	Time	Level (feet)	Ground Elevation (feet)
Surveyor					Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion: 8/22/01 12:30	Geologist: Jeremy Wolf				Top of Riser Pipe Elevation (feet)

Generalized Soil Description	*Elevation	**Depth
	0.00	0.0
	0.00	0.0
	0.00	1
	0.00	23
	0.00	25
	0.00	27
	0.00	37.5
	0.00	38

CONSTRUCTION DETAILS



REMARKS

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

g:geoforms\Mwfish
rev. 10/99

ERM

WELL : MW-8

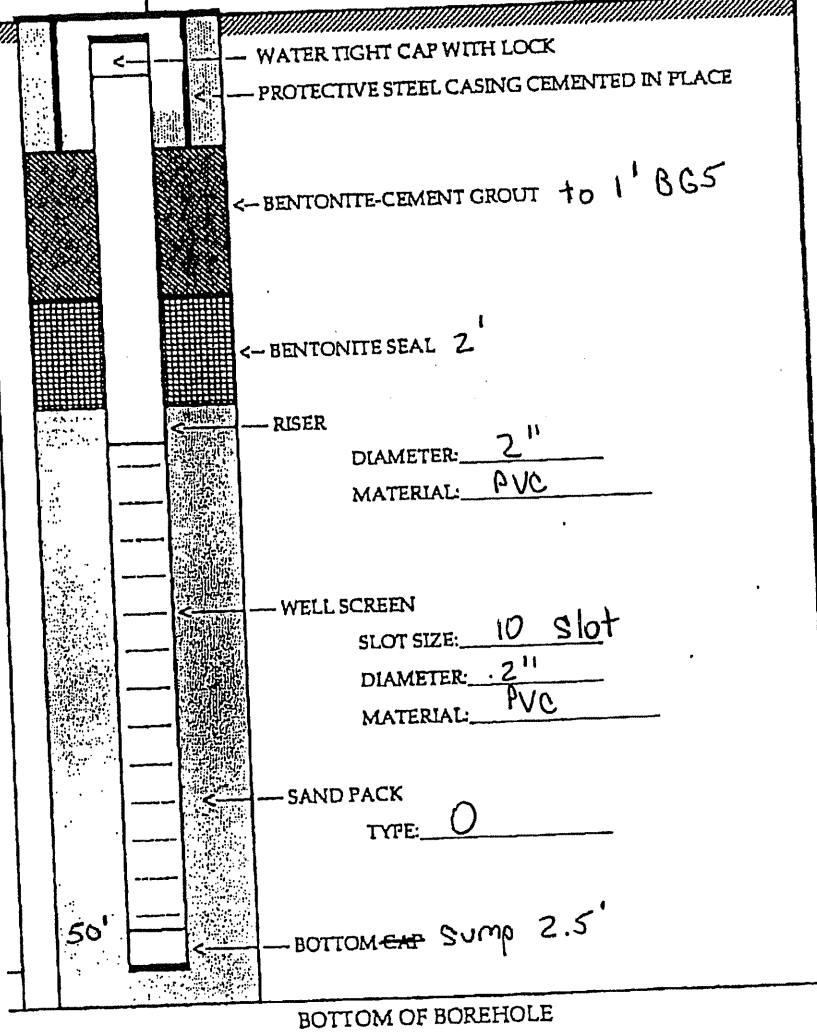
5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

MONITORING WELL CONSTRUCTION LOG

Project Name & Location: Sunoco / Grief Bros	Project No.: D6714.00	Water Level(s) (ft below top of PVC casing)	Site Elevation Datum (feet)
Drilling Company: STB	Foreman: Tony Jakubczak	Date / Time / Level (feet)	Ground Elevation (feet)
Surveyor			Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion: 8/15/01 17:15	Geologist: Jeremy Wolf		Top of Riser Pipe Elevation (feet)

Generalized Soil Description	*Elevation	**Depth
	0.00	0.0
	0.00	0.0
	0.00	1
	0.00	36
	0.00	38
	0.00	40
	0.00	52.5'
	0.00	53'

CONSTRUCTION DETAILS



REMARKS Bottom of 4 1/4 Bore hole @ 80' BGS.
Bottom of bedrock core @ 85' BGS.
Bentonite chips from 53' to 85' BGS. Sand from 52.5' to 53' BGS.

* Elevation (feet) above mean sea level unless noted ** Depth in feet below ground surface

g:geoforms\Mwfish
rev. 10/99

ERM

WELL: MW-9

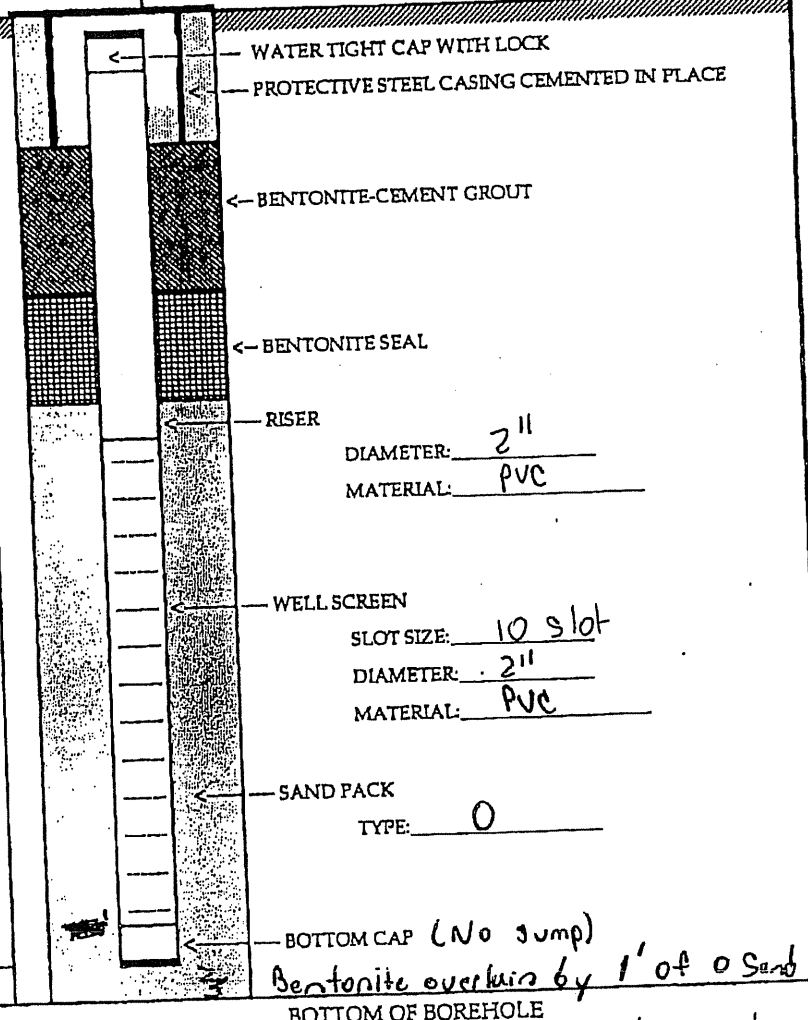
5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

MONITORING WELL CONSTRUCTION LOG

Project Name & Location: Sunoco / Crist Bros	Project No.: 06714.00	Water Level(s) (ft below top of PVC casing)	Site Elevation Datum (feet):
Drilling Company: STB	Foreman: Tony Jakubczak	Date / Time / Level (feet):	Ground Elevation (feet):
Surveyor:			Top of Protective Steel Cap Elevation (feet):
Date and Time of Completion: 8/20/01 12:30	Geologist: Jeremy Wolf		Top of Riser Pipe Elevation (feet):

Generalized Soil Description	*Elevation	**Depth
	0.00	0.0
	0.00	0.0
	0.00	1'
	0.00	69.5'
	0.00	71.5'
	0.00	73.5'
	0.00	78.5'
	0.00	83.5'

CONSTRUCTION DETAILS



REMARKS: Bedrock @ 78' BGS. Bedrock core from 78.5' - 83.5' BGS. Bottom of 4¼ HSA borehole @ 78.5', core backfilled with bentonite chips overkill by 1' of sand @ bottom of hole

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

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rev. 10/99

ERM

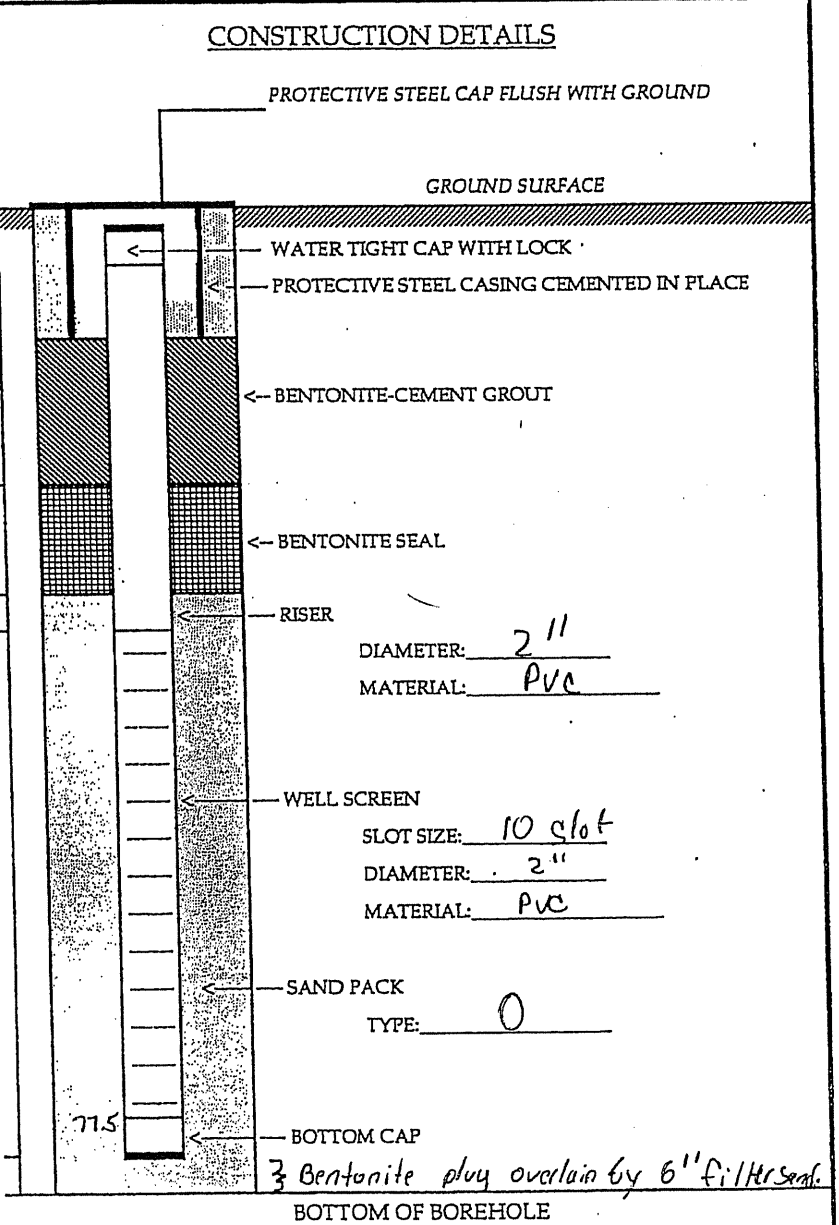
WELL : MW-10

5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

MONITORING WELL CONSTRUCTION LOG

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Sonoco / Grief Bros	D6714.00				
Drilling Company	Foreman	Date	Time	Level (feet)	Ground Elevation (feet)
SJB	Tony Jakubczak				
Surveyor					Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion	Geologist				Top of Riser Pipe Elevation (feet)
8/24/01 12:00	Jeremy Wolf				

Generalized Soil Description	*Elevation	**Depth
	0.00	0.0
	0.00	0.0
	0.00	1'
	0.00	63.5
	0.00	65.5
	0.00	67.5
	0.00	78.0
	0.00	83'



REMARKS Outer 8" Steel Double casing 0 - 16' BGS
Top of Bedrock @ 77' BGS. Augered 1' through weathered Bedrock and top of bedrock to depth of 78' BGS.

* Elevation (feet) above mean sea level unless noted ** Depth in feet below ground surface

Cored Bedrock from 78' - 83'. Plugged corehole w/ Bentonite

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rev. 10/99

ERM

WELL : MW-11

5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

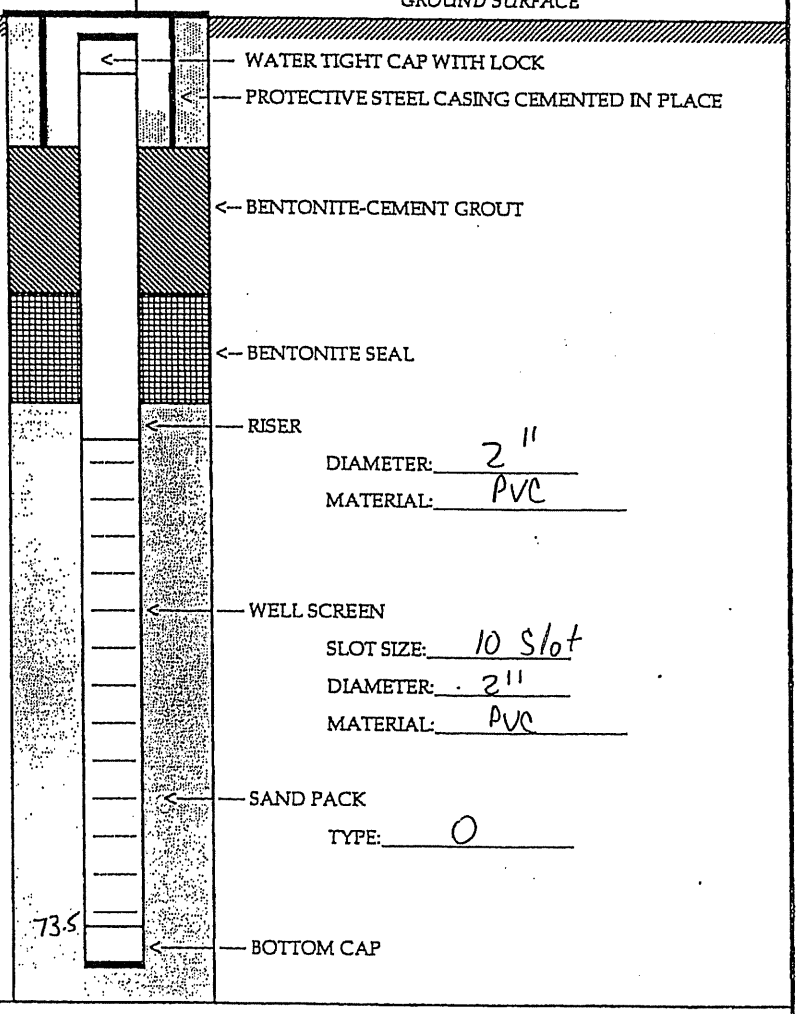
ERM

MONITORING WELL CONSTRUCTION LOG

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Sunoco / Grief Bros.	D6714.00				
Drilling Company	Foreman	Date	Time	Level (feet)	Ground Elevation (feet)
STB	Tony Jakubczak				
Surveyor					Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion	Geologist				Top of Riser Pipe Elevation (feet)
8/27/01 17:00	Jeremy Wolf				

Generalized Soil Description	*Elevation	**Depth
	0.00	0.0
	0.00	0.0
	0.00	1
	0.00	59.5
	0.00	61.5
	0.00	63.5
	0.00	74.0
	0.00	74.5

CONSTRUCTION DETAILS



REMARKS Top of Bedrock at 73.5' BGS.

* Elevation (feet) above mean sea level unless noted ** Depth in feet below ground surface

g:geoforms\Mwfish
rev. 10/99

ERM

WELL : MW-12

5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

MONITORING WELL CONSTRUCTION LOG

Project Name & Location: Sunoco Tonawanda	Project No.	Water Level(s) (ft below top of PVC casing)		Site Elevation Datum (feet)
Drilling Company: SJB	Foreman: Tony	Date / Time / Level (feet)		Ground Elevation (feet)
Surveyor				Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion: 8/14/01 1345	Geologist: J. Paetz			Top of Riser Pipe Elevation (feet)

Generalized Soil Description	*Elevation	**Depth
Concrete	0.00	0.0
		0-6"
2' Clay	0.00	2.0'
4 ~~Silty~~ Clay	0.00	
6 Silty clay		
8 " "	0.00	8'
10 " "	0.00	10'
12 Silty clay-clay	0.00	12'
14 Clay		
16 Clay		
	0.00	16'
	0.00	

CONSTRUCTION DETAILS

PROTECTIVE STEEL CAP FLUSH WITH GROUND

GROUND SURFACE

WATER TIGHT CAP WITH LOCK

PROTECTIVE STEEL CASING CEMENTED IN PLACE

BENTONITE-CEMENT GROUT

BENTONITE SEAL

RISER
DIAMETER: 2"
MATERIAL: PVC

WELL SCREEN
SLOT SIZE: 0.010
DIAMETER: 2"
MATERIAL: PVC

SAND PACK
TYPE: #0 Silica Sand

BOTTOM CAP

BOTTOM OF BOREHOLE

REMARKS: No odors in soils, water not encountered
3 bags sand 1 bag bentonite

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

g:geoforms\Mwfish
rev. 10/99

ERM

WELL : MW-13

5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

MONITORING WELL CONSTRUCTION LOG

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Sunoco	06714	Date	Time	Level (feet)	Ground Elevation (feet)
Drilling Company	Foreman				
SJB	Matt				
Surveyor					Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion	Geologist				Top of Riser Pipe Elevation (feet)
	T. Paste				

Generalized Soil Description	*Elevation	**Depth
	0.00	0.0
	0.00	0.0
	0.00	1.0
	0.00	
	0.00	11'
	0.00	
	0.00	16
	0.00	

CONSTRUCTION DETAILS

PROTECTIVE STEEL CAP FLUSH WITH GROUND

GROUND SURFACE

WATER TIGHT CAP WITH LOCK

PROTECTIVE STEEL CASING CEMENTED IN PLACE

BENTONITE-CEMENT GROUT

Bentonite

BENTONITE SEAL

RISER

DIAMETER: 2"

MATERIAL: PVC

WELL SCREEN

SLOT SIZE: 0.01

DIAMETER: 2"

MATERIAL: PVC

Sand

SAND PACK

TYPE: #0

BOTTOM CAP

BOTTOM OF BOREHOLE

REMARKS _____

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

g:geoforms\Mwfish
rev. 10/99

ERM

WELL : MW-14

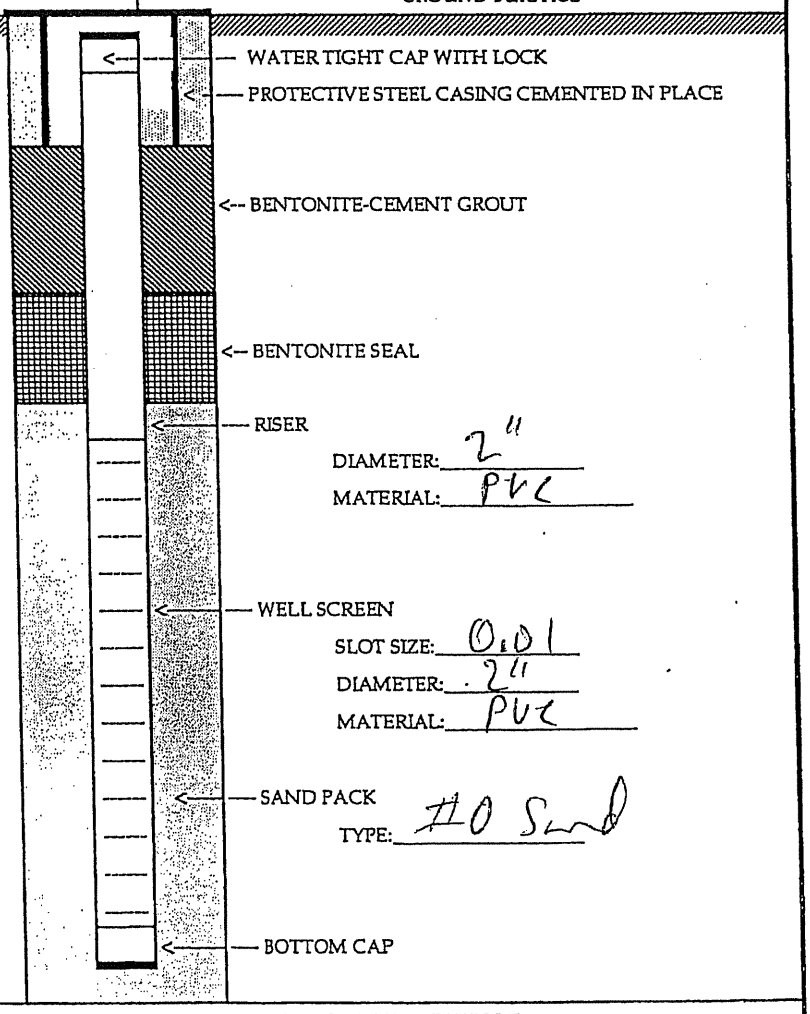
5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

MONITORING WELL CONSTRUCTION LOG

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Sunoco	06714				
Drilling Company	Foreman	Date	Time	Level (feet)	Ground Elevation (feet)
	Matt				
Surveyor					Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion	Geologist				Top of Riser Pipe Elevation (feet)
	S. Foster				

Generalized Soil Description	*Elevation	**Depth
	0.00	0.0
	0.00	0.0
	0.00	4'
	0.00	bentonite chips
	0.00	11'
	0.00	
Sand		
	0.00	16'
	0.00	

CONSTRUCTION DETAILS



BOTTOM OF BOREHOLE

REMARKS _____

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

g:geoforms\Mwfish
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