REPORT

OFF-SITE GROUND-WATER EVALUATION

Griffin Technology, Inc.
Victor, New York

February 1995

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February 16, 1995

David Pratt
New York State Department of
Environmental Conservation
Region 8
6274 Avon-Lima Road
Avon, New York 14414

RE: Griffin Technology, Inc. Site, Victor, New York

Dear Mr. Pratt:

Enclosed please find three copies of the Off-Site Groundwater Evaluation Final Report for the above-referenced site (the "Site") prepared by Blasland, Bouck & Lee, Inc. ("BB&L") on behalf of Griffin Technology, Inc. ("Griffin"). The off-site groundwater evaluation program assessed the geologic and hydrogeologic character of the off-site subsurface and groundwater quality, and the quality of the groundwater at the Site. The data generated from this evaluation supplemented the data obtained from the Phase II Site Investigation (July 1991) and the follow-up Supplemental Subsurface Investigation (May 1993) performed at the Site.

Results of the off-site groundwater evaluation indicated that the source area at the Griffin facility is limited to that area identified previously, as analytical results of soil samples obtained from the north end of the Site indicated nondetect concentrations of volatile organic compounds ("VOCs" and semi-volatile organic compounds ("SVOCs"). Analytical results of a water and air sample from a basement sump of a nearby residence were nondetect for VOCs, as were analytical results from the surface water samples from Beaver Creek. Any VOCs identified in groundwater samples from off-site monitoring wells were limited to those previously identified in the source area on the Site.

Data collected from this evaluation and the previous site investigations has defined the groundwater flow system and contaminant distribution at the Site. A limited set of final investigative actions has been recommended to complete the evaluation of Site contamination and potential contaminant

migration. A limited risk assessment has also been recommended in order to evaluate on-site and off-site impacts which any past, present or future migration of Site contaminants may have on human health or the environment.

Griffin proposes that design activities of a groundwater remedy be initiated immediately and that the Department and Griffin begin negotiations on a RD/RA Order on Consent. By proceeding on parallel tracks, we can expeditiously address the long-term remediation. The conceptual design of the remedy consists of a groundwater extraction well located southwest of the disposal area along Route 96, with discharge of groundwater to the local POTW for treatment. Groundwater monitoring would also be included in the remedial design. The remedy would also address any risks identified by the risk assessment. Griffin proposes that the parties seek agreement on the terms of an Order on Consent for remedial design activities by the end of April 1995. In order to meet this proposed schedule, we suggest a meeting with Department representatives within the next several weeks to review the proposed conceptual design and remedial strategy.

Once you have had an opportunity to review the enclosed report, please call to schedule a meeting. Thank you for your continued cooperation in this matter.

Sincerely,

David L. Cook

DLC/
Enclosures

Report

Off-Site Ground-Water Evaluation

Griffin Technology, Inc.
Victor, New York

February 1995

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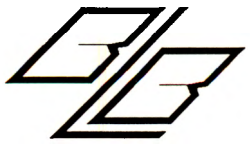
Executive Summary

Executive Summary

The Off-Site Ground-Water Evaluation activities were conducted by Blasland, Bouck & Lee, Inc. (BB&L) at the request of Griffin Technology, Inc. (Griffin), to provide additional data to supplement the Phase II Investigation and follow-up Supplemental Subsurface Investigation performed at the Griffin site in Victor, New York, where waste photocoating material composed primarily of trichloroethene (TCE) reportedly was disposed of on the ground surface adjacent to the west side of the Griffin manufacturing building (source area) from 1977 to 1984. Through the Off-Site Ground-Water Evaluation Program, BB&L assessed the geologic and hydrogeologic character of the off-site subsurface and ground-water quality, and the ground-water quality on the Griffin site.

Results of the Off-Site Ground-Water Evaluation indicate that off-site overburden thickness ranges from approximately 19.8 feet to 30.2 feet. The overburden till typically contains sand and sand-and-gravel seams from a depth below ground surface of 12 feet to the top of bedrock. The sand and sand-and-gravel seams may facilitate ground-water movement through the overburden. In the bedrock, ground-water flow may occur principally through the system of fractures, joints, and broken rocks, which decrease in frequency with depth. Based on the water-level and surface-water data collected on December 19, 1994, overburden ground-water locally recharges Beaver Creek. Based on the ground-water level recorded at monitoring well MW-10D in relation to the surface-water level of Beaver Creek measured at staff-gauge number one, bedrock ground-water flow does not have the potential to discharge to Beaver Creek.

Ground-water samples collected from the off-site monitoring wells indicate the presence of the volatile organic compounds (VOCs) TCE; cis-1,2-Dichloroethene (1,2-DCE); and 1,1,1-trichloroethane (TCA), which are consistent with the VOCs found in the source area on the Griffin site. Additionally, acetone was detected in four off-site ground-water monitoring wells and one monitoring well on the Griffin site in concentrations ranging from 50 micrograms per liter (ug/L) to 370 ug/L, and in a sediment sample obtained from Beaver Creek at a concentration of 36 micrograms per kilogram (ug/kg). In soil samples collected from the Griffin source area during the Phase II Investigation, acetone was detected in low concentrations and was not detected in ground-water samples collected from on-site monitoring wells. Therefore, the presence of acetone may not be directly associated with Griffin's past disposal practices.



Introduction

Section I - Introduction

1.1 General

This report presents the field activities conducted and results of the Off-Site Ground-Water Evaluation program implemented by BB&L at the Griffin facility located in Victor, New York. This investigation was performed in accordance with the "Off-Site Ground-Water Evaluation Work Plan" for Griffin Technology, Inc., Victor, New York, (Work Plan) dated August 11, 1993 and the "Addendum to the Off-Site Ground-Water Evaluation Work Plan for Griffin Technology, Inc., Victor, New York," dated November 1994. Both the Work Plan and the addendum to the Work Plan, which was prepared in response to New York State Department of Environmental Conservation (NYSDEC) comments, are presented as Appendix A.

1.2 Background

The Griffin facility is located at 6132 Victor-Manchester Road in the Town of Farmington, Ontario County, New York. In response to the voluntary disclosure of a past disposal practice, Griffin entered into an Order on Consent (#B8-315-90-01, March 28, 1991), with New York State to perform a Phase II Investigation of the potential impacts of the disposal practice on soil and ground water. The past practice consisted of the disposal of small quantities of TCE associated with waste photocoating material on the ground adjacent to the west side of the Griffin Manufacturing building. Based on a NYSDEC-approved work plan (BB&L, January 1991), Griffin installed 12 soil borings and six ground-water monitoring wells (MW-1 through MW-5S/D) in 1991 to evaluate soil conditions at the disposal area, and ground-water flow direction and quality at the Griffin facility. The results of the Phase II Investigation were submitted to the NYSDEC in a report entitled, "Phase II Investigation," (BB&L, July 1991).

Griffin proposed supplemental investigation activities to further assess ground-water contaminant migration and to obtain confirmatory soil samples near the warehouse on the north side of the Griffin property. BB&L submitted a Supplemental Subsurface Investigation (SSI) Work Plan to the NYSDEC on May 11, 1993, specifying the following investigation activities:

- A soil gas survey on the south side of Route 96 to evaluate possible locations for future monitoring wells;
- Collection of two soil samples on the north side of the Griffin site;
- Collection of a round of ground-water samples and water levels; and
- Collection of a basement sump water sample from the residence south of the Griffin site located at 6135 Victor-Manchester Road.

Griffin submitted the soil gas survey results, ground-water analytical results, and residential sump water analytical results to the NYSDEC in a letter dated July 6, 1993. The SSI soil sample results are presented in Section 4.5 of this report.

In November 1994, Griffin initiated implementation of the "Off-Site Ground-Water Evaluation" activities, which included comments from the NYSDEC, and included the installation of off-site monitoring wells, on-site and off-site ground-water sampling, residential basement air and sump sampling, and surface-water and sediment sampling.

Off-site monitoring wells were installed at five downgradient locations south and southwest of the Griffin site to evaluate overburden and bedrock ground-water quality conditions south of Route 96. Additionally, a monitoring well cluster was installed in the vicinity of Beaver Creek to determine the discharge or recharge relationship between the creek and area ground water. The locations of and intervals for the overburden and bedrock monitoring well clusters were selected based on the results of soil vapor surveys conducted during the SSI in May 1993, which detected total volatile organic vapors above background levels south of Route 96, and the May 20, 1993 ground-water analytical results, including sump water sample analytical results from the residence located south of the Griffin facility, which indicated 1,2-DCE at 19 parts per billion (ppb) and TCE at 21 ppb. The off-site monitoring well locations are positioned downgradient, to the south and southwest of the monitoring wells installed during the Phase II Investigation at the Griffin site as an expansion of the monitoring network to define the extent of TCE migration. Figure 1 shows the locations of the Phase II Investigation and Off-Site Ground-Water Evaluation monitoring wells.

Based on the results of the Phase II Investigation, it was projected that a south-southwesterly ground-water flow pattern exists as a local condition within the regional northerly flowing ground-water system and that ground water from the Griffin site discharges to Beaver Creek on the south side of Wade's SureFine Market.

1.3 Investigation Objectives

The objectives of this off-site ground-water evaluation program were to provide:

- Sufficient subsurface stratigraphic information to determine the thickness and lateral extent of permeable and non-permeable hydrogeologic units in the overburden deposit and upper bedrock formation;
- Monitoring wells of suitable construction to allow long-term collection of representative ground-water samples;
- Monitoring of ground-water levels and piezometric heads to define the direction of ground-water flow (vertical and horizontal);
- Data to determine the hydraulic relationship (recharge versus discharge) between off-site ground water and Beaver Creek;
- In-situ hydraulic conductivity testing of the monitoring wells to determine aquifer properties, as necessary, to determine ground-water flow rates and for potential development of an interim remedial measure (IRM) and/or final ground-water remedial system;
- Ground-water quality information through sampling of the monitoring well network to identify the types, concentrations, and distributions of chemical constituents, if present; and
- Additional soil gas data to determine the migration pathways, if any, of site contaminants.

In summary, the overall objective was to identify the extent of the ground-water contaminant plume and to provide data necessary to support any remedial actions that may be implemented at the Griffin site. Additionally, this report summarizes NYSDEC-approved field sampling activities that were implemented during the Phase II Investigation and this investigation.

Investigation Activities

Section II - Investigation Activities

2.1 General

This section presents a detailed description of the field activities that were implemented at the Griffin site as part of the Off-Site Ground-Water Evaluation program. To meet the objectives of this program, the following tasks were completed:

- Drilling, sampling, and bedrock coring for monitoring well installation;
- Well development;
- Hydraulic conductivity testing;
- Ground-water sampling;
- Residential air and basement sump sampling;
- Water-level measurement; and
- A soil gas survey.

Detailed discussions of the activities performed in association with each task, as well as the results of the SSI soil sampling task, are presented below.

During the monitoring well installation task, an on-site BB&L geologist served as a Health & Safety Officer. The breathing zone was monitored periodically using a Photovac Microtip photoionization detector (Microtip) with an 11.7 eV bulb. Microtip readings did not exceed the action level of 25 parts per million (ppm); therefore, all phases of the Off-Site Ground-Water Evaluation program were performed in Level D protection.

2.2 Monitoring Well Installation

From November 16 through December 9, 1994, Parratt-Wolff, Inc. installed ten ground-water monitoring wells (MW-6S/D through MW-10S/D [S for overburden and D for bedrock] at the locations identified on Figure 1. Prior to initiating drilling activities at each location, downhole drilling tools and the drill rig were decontaminated using a high-pressure, low-volume steam cleaner with potable water supplied by Griffin.

At each well cluster, a bedrock monitoring well and overburden monitoring well were installed. The bedrock monitoring well was advanced first, and continuous split-spoon sampling was used to characterize the overburden stratigraphy at each location. Upon opening the split spoon, the Microtip was used to screen the recovered soil for the presence of total VOCs. The corresponding overburden well was then augured to a predetermined depth, based on data obtained from the boring for the deep well, including water-table depth.

At each bedrock monitoring well location, boreholes were advanced through the overburden soil using 10-inch outside-diameter (O.D.) hollow-stem augers until refusal was encountered. Refusal was encountered at depths ranging from 19.8 feet at MW-6D to 30.2 feet at MW-7D. Soil cuttings produced during the bedrock drilling activities were collected and containerized in open-top, 55-gallon drums for later disposal.

A minimum of 15 feet of rock coring was conducted in an attempt to maximize vertical separation between the overburden and bedrock monitoring wells. Bedrock coring data regarding the rate of core-barrel penetration, drill-water loss, and bit type and size were recorded in a fieldbook by BB&L's on-site geologist. All bedrock coring activities were accomplished using an NX core barrel (3-1/2-inch O.D.) and reaming with a 4-inch O.D. roller bit. At MW-10D, drill water was continually lost in the bedrock formation, beginning at a depth of approximately 26 feet below ground surface. The water loss, which continued throughout coring and reaming activities, was estimated to be 760 gallons at this location. Due to the rate of water loss encountered near the bottom of the corehole, approximately 2 feet of rock cuttings created from roller bit use were left in the corehole, and the monitoring well screen was placed on the cuttings.

Core samples were retained in wooden core boxes on the Griffin property. The on-site BB&L geologist classified the core samples with respect to color, grain size, lithology, fossilization, solution pitting (vugs), degree of weathering, percent of recovery, rock quality degree (RQD), and the location, orientation, and surface character of fractures. Bedrock descriptions are provided in the subsurface logs in Appendix B.

At each overburden monitoring well location, boreholes were advanced through the overburden soil using 8-inch O.D. hollow-stem augers. The total boring depth was determined by the water-table depth and the amount of well screen required below the water table. Soil cuttings produced during the overburden drilling activities were collected and containerized in open-top, 55-gallon drums for later disposal.

Monitoring wells MW-6D through MW-10D were designed to monitor the bedrock ground water, and MW-6S through MW-10S were designed to monitor the overburden saturated thickness, with the well screen straddling the water table. Each monitoring well was constructed of 2-inch inside diameter (I.D.), Schedule 40 polyvinyl chloride (PVC), with a 0.010-inch, slotted PVC screen. A grade 0N quartz sand pack was placed around the well screen from the bottom of the corehole or borehole to a minimum of one foot above the top of the well screen, followed by a minimum 6 inch grade 00N quartz sand pack. A hydrated bentonite seal was placed to a minimum of 2 feet above the sand pack and the remaining annulus was filled with a cement/bentonite grout to within approximately 4 feet of the ground surface. A grade 0N sand filter was placed within a flush-mounted curb box. The well casing was secured with a locking pressure-fit cap, a flush-mounted curb box, and completed with a 24-inch diameter concrete surface pad.

2.3 Well Development

From December 2 through December 16, 1994, the ten bedrock and overburden monitoring wells were developed to enhance the hydraulic connection between the well screen and the surrounding formation and to remove fine sediment from the well screen and sand pack. Development of the bedrock monitoring wells involved the surging and bailing of the wells using a disposable, 2-inch-diameter, bottom-loading polyethylene bailer with polypropylene rope. At MW-10D, well development was also accomplished using a 2-inch-diameter, stainless steel submersible pump. Development of the overburden monitoring wells involved surging with polyethylene bailers, as described for bedrock wells, followed by the use of a 2-inch-diameter, stainless-steel submersible pump. The submersible pump and discharge hose were decontaminated between development activities in successive wells.

During surging, the bailer was repeatedly raised and lowered through the screened interval of the well to liberate sediment from the well screen. Each monitoring well was periodically bailed to draw formation water into the well. None of the wells were purged completely dry during development activities, although ground-water levels in monitoring wells MW-7D and MW-9D were lowered to within one foot of the bottom of the well screen.

The initial turbidity measurements of the bedrock wells were greater than 1,000 nephelometric turbidity units (NTUs), but decreased as development activities progressed. Development continued until the turbidity levels stabilized below the development goal of 50 NTUs, and pH, temperature, and specific conductivity stabilized. Between ten and 27 well volumes were removed from the bedrock monitoring wells during development activities.

During initial development activities in the overburden wells, surging was accomplished by repeatedly raising and lowering a disposable bailer through the screened interval. The wells were continually bailed to establish the hydraulic connection between the formation and the well. The initial turbidity measurements of the overburden wells were greater than 1,000 NTUs, and development using bailers did not achieve turbidity levels below the 50 NTU goal. After discussion with the NYSDEC, additional development activities were attempted using a submersible pump. Prior to conducting development activities with the submersible pump at each overburden well, the pump was decontaminated and then lowered into the screened section of the water column. The well screen was surged by raising and lowering the submersible pump. Pump rates at the overburden wells ranged from 0.6 gallons per minute (gpm) at MW-6S to 1.4 gpm at MW-10S. Between 44 and 77 well volumes were removed from the overburden monitoring wells during development activities. Monitoring wells MW-9S and MW-10S reported turbidity levels of 33 and 27 NTUs, respectively, while MW-6S, MW-7S, and MW-8S were not able to meet the NYSDEC goal of less than 50 NTUs for well development. The field measurements, including turbidity, for the wells MW-6S, MW-7S, and MW-8S were reported to the NYSDEC, and well development was deemed acceptable.

2.4 Hydraulic Conductivity Testing

To quantify the hydraulic conductivity of the formation surrounding the screened interval of each monitoring well, in-situ hydraulic conductivity tests were conducted on December 14 and 16, 1994. A rising head hydraulic conductivity test, which involved creating an instantaneous change in water levels by removing a solid PVC slug from the water column and measuring the rise of the water as it returned to static level, was performed for each well. The hydraulic conductivity test procedures, data, and calculations are presented in Appendix C, and the conductivity values are summarized below. The hydraulic conductivity values for MW-1, MW-2, MW-3, MW-4, MW-5S, and MW-5D were previously submitted in the Phase II Investigation Report and are included in this table for completeness.

Monitoring Well	Hydraulic Conductivity Rising Head Test (cm/sec)	Monitoring Well	Hydraulic Conductivity Rising Head Test
MW-1*	1.9×10^{-3}	MW-7S	5.6×10^{-4}
MW-2*	2.0×10^{-2}	MW-7D	2.9×10^{-4}
MW-3*	1.2×10^{-2}	MW-8S	6.8×10^{-4}
MW-4*	2.5×10^{-3}	MW-8D	4.1×10^{-4}
MW-5S	9.8×10^{-4}	MW-9S	5.0×10^{-4}
MW-5D*	1.1×10^{-3}	MW-9D	2.0×10^{-6}
MW-6S	1.8×10^{-3}	MW-10S	3.4×10^{-3}
MW-6D	1.3×10^{-3}	MW-10D	1.5×10^{-4}

* Bedrock monitoring wells installed during Phase II Investigation.

The hydraulic conductivity values for the overburden monitoring wells, when compared to the bedrock monitoring wells, are typically within an order of magnitude of each other. Further comparison shows that the geometric mean hydraulic conductivity value for the six overburden wells is 1.0×10^{-3}cm/sec and the geometric mean hydraulic conductivity value for the ten bedrock wells is 7.5×10^{-4} cm/sec. These values are less than an order of magnitude apart and indicate that flow through the overburden in the investigation area is nearly the same as through the upper bedrock zone.

2.5 Ground-Water Sampling

To evaluate the ground-water quality at the site, BB&L collected ground-water samples from each monitoring well and from Beaver Creek on December 19, 1994. Prior to sampling, BB&L measured the static water level in each well using a decontaminated electronic water-surface indicator and determined the well volume. The monitoring well was then purged of three well volumes using a disposable, polyethylene bailer with a new length of polypropylene rope. After purging the well, BB&L immediately obtained ground-water samples and placed them into laboratory-provided glassware. The ground-water samples were then placed into a cooler with ice until delivery to the laboratory for analysis. For Quality Assurance/Quality Control (QA/QC) purposes, a duplicate sample was obtained from MW-9S and a matrix spike/matrix spike duplicate (MS/MSD) sample was obtained from MW-10D. In addition to the ground-water and stream samples, a sediment sample from Beaver Creek was collected at the same location as the stream sample, approximately 30 feet east of the creek crossing with Mertensia Road.

The ground-water, stream, and sediment samples were submitted to General Testing Corporation (GTC) in Rochester, New York for analysis of VOCs by United States Environmental Protection Agency (USEPA) Method 8260.

2.6 Water-Level Measurement

During well installation, a staff gauge (SG-1) was placed in Beaver Creek approximately 30 feet south of the MW-10 well cluster. The staff gauge and the newly installed monitoring well risers were located and

surveyed to the nearest hundredth of a foot by Crandall Surveyors of Victor, New York. The surveyed reference elevations were used to compare ground-water elevations in overburden and bedrock monitoring wells and to evaluate their relationship with Beaver Creek.

A complete round of water-level measurements was obtained on December 19, 1994. The depth to ground water in the 15 monitoring wells was determined and referenced to the top of the PVC riser using an electronic water-surface indicator. The water-level measurements were converted to ground-water elevations to produce overburden and bedrock ground-water contour maps, as presented on Figures 2 and 3, respectively. The staff gauge was used to obtain a surface-water elevation for comparison to local ground-water elevations.

2.7 Residential Air and Basement Sump Sampling

On December 2, 1994, BB&L placed a SUMMA air canister in the basement of the residence at 6135 Victor-Manchester Road (Route 96), adjacent to the sump, to collect an 8-hour air sample to be analyzed for 1,2-DCE and TCE by USEPA Method TO-14. Along with the air sample, a sump water sample was collected for analysis of VOCs and semivolatile organic compounds (SVOCs) by USEPA Methods 8240 and 8270, respectively. BB&L attempted to purge the sump of standing water, but adequate recharge from the drain tile system was not available to allow for the collection of a representative ground-water/sump water sample. Sump water samples were collected directly into laboratory-provided glassware and then placed in a cooler with ice until delivery to GTC for analysis. The SUMMA air sampler was delivered under chain-of-custody to GTC for transfer to Performance Analytical, Inc. for analysis.

2.8 Soil Gas Survey

BB&L worked with Northeast Research Institute (NERI) to perform a PETREX soil gas survey. The soil gas survey was conducted on the Griffin site, Beal's Auto Repair property (Griffin's neighbor to the west), and Wade's SureFine Market property. PETREX samplers were placed in 20 sample locations across the three properties to characterize the potential presence of VOCs.

On November 15, 1994, BB&L was on site to install the PETREX samplers. BB&L used a 4-inch-diameter, stainless steel, bucket auger to create a boring approximately 16 inches below ground surface. The bucket auger was decontaminated prior to installation of samplers at successive locations. After the cap of the PETREX sampler was removed, the sampler was placed in the boring to allow vapor-free diffusion. An aluminum foil plug was placed above the sampler and a grass/soil divot was placed over the foil to seal out atmospheric affects. On December 5, 1994, BB&L collected the PETREX soil gas samplers and shipped them, along with the two travel blanks, to NERI for analysis. The NERI report for this soil gas survey is presented in Appendix C.

2.9 Supplemental Subsurface Investigation Soil Sampling

On June 15, 1993, BB&L collected two soil samples from the northern section of the Griffin site, near the warehouse, in accordance with the SSI Work Plan submitted to the NYSDEC on May 11, 1993. The soil sample locations, identified on Figure 1, were chosen to identify the presence of VOC and SVOC compounds, if any.

The soil samples were collected using a decontaminated, 3/4-inch hand soil auger advanced to a depth of approximately 2 feet. A decontaminated soil spoon was lower to the bottom of the auger hole and driven 6 inches into undisturbed soil. The soil samples were collected in laboratory-provided glassware and placed in a cooler with ice for delivery to GTC for analysis by USEPA Methods 8240 and 8270. Analytical results are presented in Appendix D.

Site Conditions

Section III - Site Conditions

3.1 Regional Geology and Hydrogeology

The Griffin site and investigation area is located in the Central Lowland physiographic province (Bloom, 1978). In Central New York, this province is generally characterized by low surface relief, unconsolidated overburden derived from glacial deposition, and bedrock consisting of east-west striking, gently southerly dipping Ordovician to Upper Devonian sedimentary rocks.

The soil in the off-site investigation area is classified as Ovid silt loam, which is believed to have been derived from a layer of lacustrine silt and clay. The soil is typically silty at the surface with a silty-clay substratum, and generally exhibits low permeability (United States Department of Agriculture [USDA], 1958).

The bedrock beneath the site consists of Upper Silurian dolomites, including the Akron Dolostone and Bertie Formation (Rickard & Fisher, 1970). These rocks are generally light gray, massive, crystalline, vuggy, mottled, and locally gypsiferous. Structurally, the units are relatively undeformed and dip consistently and gently to the south, but also exhibit open folds, minor faults, steeply dipping joints, and other minor fractures of varying orientation (Engelder & Geiser, 1980). The joints and fractures provide secondary permeability and are probably the principal pathways for ground-water flow through the rocks.

Surface drainage in the off-site monitoring area is to the south, south-west to Beaver Creek, which passes approximately 100 feet south of Wade's SureFine Market (Figure 1). Beaver Creek is a tributary of Mud Creek, which flows west into Ganargua Creek, which drains northward into the Erie Canal. Mud Creek Crosses Route 96 approximately 6,000 feet west of the Griffin site.

3.2 Off-Site Geology

Completion of the off-site monitoring well installation program provided additional site-specific information for the interpretation of local overburden and bedrock geology.

3.2.1 Overburden Geology

Ten monitoring well boreholes were completed during the Off-Site Ground-Water Evaluation program. These borings revealed an overburden interpretation that differs slightly from the descriptions presented in the Phase II Investigation. The Off-Site Ground-Water Evaluation activities indicated that the thickness of the overburden deposits tends to increase from the Griffin site to the area south of Route 96. Overburden thickness, as recorded on the subsurface logs (Appendix B), ranges from 19.7 feet at MW-6D to 30.2 feet at MW-7D and 25.6 feet at MW-10D. In general, the overburden thickness increases to the south and west before decreasing slightly near Beaver Creek.

The overburden materials encountered at the ground surface were heterogeneous, consisting of varying amounts of brown silt, sand, and clay, except at the MW-10 cluster, in which fill was encountered to a depth of approximately 12.3 feet. Below the fill at MW-10, similar heterogeneous materials were observed. At monitoring well clusters MW-6, MW-7, MW-8, and MW-9, beneath the surficial materials, a unit consisting of mainly brown silt and/or silt and clay was encountered in the borings beginning at 8 to 12 feet below ground surface. At the MW-10 cluster, the brown silt and/or silt and clay unit was encountered at a depth of approximately 15.2 feet. Within the borings, silt was typically the main soil component; the clay content varied from high to low, as described on the subsurface logs (Appendix B). The sand content also varied from high to low. As a main component, the sand was present as moderately well-sorted seams of varying thickness. The gravel content generally remained low and typically exhibited a rounded to sub-rounded character. Based on the constantly changing sand and clay components and rounded to sub-rounded gravel observed in the split-spoon samples, the gradational changes of the deeper glacier till in the investigation area may have occurred as a result of glacial melt waters creating changing depositional environments.

3.2.2 Bedrock Geology

During the monitoring well installation program, the top-of-bedrock surface was encountered at a depth of 19.8 feet at MW-6D to 30.2 feet at MW-7D. The top of bedrock was generally found to be soft and weathered, based on auger penetration. Figure 2 presents a top-of-bedrock contour map, based on data

from the Phase II Investigation and the Off-Site Ground-Water Evaluation program. The contour map shows that the top of bedrock dips to the south and southwest from the Griffin site across Route 96.

Beneath the weathered zone at the top of bedrock, competent, light gray to green, massive dolomite bedrock was encountered. Dolomite bedrock core samples exhibited crystallized to non-crystallized vugs, trace fossils, local iron staining of joint faces, fractures with a variety of orientations, and broken rock zones, some containing fractures or joints. Fractures were observed in the core samples from all the bedrock coreholes drilled during this investigation. Some fracture surfaces exhibited iron staining; other fractures were filled with black mineralization. Most of the fractures, however, appeared to be free from infilling or secondary mineral deposition, and probably act as conduits for ground-water flow.

3.3 Off-Site Hydrogeology

Data collected for the off-site hydrogeologic characterization consisted of hydraulic conductivity data collected from rising head slug tests performed in five overburden and five bedrock monitoring wells. In addition, ground-water and surface-water elevation data were collected during the monitoring well sampling task. The staff gauge was used to correlate the Beaver Creek surface-water elevation with the ground-water surface elevations.

3.3.1 Overburden Ground-Water Flow Pattern

To determine the ground-water flow pattern in the overburden, water level data gathered from monitoring wells MW-5S through MW-10S were used, along with the surface-water level data for Beaver Creek. These overburden monitoring wells are fully screened in the till overburden. An overburden potentiometric ground-water contour map is presented on Figure 3.

The general direction of ground-water flow appears to be from the Griffin site to the south-southwest, across Route 96 and the Wade properties. The steepest gradient is to the south in the vicinity of MW-6S and MW-8S. Based on the December 19, 1994 surface-water and ground-water elevation data, Beaver Creek is locally gaining overburden ground water from the north.

3.3.2 Bedrock Ground-Water Flow Pattern

To determine the bedrock ground-water flow pattern, water-level data were obtained from Phase II Investigation wells (MW-1, MW-3, MW-4, and MW-5D) and from the Off-Site Ground-Water Evaluation monitoring wells, MW-6D through MW-10D. A bedrock potentiometric ground-water contour, based on ground-water elevation data obtained on December 19, 1994, is presented on Figure 4. The direction of ground-water flow appears to be in two possible directions, based on the low ground-water elevation observed at MW-7D. Ground-water flow in the bedrock may flow to the south-southwest from the Griffin site towards MW-8S or to the west-southwest towards MW-7D. The significantly lower ground-water elevation observed at MW-7D may be due to the higher RQD observed in the rock coring that is present in the sandpack interval and the presence of a broken rock zone near the base of the corehole that probably is acting as a drain.

The bedrock water level at well MW-10D was slightly below the surface-water level for Beaver Creek, indicating that bedrock ground water does not have the potential to discharge to Beaver Creek at this location.

3.3.3 Vertical Component of the Hydraulic Gradient

The vertical component of the hydraulic gradient may be measured at a given well cluster location by comparing ground-water elevation data from the overburden and bedrock monitoring wells. Ground-water elevations from the December 19, 1994 water-level elevation sampling round indicate that the vertical hydraulic gradient is downward, from the overburden to the bedrock zone, at the MW-5, MW-7, MW-8, MW-9, and MW-10 monitoring well clusters. The same data indicates a slight upward vertical gradient at the MW-6 monitoring well cluster. The upward potential head difference at MW-6 was 0.15 feet. The maximum downward potential head difference was 25.5 feet, observed at the MW-7 monitoring well cluster, primarily due to the low water level observed in MW-7D, followed by 4.15 feet at the MW-10 well cluster.

Field Sampling Data

Section IV - Field Sampling Data

The Off-Site Ground-Water Evaluation program consisted of four sampling activities used to assess the impacts, if any, of Griffin's past waste disposal practices. This program was designed to evaluate the distribution of VOCs in ground water and surface water south and southwest of the Griffin site, soil gas conditions west and southwest of the Griffin site, and sump water and air samples from the basement of a residential property south of the site. This section describes the analytical results for the sampling, including the soil sampling results from activities completed on June 15, 1993 at the Griffin Site; the complete analytical laboratory reports of the analyses completed during this investigation are provided in Appendix D.

4.1 Analytical Results of Basement Air and Sump Water Samples

During the Off-Site Ground-Water Evaluation program, a sump water sample and an 8-hour air sample was collected from the basement sump area of a residence located at 6135 Victor-Manchester Road (Figure 1), which is situated approximately 200 feet south of the Griffin site source area. These data were obtained to supplement the similar sampling event completed on November 1, 1993. An air sample was collected on December 2, 1994, by placing a SUMMA air canister adjacent to the basement sump. The canister was calibrated by the laboratory to collect air at a pre-set rate, based on an 8-hour sampling period. The canister was allowed to collect air from the sump area from 8:00 a.m. to 4:00 p.m. and was then submitted to Performance Analytical, Inc. through GTC, under chain-of-custody, for analysis of 1,2-DCE and TCE by USEPA Method TO-14. The analytical results indicate that both analyte concentrations were reported as non-detected.

The sump water sample was collected directly in laboratory-provided glassware and placed in a cooler with ice. The sump water samples were transported to GTC for analysis of VOCs and SVOCs by USEPA Methods 8240 and 8270, respectively. The analytical results of the sump water samples indicate that all analyte concentrations were reported as non-detected. The sump air sample and water sample analytical data are presented in Appendix D.

4.2 Analytical Results of Ground-Water Samples

During the Off-Site Ground-Water Evaluation program, six ground-water samples were collected from monitoring wells located on the Griffin site and ten ground-water samples were collected from monitoring wells located on the Wade's SureFine Market property on December 19, 1994. These samples were submitted to GTC for analysis of VOCs by USEPA Method 8260. The results of these analyses are summarized in Table 1.

Four VOCs were detected in the ground-water samples: acetone, 1,2-DCE, TCE, and TCA. The VOC detected in the highest concentration was TCE, at 820 ug/L at MW-5D. TCE was also detected in 13 of the 16 monitoring wells sampled, in concentrations ranging from 7.8 ug/L at MW-10S to 820 ug/L at MW-5D. TCE concentrations decreased to the south and west from the Griffin site, as shown on Figure 5. At the MW-9 monitoring well cluster, TCE was not detected in the ground-water samples. At the monitoring wells where TCE was detected, the reported concentrations were above the New York State (NYS) Ambient Water Quality Standard of 5 ug/L, referenced in Technical Guidance Series (TOGS) 1.1.1, dated November 15, 1991, for TCE in ground water.

TCA was the next most frequently detected VOC, reported in six of the 16 monitoring wells. The highest reported TCA concentration was found in MW-5D at 15 ug/L. At three off-site monitoring wells, MW-6S, MW-6D, and MW-7S, TCA concentrations of 7.8 ug/L, 7.5 ug/L,and 6.6 ug/L, respectively, were reported. At the monitoring wells where TCA was detected, the reported concentrations were above the NYS Ambient Water Quality Standard of 5 ug/L for TCA in ground water.

Acetone was detected in five monitoring wells, one of which, MW-2, is on the Griffin site. The highest reported acetone concentration, 370 ug/L, was detected at MW-10S. The remaining concentrations for acetone ranged from 14 ug/L in MW-7D to 170 ug/L in MW-6S. At present, the NYSDEC has not established a ground-water clean-up objective for acetone.

During the Phase II Investigation, acetone was detected in soil borings at concentrations ranging from non-detected to 0.037 milligrams per kilogram (mg/kg). Ground-water quality results from the Phase II Investigation (May 29, 1991) and from follow-up ground-water sampling performed on May 21, 1993, reported acetone concentrations as non-detected.

The fourth VOC detected, 1,2-DCE, was reported in three monitoring wells and may represent a breakdown product of TCE. 1,2-DCE was reported in MW-4, MW-7S, and MW-7D at concentrations of 23 ug/L, 8.0 ug/L, and 7.0 ug/L, respectively. The reported concentrations of 1,2-DCE exceed the NYS Ambient Water Quality Standard of 5 ug/L for 1,2-DCE in ground water.

4.3 Analytical Results of Surface-Water and Sediment Samples

One surface-water sample and one stream sediment sample were collected from Beaver Creek, approximately 30 feet east of its crossing with Mertensia Road, on December 19, 1994. The surface-water and sediment samples were collected for comparison with ground-water analytical results collected from the on-site and off-site monitoring wells. These samples were also analyzed by GTC for VOCs using USEPA Method 8260. The analytical results for the surface-water sample indicated non-detectable concentrations of VOCs. These results indicate that the surface-water quality standards for Beaver Creek (Class D surface water) have not been impacted. The analytical results for the sediment sample indicated concentrations of methylene chloride at 23 micrograms per kilogram (ug/kg) and acetone at 36 ug/kg.

4.4 Soil Gas Survey Results

The results of the soil gas survey are presented in the NERI report titled "Final Report on the Findings of the Petrex Soil Gas Survey Conducted for Blasland, Bouck & Lee, Inc. at the Griffin Technology Site Located in Victor, New York" (Appendix E). From November 15, 1994 through December 5, 1994, the PETREX samplers were placed in shallow boreholes to collect VOC vapors through passive diffusion. Activated charcoal adsorption elements were the active media for the collection of VOC vapors. After removal, the activated charcoal adsorption elements were analyzed by Thermal Desorption/Mass

Spectrometry (TD-MS) and/or Thermal Desorption-Gas Chromatography/Mass Spectrometry (TD-GC/MS). The analytical results were compared against standard reference spectra run on the same equipment. Analytical results are reported in ion counts for each particular compound. The ion counts cannot be related to concentrations such as parts per million (ppm) or ppb; therefore, the ion counts as reported are strictly a relative concentration. The analytical results, as referenced in the NERI Report, show that TCE and tetrachloroethane (PCE) were detected in the PETREX samplers, with the highest detections located in the area between the Griffin building and the auto shop to the west and in the area southwest of the auto shop.

Background concentrations, as referenced in ion counts for these two compounds, are typically accepted to be around 100,000. The ion counts reported by NERI may represent actual concentrations that are less than the standard quantitive laboratory instrument detection limits for soil or water. This inference is made based on the analytical results of PCE sampling in the previous ground-water samples and soil samples collected from the Griffin site and off-site locations, which did not detect PCE.

4.5 Soil Sample Results

On June 15, 1993, BB&L collected soil samples as part of the Griffin Technology Facility SSI from two locations associated with the north end of the Griffin site SSI-1 and SSI-2 (Figure 1). These soil samples were collected based on previous soil gas survey results and requests made by NYSDEC. The soil samples were analyzed by GTC for VOCs by USEPA Method 8240 and for SVOCs by USEPA Method 8270. The analytical results for the two soil samples, presented in Appendix D, indicate that all analyte concentrations were reported as non-detected.

Conclusions

Section V - Conclusions

Based on the results of the Off-Site Ground-Water Evaluation program, the following conclusions have been developed with regard to on-site and off-site subsurface conditions.

- The till of the overburden generally increases in thickness from the Griffin site to the south and southwest. At all off-site monitoring well locations, the deeper till, consisting mainly of silt and clay, contains sand and sand-and-gravel seams that facilitate ground-water movement through the overburden.

- The top of the dolomite bedrock was encountered during off-site monitoring well drilling activities between depths of 19.7 feet and 30.2 feet. As observed during the Phase II Investigation, the top of bedrock was highly weathered and fractured, and the density of fractures generally decreased with depth. Bedrock ground-water flow may occur principally through the system of fractures, joints, and broken rock zones.

- Overburden ground water on the Griffin site typically flows to the south and south-southwest. This ground-water system provides recharge to Beaver Creek, which is located approximately 1,000 feet south-southwest of the Griffin site.

- Bedrock ground-water flow from the Griffin site may follow two possible flow paths, based on the projected effect of the ground-water elevation data observed at MW-7D. The ground-water may flow in a south-southwesterly direction from the Griffin site, toward monitoring well locations MW-6D and MW-8D, and may also flow in a west-southwesterly direction from the Griffin site, toward monitoring well location MW-7D. A portion of the bedrock ground-water from the site flows beneath Beaver Creek in the area south of the facility, but is expected to discharge to the Beaver Creek/Mud Creek surface-water system further to the west.

- The low potentiometric surface of MW-7D may be the result of the "drainage" of the monitored zone to a lower discharge point. Review of local topography indicates possible discharge points along Mud

Creek to the west of MW-7D. However, hydraulic conductivity values do not support the concept of unusually rapid ground-water flow away from this location.

- TCE was found in detectable concentrations at all off-site monitoring well locations, except monitoring well cluster MW-9, indicating that contaminants have migrated from the Griffin site to property immediately of south-southwest of the site. The highest TCE concentrations reported in off-site ground-water samples were from MW-6S, MW-7D, and MW-7S at concentrations of 270 ug/L, 260 ug/L, and 250 ug/L, respectively.

- Acetone, TCA, and 1,2-DCE were also detected in on-site and off-site monitoring wells, but at a lower frequency than TCE. Acetone was detected in MW-2 on the Griffin site at 50 ug/L and at four off-site monitoring wells in concentrations ranging from 14 ug/l in MW-7D to 370 ug/L in MW-10S. During previous site investigations, acetone was not detected in on-site monitoring wells, and its presence may not be directly related to past Griffin disposal practices.

- Ground-water concentrations reported for the detected VOCs (TCE, TCA, and 1,2-DCE) are above the NYS Ambient Water Quality Standard for those compounds in ground water.

- Analysis of a surface-water sample collected from Beaver Creek reported non-detectable concentrations for all VOCs indicating that Beaver Creek has not been impacted by the disposal practice at Griffin. Low levels of acetone and methylene chloride were detected in stream sediments; however, the detection of these compounds may be related to the presence of fill material near Beaver Creek.

- Analytical results of the 8-hour residential air sampling conducted at 6135 Victor-Manchester Road on November 1, 1993 and December 2, 1994 indicated that TCE and 1,2-DCE were not detected.

- Analytical results of the residential basement sump water sampling conducted at 6135 Victor-Manchester Road on May 21, 1993 indicate concentrations of TCE at 21 ug/L and 1,2-DCE at 19 ug/L.

Analytical results of follow-up basement sump water sampling conducted on December 2, 1994 indicated that VOCs were not detected. The sump water could not be flushed, because as recharge from the drain tile system was not present.

- A comparison of analytical results from the residential sump water sample collected on December 2, 1994 and the ground-water samples collected on December 19, 1994 from monitoring well cluster MW-6 indicate that VOCs were detected at the MW-6 well cluster and not at the residence, located approximately 100 feet to the east.

- The two soil samples obtained from the north end of the Griffin property near the warehouse do not indicate the presence of any other source area at the Griffin facility.

Recommendations

Section VI - Recommendations

The following actions are recommended based on the data collected from this off-site ground-water investigation and previous site investigations, to address the remaining data gaps, to assess potential risk to human health and the environment, and to resolve a course of action for remediation.

- Installation of a well cluster, consisting of an overburden and bedrock monitoring well, in the vicinity of the intersections of Mertensia Road and Route 96, east of Mertensia Road and south of Route 96. Sampling of the well cluster would provide additional insight into the characteristics of the overburden and bedrock depth, permeability, ground-water flow pattern, as well as identify the possible westward migration extent of contaminants from the Griffin site. Both wells would be installed, developed, and hydraulic conductivity tested in accordance with procedures utilized during the recent well installation program;

- Collection of a complete round of ground-water samples from the on-site and off-site monitoring wells upon installation and development of the proposed well cluster, to further define the extent of ground-water contaminants. The ground-water samples would be analyzed for VOCs by USEPA Method 8260;

- The collection of a residential air and sump water sample from the residence located at 6162 Victor-Manchester Road, west of the Griffin site, to be analyzed for VOCs. This sampling would be performed in conjunction with the proposed round of ground-water sampling;

- The quarterly measurement of ground-water levels at all on-site and off-site monitoring wells and the surface-water level for Beaver Creek at SG-1. The water-level measurements would be collected in the Spring, Summer, Fall, and Winter to assess site conditions during wet and dry periods. The ground-water elevation data would be plotted to generate overburden and bedrock ground-water contour maps, and to evaluate seasonal variations in flow patterns; and

- The performance of a risk assessment to evaluate the potential risks to human health and the environment due to the concentration of contaminants present in on-site and off-site monitoring wells.

In conjunction with all applicable data, the risk assessment would be used to propose a remedial solution to reduce and/or eliminate the effects of contaminant migration from the Griffin site.

- Initiate the preliminary design of a ground-water remedy to prevent off-site migration of significant concentrations of TCE, as the ground-water flow system and contaminant distribution is well defined, and because the source area (disposal area) has been shown, during earlier soil investigations, to no longer represent a significant source of TCE to ground water. The remedy would address risks identified by the risk assessment but conceptually consist of ground-water extraction well(s) located southwest of the disposal area along Route 96 with ground water being collected and treated on site or discharged to the local POTW. Preliminary discussions with the POTW indicate that direct discharge is a viable option.

Table

TABLE 1

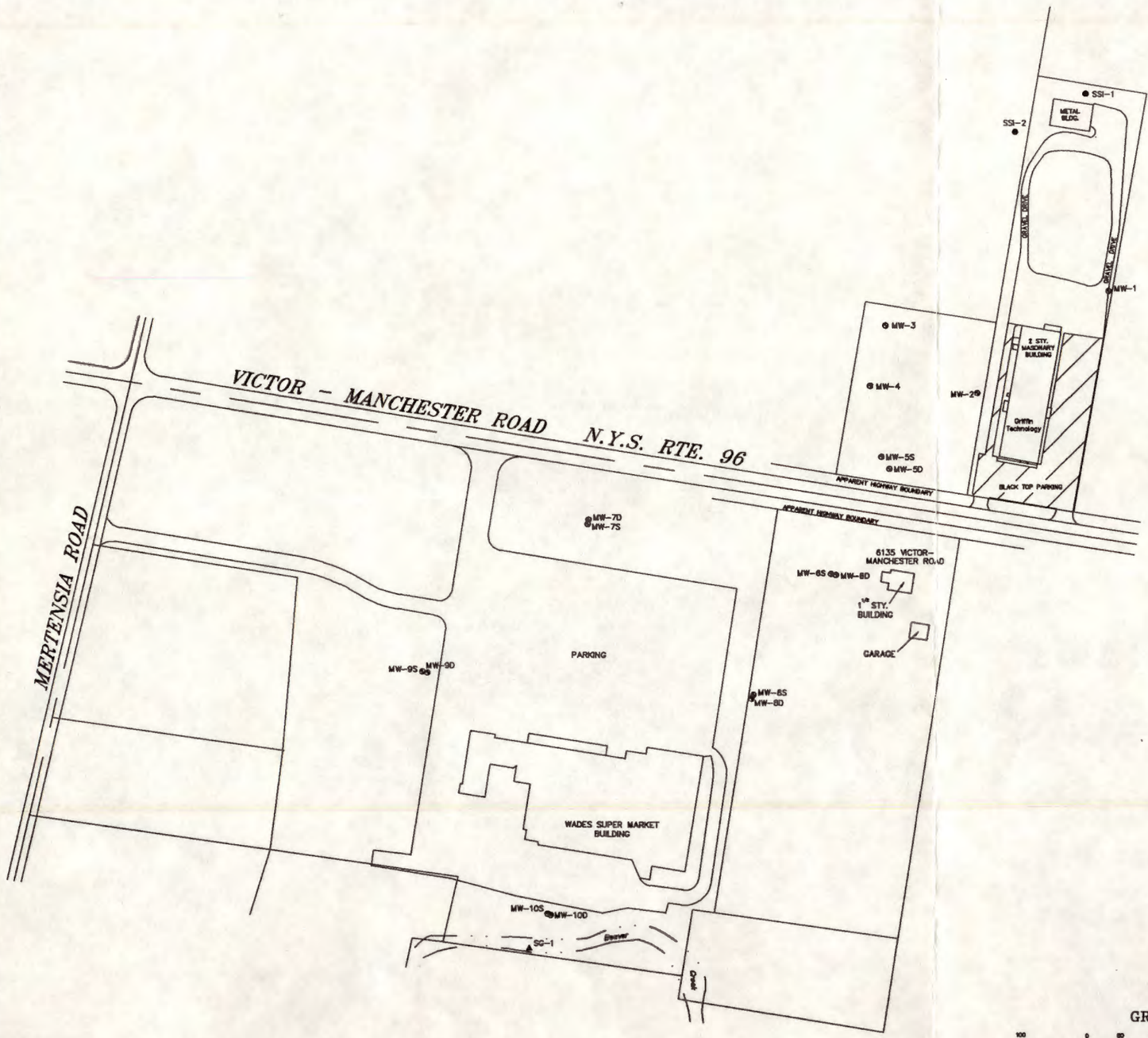
GRIFFIN TECHNOLOGY INC. SITE
PHASE II INVESTIGATION
GROUND–WATER ANALYTICAL RESULTS

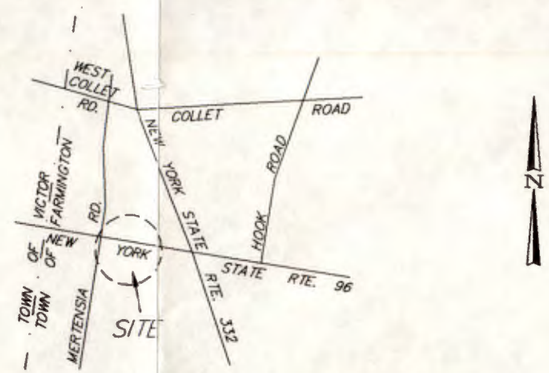
Constituent	MW–1	MW–2	MW–3	MW–4	MW–5S	MW–5D	MW–6S	MW–6D	NYS Ambient Water Quality Standards* (ug/l)
Acetone	ND	50	ND	ND	ND	ND	170	ND	NA
1,2–Dichloroethylene (total)	ND	ND	ND	23	ND	ND	ND	ND	5
1,1,1–Trichloroethane	ND	ND	ND	6.7	15	23	7.8	7.5	5
Trichloroethene	ND	850	190	710	580	820	270	190	5

Constituent	MW–7S	MW–7D	MW–8S	MW–8D	MW–9S	MW–9D	MW–10S	MW–10D	NYS Ambient Water Quality Standards* (ug/l)
Acetone	ND	14	ND	42	ND	ND	370	ND	NA
1,2–Dichloroethylene (total)	8.0	7.0	ND	ND	ND	ND	ND	ND	5
1,1,1–Trichloroethane	6.6	ND	ND	ND	ND	ND	ND	ND	5
Trichloroethene	250	260	29	55	ND	ND	7.8	8.2	5

Notes:
Analyte concentrations reported in micrograms per liter (ug/L).
Only analytes with concentrations reported above laboratory detection limits are listed in this table.
NA: Regulatory limit not established by NYSDEC.
ND: Analyte not detected above detection limit.
*: New York State ambient water quality standards referenced in Technical and Operational Guidance Series (TOGS) 1.1.1, dated November 15, 1991.

Figures





Location Map
(No Scale)

Well & Boring Elevations

	BORING OR WELL DESC.	GOUND ELEV.	OUTER CASING ELEVATION	INNER CASING ELEVATION
6/18/91	MW-1	638.91	641.95	641.79
	MW-2	639.28	641.55	641.38
	MW-3	640.29	642.34	642.17
	MW-4	640.21	641.92	641.75
	MW-5S	638.15	641.03	640.85
	MW-5D	638.05	641.19	641.01
12/14/94	MW-6S	637.12		636.61
	MW-6D	637.24		636.83
	MW-7S	634.60		634.29
	MW-7D	634.61		634.16
	MW-8S	634.08		633.64
	MW-8D	633.91		633.50
	MW-9S	630.51		630.16
	MW-9D	630.69		630.29
	MW-10S	627.32		629.00
	MW-10D	627.14		626.8
	SG-1		613.82 (Top Of Pipe)	

LEGEND

- ▲ STAFF GAUGE (SG)
- ⊕ MONITORING WELL (MW)
- ● SOIL SAMPLE

References:

1.) Map prepared by Paul V. Crandall P.L.S. titled "LANDS OF R.D. PRODUCTS INC." Last dated June 17, 1983. Job #83136.

2.) Map prepared by Paul V. Crandall P.L.S. titled "GRIFFIN TECHNOLOGY 6132 VICTOR-MANCHESTER ROAD, SOIL BORINGS & MONITORING WELLS" Last dated June 19, 1991. Job #911767.

3.) Map prepared by Paul V. Crandall P.L.S. titled "MAP SHOWING LANDS OF JAMES V. ALAIMO - ANTHONY S. ALAIMO, M.D. - STEPHEN L. ALAIMO, M.D. - SAMUEL R. ALAIMO & JOSEPH W. ALAIMO ESTATE TO BE CONVEYED" Last dated August 25 1993. Job #932113.

4.) Map prepared by Blasland & Bouck Engineers, P.C. titled "GRIFFIN TECHNOLOGY INC. VICTOR, NEW YORK OFF-SITE GROUND-WATER EVALUATION PROGRAM - PROPOSED MONITORING WELL LOCATION" Last dated July 1993.

GRAPHIC SCALE

100 0 100 200 300 400

(IN FEET)

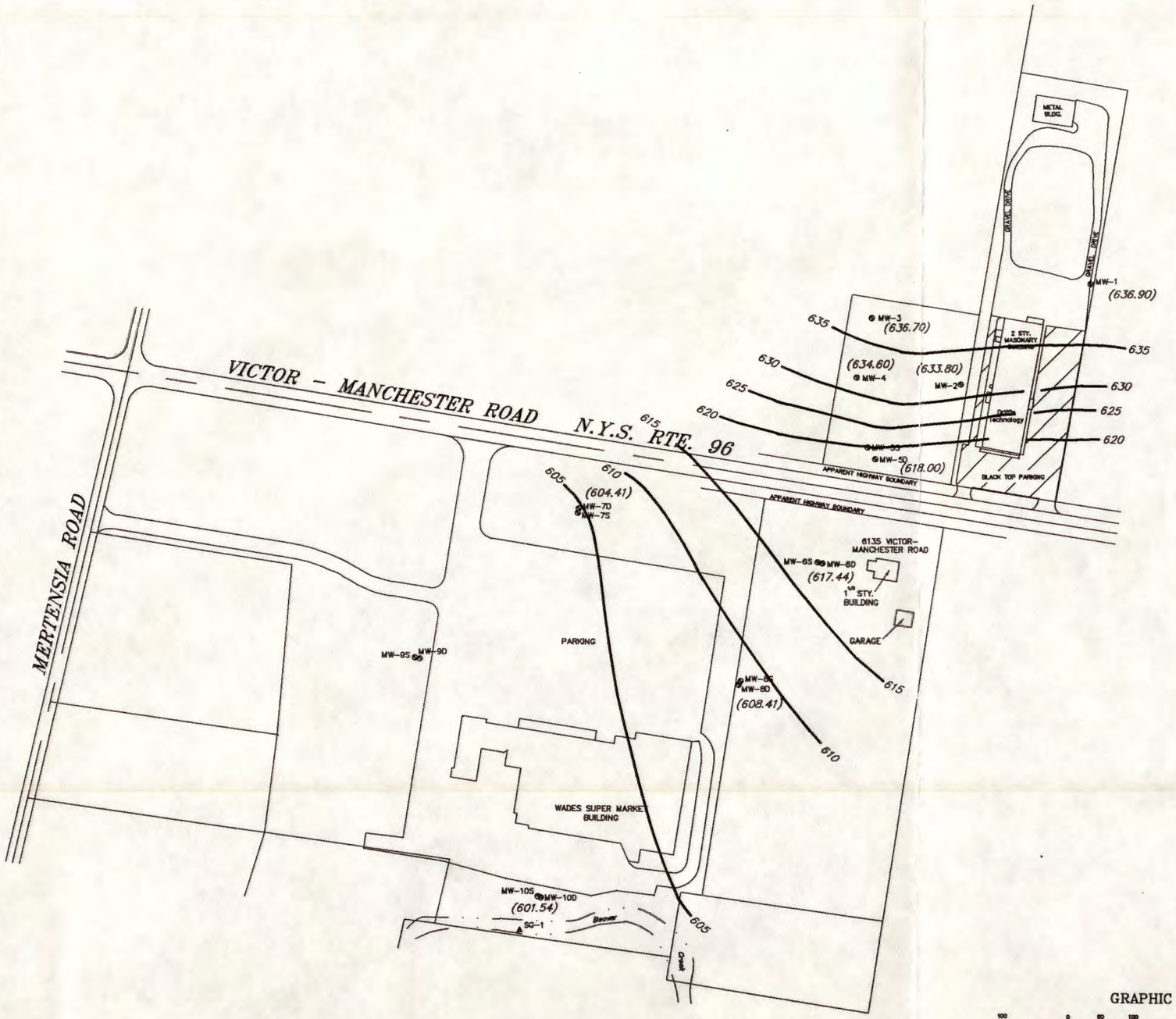
LEV: OFF/0,BED=,CONC=,OVER=,REF,SOIL-BORING
12/28/94 DIV-13 ATJ REV.2/2/95
C:P.#DWG/1995/39701060/39701001

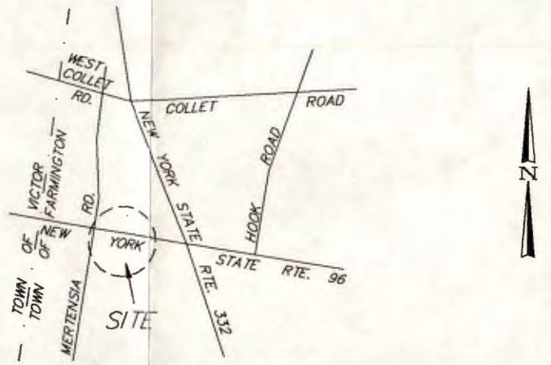
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

GRIFFIN TECHNOLOGY
FARMINGTON, ONTARIO COUNTY, NEW YORK
GROUND-WATER EVALUATION

SITE MAP

FIGURE
1





Location Map
(No Scale)

Well & Boring Elevations

	BORING OR WELL DESC.	GOUND ELEV.	OUTER CASING ELEVATION	INNER CASING ELEVATION
6/18/91	MW–1	638.91	641.95	641.79
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	MW–4	640.21	641.92	641.75
	MW–5S	638.15	641.03	640.85
	MW–5D	638.05	641.18	641.01
12/14/94	MW–6S	637.12		636.81
	MW–6D	637.24		636.83
	MW–7S	634.60		634.29
	MW–7D	634.61		634.16
	MW–8S	634.08		633.64
	MW–8D	633.91		633.50
	MW–9S	630.51		630.16
	MW–9D	630.69		630.29
	MW–10S	627.32		629.00
	MW–10D	627.14		626.8
	SG–1		613.82 (Top Of Pipe)	

LEGEND

▲ STAFF GAUGE (SG)
⊕ MONITORING WELL (MW)

References:

1.) Map prepared by Paul V. Crandall P.L.S. titled "LANDS OF R.D. PRODUCTS INC." Last dated June 17, 1983. Job #83138.

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GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

GRIFFIN TECHNOLOGY
FARMINGTON, ONTARIO COUNTY, NEW YORK
GROUND–WATER EVALUATION

TOP OF BEDROCK CONTOUR MAP

FIGURE **2**

LEV: OFF/OLBED=,CONC=,OVER=,REF,SOIL–BORING
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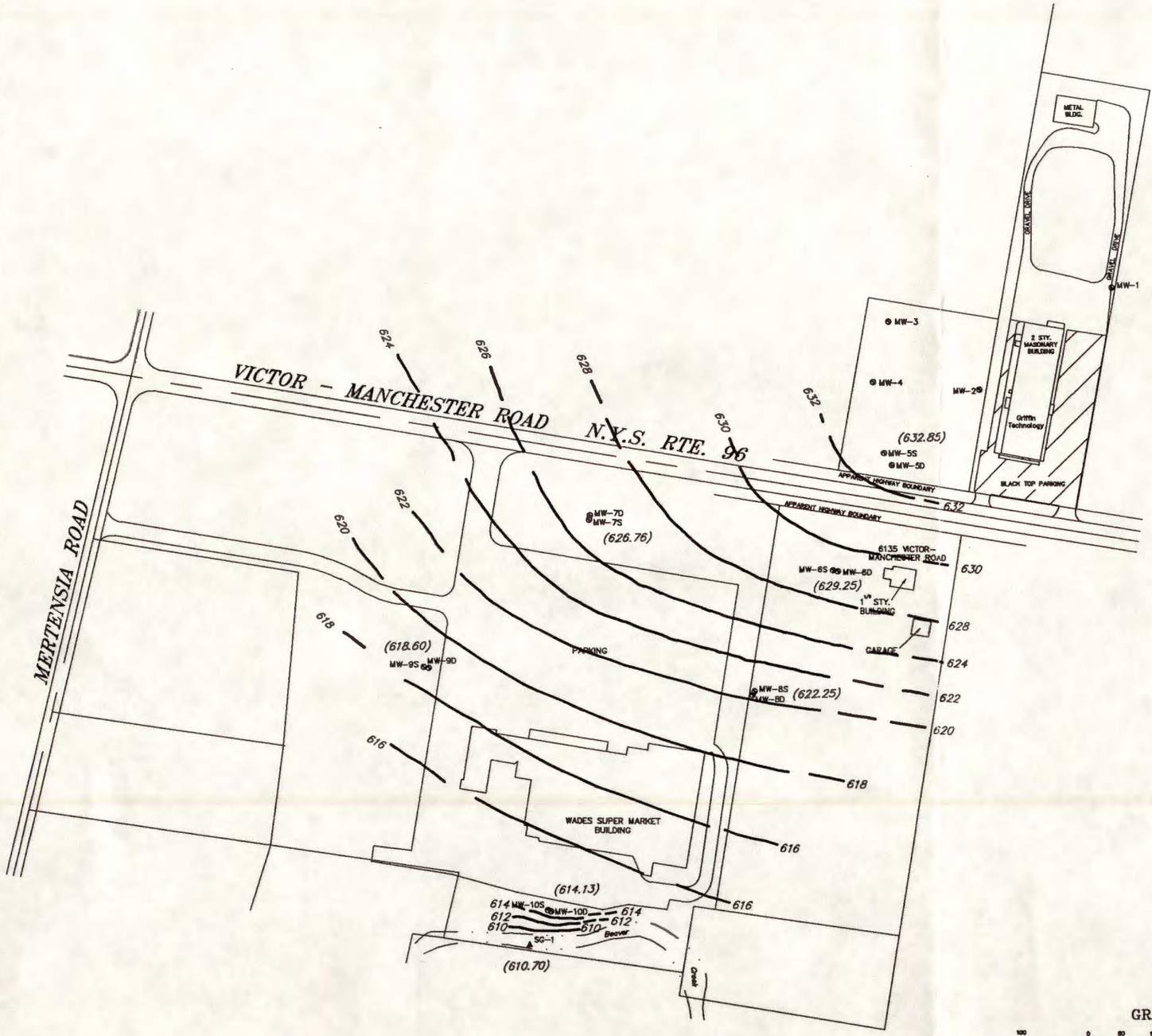
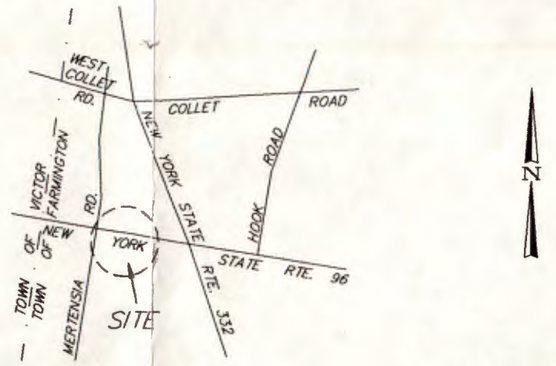
C:PJDWG/1995/39701060/39701001





Location Map
(No Scale)

Well & Boring Elevations

	BORING OR WELL DESC.	GOUND ELEV.	OUTER CASING ELEVATION	INNER CASING ELEVATION
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	MW-5D	639.05	641.18	641.01
12/14/94	MW-6S	637.12		636.61
	MW-6D	637.24		636.83
	MW-7S	634.80		634.29
	MW-7D	634.61		634.16
	MW-8S	634.08		633.64
	MW-8D	633.91		633.50
	MW-9S	630.51		630.16
	MW-9D	630.69		630.29
	MW-10S	627.32		629.00
	MW-10D	627.14		626.8
	SG-1		613.82 (Top Of Pipe)	

LEGEND

▲ STAFF GAUGE (SG)
● MONITORING WELL (MW)

References:

1.) Map prepared by Paul V. Crandall P.L.S. titled "LANDS OF R.D. PRODUCTS INC." Last dated June 17, 1983. Job #83138.

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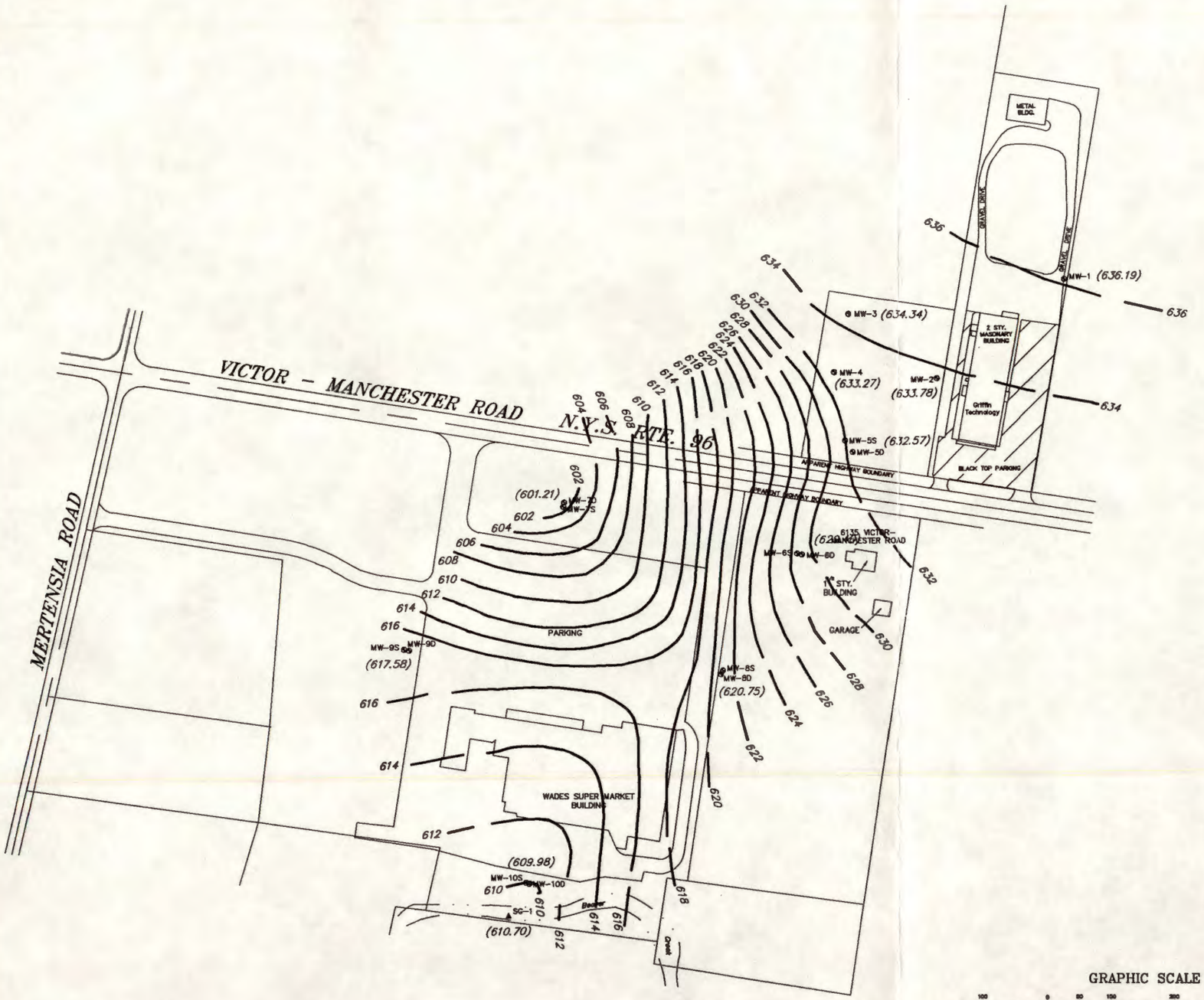
GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)

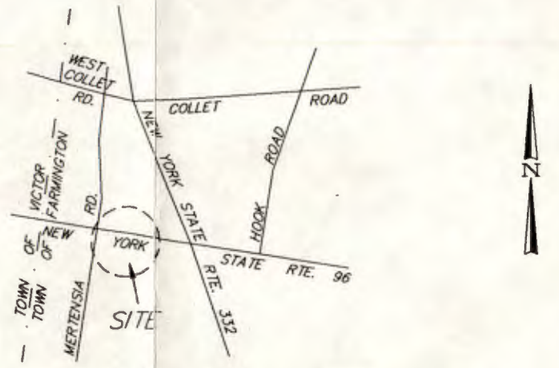
LEV: OFF/0,BED=,CONC=,TOP=,REF,SOIL=BORING
12/28/94 DIV-13 ATJ REV.2/7/95
C:\DWG\1995\39701060\39701001

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

GRIFFIN TECHNOLOGY
FARMINGTON, ONTARIO COUNTY, NEW YORK
GROUND-WATER EVALUATION

OVERBURDEN GROUND-WATER CONTOUR MAP | FIGURE 3





Location Map
(No Scale)

Well & Boring Elevations

	BORING OR WELL DESC.	GOUND ELEV.	OUTER CASING ELEVATION	INNER CASING ELEVATION
6/18/91	MW-1	638.91	641.95	641.79
	MW-2	639.28	641.55	641.38
	MW-3	640.29	642.34	642.17
	MW-4	640.21	641.92	641.75
	MW-5S	639.15	641.03	640.85
	MW-5D	639.05	641.18	641.01
12/14/94	MW-6S	637.12		636.61
	MW-6D	637.24		636.83
	MW-7S	634.60		634.29
	MW-7D	634.61		634.16
	MW-8S	634.08		633.64
	MW-8D	633.91		633.50
	MW-9S	630.51		630.16
	MW-9D	630.69		630.29
	MW-10S	627.32		629.00
	MW-10D	627.14		626.8
	SC-1		613.82 (Top Of Pipe)	

LEGEND

▲ STAFF GAUGE (SG)
⊕ MONITORING WELL (MW)

References:

1.) Map prepared by Paul V. Crandall P.L.S. titled "LANDS OF R.D. PRODUCTS INC." Last dated June 17, 1983. Job #83136.

2.) Map prepared by Paul V. Crandall P.L.S. titled "GRIFFIN TECHNOLOGY 6132 VICTOR–MANCHESTER ROAD, SOIL BORINGS & MONITORING WELLS" Last dated June 19, 1991. Job #911767.

3.) Map prepared by Paul V. Crandall P.L.S. titled "MAP SHOWING LANDS OF JAMES V. ALAIMO – ANTHONY S. ALAIMO, M.D. – STEPHEN L. ALAIMO, M.D. – SAMUEL R. ALAIMO & JOSEPH W. ALAIMO ESTATE TO BE CONVEYED" Last dated August 25 1993. Job #932113.

4.) Map prepared by Blasland & Bouck Engineers, P.C. titled "GRIFFIN TECHNOLOGY INC. VICTOR, NEW YORK OFF–SITE GROUND–WATER EVALUATION PROGRAM – PROPOSED MONITORING WELL LOCATION" Last dated July 1993.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

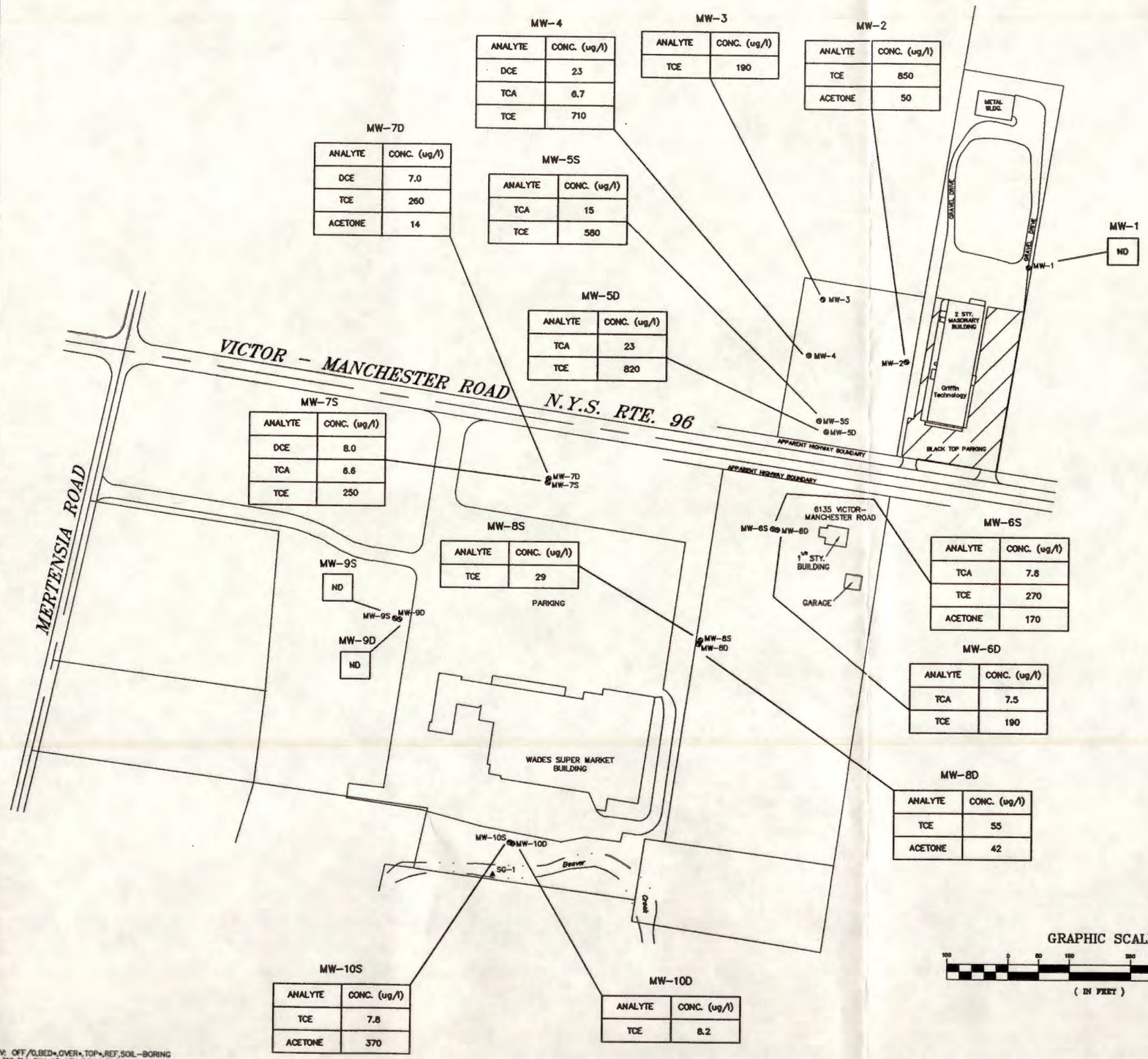
LEV: OFF/0,CONC=,OVER=,TOP=,REF,SOIL–BORING
12/28/94 DIV–13 ATJ REV.2/7/95
C:PJDWG/1995/39701060/39701001

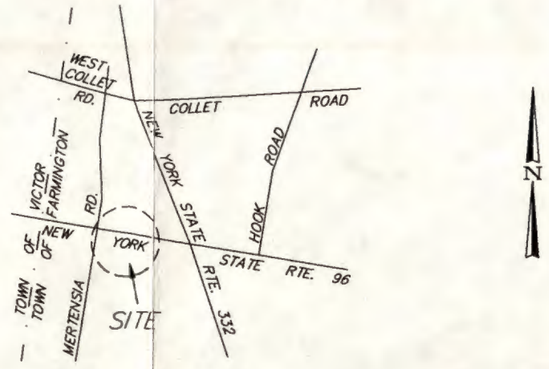
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

GRIFFIN TECHNOLOGY
FARMINGTON, ONTARIO COUNTY, NEW YORK
GROUND–WATER EVALUATION

BEDROCK GROUND-WATER CONTOUR MAP

FIGURE 4





Location Map
(No Scale)

Well & Boring Elevations

	BORING OR WELL DESC.	GOUND ELEV.	OUTER CASING ELEVATION	INNER CASING ELEVATION
6/18/91	MW-1	639.91	641.95	641.79
	MW-2	639.28	641.55	641.28
	MW-3	640.29	642.34	642.17
	MW-4	640.21	641.82	641.75
	MW-5S	639.15	641.03	640.85
	MW-5D	639.05	641.18	641.01
12/14/94	MW-6S	637.12		636.61
	MW-6D	637.24		636.83
	MW-7S	634.80		634.29
	MW-7D	634.61		634.16
	MW-8S	634.08		633.64
	MW-8D	633.91		633.50
	MW-9S	630.51		630.16
	MW-9D	630.69		630.29
	MW-10S	627.32		629.00
	MW-10D	627.14		626.8
	SG-1		613.82 (Top Of Pipe)	

LEGEND

▲ STAFF GAUGE (SG)
● MONITORING WELL (MW)

References:

1.) Map prepared by Paul V. Crandall P.L.S. titled "LANDS OF R.D. PRODUCTS INC." Last dated June 17, 1983. Job #83136.

2.) Map prepared by Paul V. Crandall P.L.S. titled "GRIFFIN TECHNOLOGY 6132 VICTOR-MANCHESTER ROAD, SOIL BORINGS & MONITORING WELLS" Last dated June 19, 1991. Job #911767.

3.) Map prepared by Paul V. Crandall P.L.S. titled "MAP SHOWING LANDS OF JAMES V. ALAIMO – ANTHONY S. ALAIMO, M.D. – STEPHEN L. ALAIMO, M.D. – SAMUEL R. ALAIMO & JOSEPH W. ALAIMO ESTATE TO BE CONVEYED" Last dated August 25 1993. Job #932113.

4.) Map prepared by Blasland & Bouck Engineers, P.C. titled "GRIFFIN TECHNOLOGY INC. VICTOR, NEW YORK OFF-SITE GROUND-WATER EVALUATION PROGRAM – PROPOSED MONITORING WELL LOCATION" Last dated July 1993.

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

GRIFFIN TECHNOLOGY
FARMINGTON, ONTARIO COUNTY, NEW YORK
GROUND-WATER EVALUATION

GROUND-WATER QUALITY MAP

FIGURE **5**

LEV: OFF/0,BED=,OVER+,TOP+,REF,SOIL-BORING
12/28/94 DIV-13 ATJ REV.2/7/95
C:PJDWG/1995/39701060/39701001

Appendices

Appendix A

Off-Site Ground-Water Evaluation Work Plan and Addendum

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & GEOSCIENTISTS
30 Corporate Woods, Suite 160, Rochester, New York 14623-1477 (716) 292-6740
FAX: (716) 292-6715

August 11, 1993

Ms. Mary Jane Peachey, P.E.
Regional Hazardous Waste Remediation Engineer
Division of Hazardous Waste Remediation
New York State Department
Of Environmental Conservation
6274 E. Avon-Lima Road
Avon, New York 14414

Re: Griffin Technology, Inc., Off-Site Ground-Water Evaluation Work Plan

File: 379.01 #2

Dear Ms. Peachey:

Enclosed is Blasland & Bouck Engineers, P.C. (Blasland & Bouck's) proposed work plan for installing off-site monitoring wells for the evaluation of ground-water quality on the south side of Route 96 near Griffin Technology, Inc.

The wells will be located at four locations in the area downgradient of the Griffin facility, based on the findings of the Phase II investigation completed in 1991 and the soil vapor survey results, and ground-water sampling and basement sump sampling performed in May 1993.

Because this plan is considered an expansion of the Phase II Investigation, which has been conducted in accordance with Consent Order index #B8-315-90-01, the well installation procedures will generally follow the Phase II work plan. One exception is that the proposed bedrock monitoring wells will be screened in rock (instead of open hole), based on the condition of the upper rock zone, identified during the Phase II drilling program.

Blasland & Bouck is prepared to begin the off-site ground-water evaluation program upon approval from the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH), and approval of site access from Mr. Wade.

Please provide your comments at your earliest convenience so that we may expedite the installation of the proposed off-site monitoring wells.

Very truly yours,

BLASLAND & BOUCK ENGINEERS, P.C.

Mark F. Weider/lap

Mark F. Weider
Associate

SJD/lap
1593966K
Attachment
cc: Mr. Howard Rosser, Griffin Technology, Inc.
Ms. Tammy Anderson, Nixon, Hargrave, Devans & Doyle
Mr. Richard Tuers, NYSDOH

Griffin Technology, Incorporated
Off-Site Ground-Water Evaluation Program Work Plan

Introduction

Off-site monitoring wells will be installed at four downgradient locations south and southwest of the Griffin Technology facility to evaluate the overburden and bedrock ground-water quality and subsurface conditions south of Route 96. The locations and monitoring intervals in the overburden and bedrock have been selected based on the results of soil vapor surveys conducted in May 1993, which identified total volatile organic vapors above background levels south of Route 96, and ground-water analytical results from the sump at the residence located south of the Griffin facility, which contained CIS-1,2 dichloroethene at 19 parts per billion (ppb) and trichloroethene (21 ppb). The proposed monitoring well locations are positioned in the downgradient direction to the south and southwest of the current monitoring wells at the Griffin facility. The results of samping from the existing wells in May 1993 indicated concentrations of trichloroethene in the overburden (650 ppb) and the bedrock (1200 ppb) at the MW-5 well cluster, which is located closest to the north side of Route 96.

Two monitoring well clusters and two single overburden wells are proposed for the adjacent property south of Route 96 at the locations shown on Figure 1. Each cluster will consist of an overburden well and a bedrock well. The results from the Phase II Investigation conducted on the Griffin property indicated increasing depth to bedrock closest to Route 96. As a result, two bedrock wells are proposed for the two locations closest to Route 96 to determine if the bedrock slope continues southward and to evaluate bedrock ground-water quality conditions in this area. Pending the determination of bedrock configuration and bedrock water quality, additional bedrock wells may be installed at the other two overburden well locations.

It appears that the south, southwestern ground-water flow pattern is a local condition within the regional northerly-flowing ground-water system and that ground-water is probably discharging to the small stream on the south side of the Wade property. Based on this flow pattern, continued deep migration of ground-water on the southern portion of the Wade property is not anticipated. Data developed during this evaluation program will be used to confirm this conceptual ground-water flow model.

The objectives of this off-site ground-water evaluation program are as follows:

- To provide sufficient subsurface stratigraphic information to determine the depths and lateral extent of permeable and non-permeable hydrogeologic units in the overburden deposit and upper bedrock formation.

- To install monitoring wells of suitable construction to allow long-term collection of representative ground-water samples.

- To provide monitoring of ground-water levels and piezometric heads sufficient to define rates and direction of ground-water flow (vertical and horizontal).

- To provide in-situ hydraulic conductivity testing of the monitoring wells to determine aquifer properties, as necessary, to determine ground-water flow rates and for potential development of an interim remedial measure (IRM) and/or final ground-water remedial system.

- To provide for ground-water quality information through sampling of the monitoring well network to identify the types, concentrations, and distributions of chemical constituents, if present.

- To maintain subsurface exploration and well installation procedures that do not exacerbate the spread of contaminants in the subsurface. This aspect will be monitored by the on-site Blasland & Bouck geologist who will be responsible for adjusting the drilling procedures, where necessary, based on the subsurface conditions encountered.

Detailed procedures and methodologies are discussed below.

Off-Site Soil Sampling

Continuous split-spoon samples will be collected at each of the two proposed bedrock well locations and single overburden well locations. The overburden soils will be visually classified and logged by an on-site Blasland & Bouck geologist. Each discrete soil sample interval will be screened for total volatile organic vapors in the field using a photoionization detector (PID). Soil samples will be submitted for analytical laboratory testing for volatile organic compounds by USEPA Method 8240 if elevated organic vapors are detected or visual contamination is noted above the water table.

Off-Site Overburden Monitoring Well Installation

The overburden monitoring wells will consist of a two-inch-diameter, schedule 40 PVC well screen (0.01 in slot size), and a two-inch-diameter, schedule 40 PVC casing. The wells located at the proposed well clusters will be advanced to a depth of approximately 8 feet below the ground-water table, as determined from the proposed adjacent bedrock monitoring well at the cluster, and the well screen will be installed so that the top of the screen extends approximately 2 feet above the ground-water table. At proposed single overburden well locations, the borehole will be advanced to the top of the bedrock surface to characterize the overburden and determine the configuration

of the bedrock surface. If necessary, the borehole extending below the proposed monitoring interval will be backfilled from the top of the bedrock surface to approximately eight feet below the ground-water table with a bentonite slurry by means of a tremie line. The actual well design and monitoring interval will be determined by the on-site Blasland & Bouck geologist, based on the subsurface geologic conditions encountered at each location.

The overburden wells will be completed as follows:

- A schedule 40 PVC well screen (maximum length of 10 feet) and PVC casing will be placed to the bottom of the borehole, with the screened interval extending upward to 2 feet above the water table, if possible. As the augers are slowly removed, quartz sand will be placed in the annular space around the well screen and riser from the base of the screen to approximately 2 feet above the screen. A six-inch-thick layer of fine sand will be placed above the sand pack. The Blasland & Bouck on-site geologist will be responsible for determining the final well installation design, based on the geologic conditions encountered.

- In wells where the top of the sand pack is above the water table, bentonite pellets will not be used, because complete hydration of bentonite may not be guaranteed. In this instance, granular bentonite will be mixed with water to form a pre-hydrated slurry (as thick as possible) and tremied to form a minimum 2-foot seal above the six-inch-fine sand layer.

- Cement/bentonite grout will be placed from the top of the bentonite seal to 4 feet below the ground surface. The grout will consist of one bag (94 lbs.) of Type I Portland cement and 4 to 5 pounds of bentonite mixed with 7 gallons of potable water.

- Accurate measurements of material depths will be made by frequently sounding the annulus during installation. The volume of well construction materials needed will be calculated and compared to the actual volume used.

- The well will be terminated below grade and finished at ground surface with a flush-mounted "curb box." The curb box will contain a water-tight seal and a 3-foot metal extension. A sand drainage layer will extend from the top of the well casing to the top of the cement/bentonite grout (0 - 4 feet below grade). The well casing will be secured with a lockable cap. A concrete surface pad (2.5 ft. x 2.5 ft. x 1 ft. thick) will be formed around the flush-mounted curb box.

Off-Site Bedrock Monitoring Well Installation

Two bedrock wells will be installed within the upper portion of the bedrock at locations closest to the south side of Route 96 to evaluate bedrock water

quality conditions downgradient of the Griffin facility. The specific construction procedures for the bedrock wells within the upper bedrock are as follows:

- 6-1/4-inch-I.D. hollow-stem augers will be used to advance the borehole through the overburden to a point one foot into the top of bedrock.
- Continuous split-spoon sampling will be conducted, and each soil sample will be screened for volatile organic compounds with a PID (see soil sampling procedures).

- The bedrock will be cored using an NX core barrel to a depth of a maximum of 15 feet into the bedrock formation. The rock core samples will be logged by the on-site Blasland & Bouck geologist.

- The NX rock corehole will be reamed with a 3-7/8-inch roller bit to the bottom of the rock borehole. The rock cuttings will be removed from the borehole by flushing the borehole with potable water.

- The wells will be completed by installing a 10-foot-long, two-inch-diameter, schedule 40 PVC screen (slot size 0.01 inch) and casing to the bottom of the rock borehole. Quartz sand will be placed in the annular space around the well screen from the base of the screen to approximately 2 feet above the screen. A 6-inch-thick layer of fine sand will be placed above the sand pack. A minimum of 3-foot-thick, hydrated bentonite slurry seal will be placed above the fine sand layer and will extend across the top of bedrock surface. The remainder of the annulus will be tremie grouted with a cement/bentonite grout to 4 feet below ground surface.

- The bedrock wells will be completed at ground surface in the same manner as described for the overburden wells.

Well Development & Hydraulic Conductivity Testing

Well development will be conducted by a combination of mechanical surging, bailing, and pumping. Development goals, if possible, for the bedrock wells include the extraction of a water volume in excess of the drill water lost to the bedrock monitoring interval during drilling, and establishing a hydraulic connection between the well and the formation. Since drill water will not be introduced during drilling of the overburden wells, well development in these wells will be conducted using mechanical surging, bailing, and pumping until the discharged ground-water is relatively free of sediments. Upon completion of well development, a rising head hydraulic conductivity test will be conducted on each of the wells to determine the in-place hydraulic conductivity of the geologic deposit/formation surrounding the well screen. Testing will be conducted in accordance with the procedures described in Appendix D of the Phase II Investigation Work Plan (Blasland & Bouck, January 1991).

Equipment Decontamination

Drilling equipment and associated tools, including augers, drill rods, wrenches, and other equipment, will be decontaminated between the drilling of each borehole with high pressure steam. Split-spoon soil samplers will be decontaminated with an Alconox wash, methanol rinse, potable water rinse, and distilled water rinse.

Ground-Water Level Measurements

A reference mark will be placed on the edge of the well casing and surveyed for elevation control. Water level measurements will be taken from the surveyed reference marks and utilized to develop both vertical and horizontal ground-water flow patterns. The relative elevation of the stream on the south side of the Wade property will also be evaluated. The stream bed will be evaluated for evidence of ground-water discharge or recharge conditions.

Ground-Water Sampling

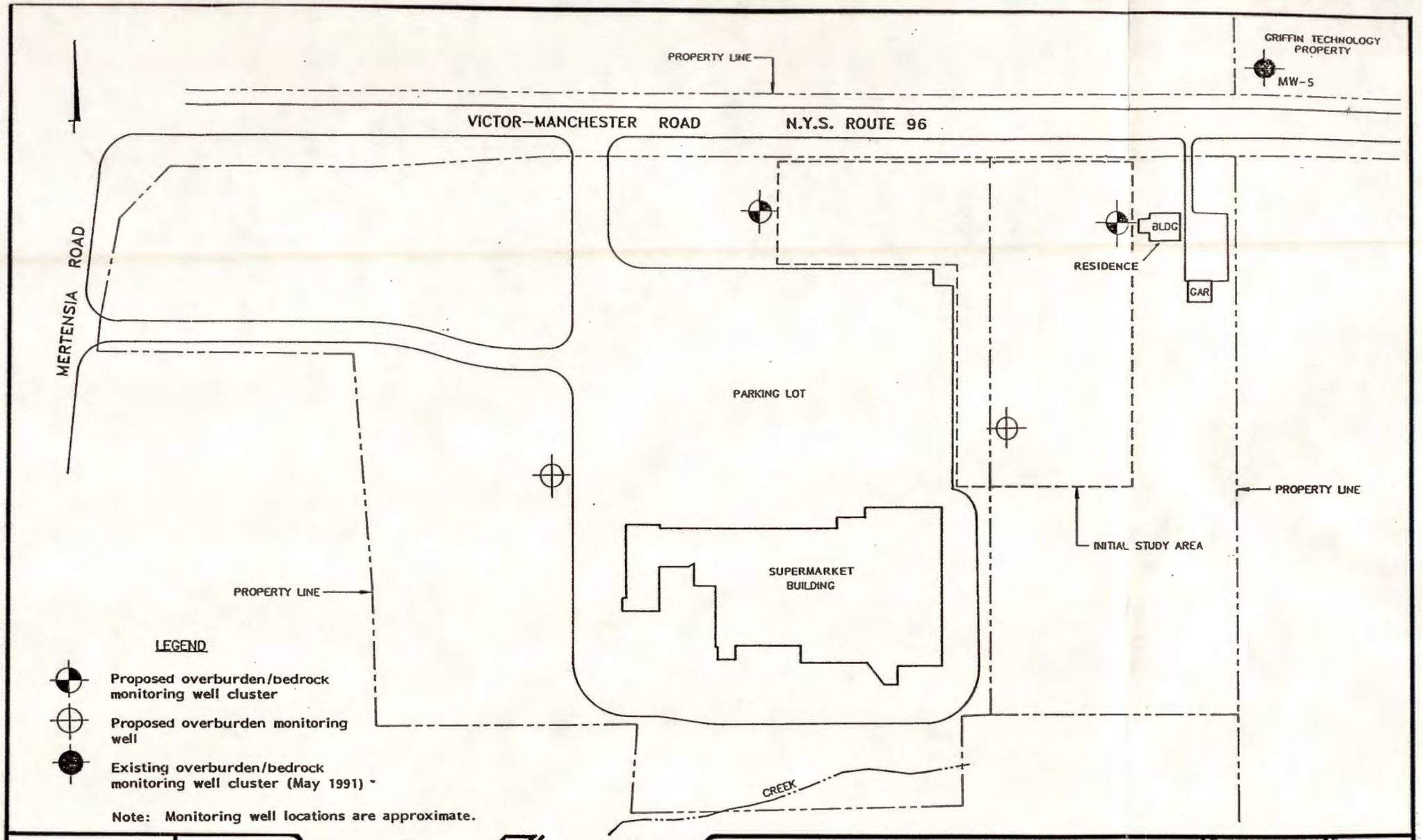
Representative ground-water samples will be obtained from each off-site monitoring well. Prior to sampling, a minimum of three well volumes will be purged. The procedures for ground-water sampling will generally follow the procedures described in Appendix F in the Phase II Investigation Work Plan. Samples will be analyzed for TCL volatiles by USEPA Method 8240. The need for additional rounds of ground-water sampling will be evaluated following receipt of the first round of water quality data.

Management of Investigation Derived Waste

Soils generated from the boreholes from the region below the water table will be containerized and moved to the Griffin property for proper disposal. All water removed from the monitoring wells during drilling, development, or purging prior to sampling will be containerized and moved to the Griffin property for proper disposal.

Schedule

The off-site ground-water evaluation is anticipated to require a total of 10 weeks from receipt of authorization to proceed. The schedule includes: two weeks for mobilization and completion of monitoring well installations; one week to develop the wells, conduct hydraulic conductivity tests, and sample the monitoring wells; and seven weeks to receive the analytical data and prepare a summary report, which will include ground-water flow direction and quality conditions.



SCALE: 0 100'

In charge of_____
Designed by_____
Drawn by_____
Checked by_____

NO ALTERATIONS PERMITTED EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

BLASLAND & BOUCK ENGINEERS, P.C.
Syracuse, New York
Niles Plains, New York

GRIFFIN TECHNOLOGY INC.
VICTOR, NEW YORK

OFF-SITE GROUND-WATER EVALUATION PROGRAM
PROPOSED MONITORING WELL LOCATION

File Number: 379.01
Date: JULY 1993

Figure: 1

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS
30 Corporate Woods, Suite 160, Rochester, New York 14623-1477
(716) 292-6740 FAX: (716) 292-6715

November 20, 1994

Mr.. David G. Pratt
Environmental Engineer I
Division of Hazardous Waste Remediation
New York State Department of Environmental Conversation
6274 East Avon-Lima Road
Avon, New York 14414

Re: Response to NYSDEC Comments
Off-Site Ground Water Evaluation
Work Plan
Griffin Technology, Inc.
Site ID#835008
Victor, New York

File: 379.01 #2

Dear Mr. Pratt:

Please find enclosed two copies of the "Addendum to the Off-Site Ground-Water Evaluation Work Plan for Griffin Technology, Inc., Victor, New York". The addendum has been prepared by Blasland, Bouck & Lee, Inc. (BB&L) on behalf of Griffin Technology, Inc. (Griffin) in response to the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) October 20, 1994 comments to the "Off-Site Ground-Water Evaluation Work Plan for Griffin Technology, Inc." BB&L August 11, 1993.

If you have any questions concerning this Addendum, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

Mark F. Weider /sar

Mark F. Weider
Associate

MFW/lap
Enclosure
5194966B

cc: Mr. Robert Urland, Griffin Technology, Inc.
Mr. Howard Rosser, Griffin Technology, Inc.
David Cook, Esq., Nixon, Hargrave, Devans & Doyle

ADDENDUM
OFF-SITE GROUND-WATER EVALUATION WORK PLAN
GRIFFIN TECHNOLOGY, INC.
VICTOR, NEW YORK
NOVEMBER 17, 1994

NYSDEC/NYSDOH COMMENTS (October 20, 1994)	RESPONSE/REVISION
1. Page 1, second paragraph: Additional bedrock wells may be installed at the two furthest downgradient overburden well locations "pending the determination of bedrock configuration and bedrock water quality." These determinations must be made during the installation of the other wells so that, if necessary, these additional wells will be installed during this mobilization.	An additional bedrock well will be installed adjacent to each overburden well.
2. Page 1. The third paragraph offers the theory that ground water is discharging into the small stream to the south and a conceptual ground water flow model is proposed to confirm this. The closest proposed well to the creek is approximately 400 feet to the north. Confirmation will not likely be possible if there are no samples closer to the creek. Please include well locations nearer the creek to satisfy this issue.	An additional cluster well will be installed near the creek behind the shops, to confirm upward gradients which will support the ground water discharge concept. If site conditions indicate that the bedrock well may be deeper than 60 feet, the NYSDEC Project Manager will be contacted for guidance.

ADDENDUM
OFF-SITE GROUND-WATER EVALUATION WORK PLAN
GRIFFIN TECHNOLOGY, INC.
VICTOR, NEW YORK
NOVEMBER 17, 1994

NYSDEC/NYSDOH COMMENTS (October 20, 1994)	RESPONSE/REVISION
3. Page 2, second last bullet: This objective calls for providing ground water quality information through sampling of the monitoring well network; however, the page 5 ground water sampling section indicates only the new wells will be sampled. All existing wells need to be sampled along with the new wells to provide current ground water quality data. Also, this objective is misleading since only TCL volatiles will be analyzed, not the full TCL. Please change the wording from "chemical constituents" to "volatile organic compounds."	Both existing and new monitoring wells will be sampled and analyzed for TCL volatiles, to provide current ground water quality data.
4. Page 2, last bullet: The NYSDEC must be contacted if changes are necessary.	BB&L will contact the NYSDEC for approval prior to implementing any changes to those procedures outlined in the approved Work Plan.
5. Page 4, last paragraph: Well development must include valid attempts to achieve turbidity levels of 50 NTUs or less. During development, the turbidity levels must be quantitatively monitored and recorded. Also, other parameters, such as pH, temperature and specific conductance, must be tracked and allowed to stabilize. Pumping until the discharged ground water is "relatively free of sediments" is not acceptable. If, after considerable effort, the turbidity does not stabilize, please contact the NYSDEC project manger for guidance. Also, please be more specific as to the method of development (e.g. mechanical surging, bailing and pumping).	BB&L will monitor and record turbidity, pH, temperature, and specific conductance during well development activities. If these parameters do not stabilize, the NYSDEC Project Manager will be contacted for guidance. Well development will be accomplished through surging and bailing or surging and pumping.

ADDENDUM
OFF-SITE GROUND-WATER EVALUATION WORK PLAN
GRIFFIN TECHNOLOGY, INC.
VICTOR, NEW YORK
NOVEMBER 17, 1994

NYSDEC/NYSDOH COMMENTS (October 20, 1994)	RESPONSE/REVISION
6. Page 5, Ground Water Level Measurements: How will the stream bed be evaluated for evidence of ground water discharge or recharge conditions? Also, if the ground water truly discharges to the stream as proposed, then sediment and surface water samples from this stream (Beaver Creek, class C surface water) must be included.	BB&L proposes to install an additional cluster well adjacent to the creek to confirm upward gradients. Shallow well points will also be considered in or near the stream bed with a staff gauge placed in the creek. The staff gauge and all well points will be surveyed to correlate the hydraulic relationship between groundwater and surface water. One stream sample and one sediment sample will also be collected and analyzed for TCL volatiles.
7. Page 5, Ground Water Sampling: What is meant by "The procedures for ground water sampling will generally follow the procedures..."? Please be more specific if alterations to existing procedures will be made. Field changes to procedures need to be documented and reported to NYSDEC within 48 hours.	The procedures for ground water sampling will follow the procedures described in Appendix F in the Phase II Investigation Work Plan. Any field changes to these procedures will be documented and reported to the NYSDEC within 48 hours.
8. Page 5, Management of Investigation Derived Waste: How long will the wastes be stored on Griffin property prior to proper disposal and what is the proper disposal planned for these wastes?	Wastewaters generated during well installation and development will be drummed and discharged to the Town of Farmington Waste Treatment Plant. Solid waste generated during well installation will be drummed and stored at Griffin where characterization of the materials will be performed. Based on the results of the characterization, the waste will be appropriately disposed.

ADDENDUM
OFF-SITE GROUND-WATER EVALUATION WORK PLAN
GRIFFIN TECHNOLOGY, INC.
VICTOR, NEW YORK
NOVEMBER 17, 1994

NYSDEC/NYSDOH COMMENTS (October 20, 1994)	RESPONSE/REVISION
9. Misc.: The NYSDOH has previously identified at least five residential dwellings downgradient of the site which may have basements potentially impacted by site contaminants. If the new downgradient wells show significant contamination, then additional investigation in these basements will be warranted.	The basement sump water and basement air at the Wade residence located south of the Griffin site on Route 96 will be resampled during the Off-site Ground Water Investigation. The potential for additional residential basement sampling will be further evaluated upon receipt of the off-site ground water analytical data.

Appendix B

Subsurface Logs

Date Start/Finish: 11/29/94 / 11/30/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 6 1/4 -in. I.D. **Rig Type:** CME-55 **Spoon Size:** 2-in. O. D. **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** **Easting:** **Corehole Depth:** 38.0 ft. **Borehole Depth:** 19.7 ft. **Ground Surface Elev.:** 637.24 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-6D **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 637.24 ft.														Flush mount curb-box with bolted lid.
													GROUND SURFACE	
	S1		3 3 3 7	6	1.4	0.5							Dark brown SILT, some Sand, trace Clay, rootlets, loose, dry. TOPSOIL	Concrete pad at surface. Top of casing elevation = 636.83 feet.
	S2		13 18 20 24	38	0.0	-							Brown SILT, some to little medium to coarse Sand, trace to little Clay, loose, dry. TILL	Sand filter.
5	S3		10 14 20 31	34	2.0	0.0							No recovery. Brown SILT, little medium to coarse Sand, little Clay, little medium angular Gravel, medium dense, dry.	2-inch diameter, SCH 40, PVC riser from 28.0 feet to 0.4 feet.
	S4		10 28 50/.4	78	1.1	0.0							Brown SILT, little to some Clay, little Gravel, trace coarse Sand, very dense, dry. Coarse Sand seam from 6.9 to 7.0 feet.	
	S5		12 21 31 37	52	0.2	0.0							Same, except medium dense, moist.	Cement/bentonite grout mixture from 13.0 feet to 4.0 feet.
10	S6		10 13 21 30	34	1.9	0.0							Brown SILT and CLAY, trace angular Gravel, medium dense, dry.	
	S7		14 20 28 28	48	1.8	0.0							Same, except trace fine Sand as seams. TILL	
15	S8		28 50/.3	78	0.3	0.0							Same, except some Gravel as rock fragments, moist.	

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-6D

Total Depth = 38.0 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description
	R1						15.0 19.0	-	-	-			Core barrel used to drill through boulder/cobble zone. TILL
20	S9		27 60/2	87	0.4	0.0							Brown SILT, and medium to coarse Sand, some Clay, little fine to coarse subrounded to angular Gravel, very dense, wet.
	R2						21.0 25.0	100	90	8.5			Top of rock at 19.7 feet. Light to dark gray-green dolomite. Vugs and few fossils present. Partially crystallized vugs from 21.1 to 21.2 feet. Partially crystallized vug at 23.8 feet.
25	R3						25.0 30.0	94	60	8.0			Low angle, iron stained, vertical joint at 25.2 feet. High angle, vertical joint at 25.9 feet. Non-crystallized vug at 26.7 feet. High angle, vertical joint at 26.7 feet. High angle, vertical joints at 28.5 ft., 28.8 ft., 29.0 ft. and 29.3 ft.
30	R4						30.0 35.0	96	77	7.2			Intersecting high angle, vertical joints from 30.2 to 30.7 feet. Low angle, vertical joint at 31.2 ft. Low angle, vertical joint at 32.6 feet.
35													

Well Construction

- Hydrated bentonite slurry from 25.5 feet to 19.0 feet.
- Grade OON sandpack from 28.0 feet to 25.5 feet.
- Grade ON sandpack from 38.0 feet to 28.0 feet.
- 2-inch diameter, 0.10-inch slot, SCH 40, PVC screen from 38.0 feet to 28.0 feet.

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-6D

Total Depth = 38.0 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	R5						35.0 38.0	90	67	8.7			High angle, vertical joint at 35.1 feet. Horizontal fracture at 37.1 feet.	
													Bottom of corehole at 38.0 feet.	
40														
45														
50														
55														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 12/1/94 / 12/1/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 4 1/4 I.D. **Rig Type:** CME-55 **Spoon Size:** na-in. O.D. **Hammer Weight:** na-lb **Height of Fall:** na-in.	**Northing:** **Easting:** **Borehole Depth:** 19.5 ft. **Ground Surface Elev.:** 637.12 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-6S **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 637.12 ft													GROUND SURFACE	Flush mount curb-box with bolted lid.
5													See log MW-6D for subsurface soil conditions.	Concrete pad at surface. Top of casing elevation = 636.81 feet. Sand filter. 2-inch diameter, SCH 40, PVC riser from 9.4 feet to 0.5 feet. Cement/bentonite grout mixture from 4.9 feet to 4.0 feet. Hydrated bentonite slurry from 6.9 feet to 4.9 feet. Grade OON sandpack from 7.4 feet to 6.9 feet. Grade ON sandpack from 19.4 feet to 7.4 feet.
10														
15														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-6S

Total Depth = 19.5 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
														2-inch diameter, 0.10-inch slot, SCH 40, PVC screen from 19.4 feet to 9.4 feet.
20													Bottom of boring at 19.5 feet.	
25														
30														
35														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 12/1/94 / 12/5/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 6 1/4-in. I.D. **Rig Type:** CME-55 **Spoon Size:** 2-in. O. D. **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** **Easting:** **Corehole Depth:** 44.8 ft. **Borehole Depth:** 31.0 ft. **Ground Surface Elev.:** 634.61 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-7D **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 634.61 ft.														Flush mount curb-box with bolted lid.
													GROUND SURFACE	
	S1		2 2 4 7	6	1.8	0.1							Dark brown SILT, some fine to medium Sand, trace Clay, rootlets, loose, dry. TOPSOIL	Concrete pad at surface. Top of casing elevation = 634.16 feet.
	S2		6 14 14 15	28	1.5	0.2							Brown SILT, some fine to medium Sand, trace Clay, loose, dry. TILL	Sand filter.
5	S3		9 15 27 30	42	2.0	0.0							Brown SILT, little fine to medium Sand, little Clay, little subrounded fine to medium Gravel, medium, dry.	
	S4		29 50/.4	79	0.9	0.0							Brown SILT, little to some Clay, little to trace fine to medium Sand, little subrounded fine to coarse Gravel, medium dense, dry.	2-inch diameter, SCH 40, PVC riser from 34.8 feet to 0.45 feet.
	S5		9 12 21 23	33	2.0	0.0							Brown SILT, some Clay, some Gravel, trace Sand, very dense, dry. Same, except medium dense.	Cement/bentonite grout mixture from 29.5 feet to 4.0 feet.
10	S6		17 21 24 34	45	0.4	0.0							Brown SILT, some to and Clay, little Gravel, medium dense, dry.	
	S7		19 20 26 24	46	2.0	0.0							Same. (0-8") Brown SILT and Clay, little Gravel, medium dense, dry. TILL	
15	S8		7 7	30	2.0	0.7							Same, except damp. (0-18")	

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

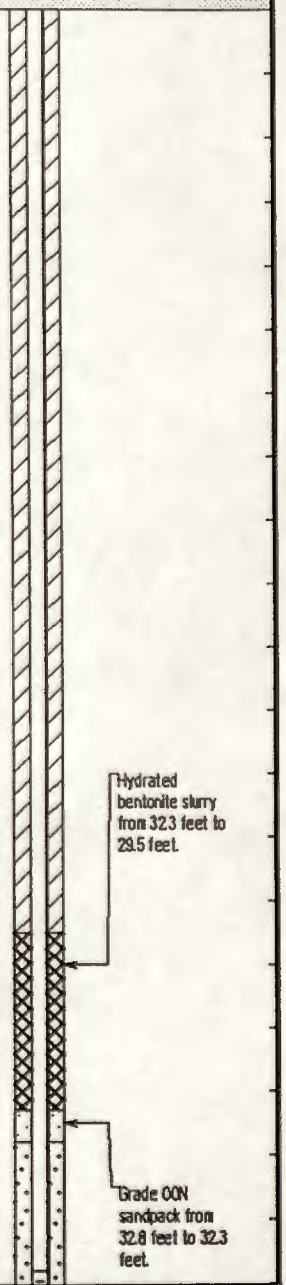
Well No. MW-7D

Total Depth = 44.8 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description
	S8		23 25	30	2.0	0.7							TILL
	S9		8 12 18 24	30	2.0	0.7							Brown fine to medium SAND, trace Silt, medium dense, moist. Same. (0-10")
	S10		4 6 10 18	16	1.5	1.1							Brown SILT, some to little fine to medium Sand, trace to little Clay, medium dense, damp. Same, except medium.
20	S11		4 7 7 8	14	1.5	1.0							Brown SILT, some to trace Clay, little fine to medium Sand, medium, damp to wet. Sand seams at 20.3 ft. to 21.0ft., and 21.4 ft. to 21.5 ft.
	S12		10 14 14 11	28	2.0	0.8							Brown SILT, some Clay, little to trace fine to medium Sand, trace Gravel as rock fragments at tip of spoon, medium, damp to moist. Sand seam at 22.3 feet.
25	S13		4 7 8 4	15	1.3	0.9							Gray-brown fine to medium SAND, some Clay, trace Silt, trace Gravel, medium, moist.
	S14		5 6 12 20	18	1.9	0.9							Same, except trace to some fine to coarse Gravel. (0-22")
	S15		14 30 22 60/.4	52	1.2	0.8							Gray-brown fine to coarse SAND and fine to coarse GRAVEL, trace Silt, trace Clay, medium, wet. Same, except very dense (0-8")
30	S16		61/.2	-	0.1	-							Gray-brown SILT, some Clay, some to little fine to coarse Gravel, trace Sand, very dense, moist. Same. TILL
	R1						31.0 34.0	100	60	10.3			Top of rock at 30.2 feet. Light to dark gray-green dolomite. Vugs and few fossils present. High angle, vertical joint at 31.2 feet.
35	R2						34.0 38.5	100	66	9.8			Broken rock zone from 31.8 to 31.8 feet and 34.0 to 34.3 feet.

Well Construction



BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-7D

Total Depth = 44.8 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	R2						34.0 38.5	100	86	9.8			Horizontal fractures at 34.8, 35.1, 35.2 and 35.6 feet. Low angle, vertical joint at 36.3 feet. High angle, vertical joint from 37.1 to 37.3 feet. Horizontal fractures at 38.2, 38.4, and 41.2 feet.	Grade ON sandpack from 44.8 feet to 32.8 feet. 2-inch diameter, 0.10-inch slot, SCH 40, PVC sceen from 44.8 feet to 34.8 feet.
40	R3						38.5 43.5	100	96	8.4			Broken rock zone from 41.5 to 42.0 feet. Completely crystallized vugs from 42.0 to 42.2 feet.	
45	R4						43.5 45.5	100	88	8.0			Bottom of corehole at 45.5 feet.	
50														
55														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 12/6/94 / 12/6/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 4 1/4 I.D. **Rig Type:** CME-55 **Spoon Size:** na-in. O. D. **Hammer Weight:** na-lb **Height of Fall:** na-in.	**Northing:** **Easting:** **Borehole Depth:** 26.2 ft. **Ground Surface Elev.:** 634.60 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-7S **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 634.60 ft													GROUND SURFACE	Flush mount curb-box with bolted lid.
													See log MW-7D for subsurface soil conditions.	Concrete pad at surface. Top of casing elevation = 634.29 feet. Sand filter. 2-inch diameter, SCH 40, PVC riser from 18.2 feet to 0.30 feet. Cement/bentonite grout mixture from 11.7 feet to 4.0 feet. Hydrated bentonite slurry from 13.7 feet to 11.7 feet. Grade OON sandpack from 14.2 feet to 13.7 feet.
5														
10														
15														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-7S

Total Depth = 28.2 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
20													Bottom of boring at 28.2 feet.	Grade ON sandpack from 28.2 feet to 14.2 feet. 2-inch diameter, 0.10-inch slot, SCH 40, PVC sceen from 28.2 feet to 18.2 feet.
25														
30														
35														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 11/17/94 / 11/21/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 6 1/4-in. I.D. **Rig Type:** CME-55 **Spoon Size:** 2-in. O. D. **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** **Easting:** **Corehole Depth:** 45.5 ft. **Borehole Depth:** 25.5 ft. **Ground Surface Elev.:** 633.91 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-8D **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 633.91 ft.														
													GROUND SURFACE	Flush mount curb-box with bolted lid.
	S1		3 3 4 6	7	1.8	0.0							Dark brown SILT, some fine to medium Sand, little Clay, little Gravel, loose, dry. (0-6") TOPSOIL	Concrete pad at surface. Top of casing elevation = 633.50 feet.
	S2		10 17 20 26	37	1.9	0.0							Brown-orange SILT, some fine to medium Sand, little Gravel, trace Clay, loose, dry. TILL	Sand filter.
5	S3		12 24 32 37	56	2.0	0.0							Brown SILT, little fine to medium Sand, little rounded Gravel, trace Clay, medium dense, dry.	2-inch diameter, SCH 40, PVC riser from 35.3 feet to 0.41 feet.
	S4		38 35 42 47	77	2.0	0.0							Brown to dark brown SILT, little Clay, little fine to coarse rounded to subrounded Gravel, trace coarse Sand, very dense, dry. Same.	
	S5		8 14 19 20	33	2.0	0.0							Same, except some fine to coarse subrounded Gravel, little to some Clay, medium dense.	Cement/bentonite grout mixture from 25.0 feet to 4.0 feet.
10	S6		7 9 13 17	22	2.0	0.0							Medium brown SILT, some to and Clay, little fine to coarse Gravel, medium dense, damp.	
	S7		19 21 20 23	41	2.0	0.0							Brown SILT and CLAY, trace fine to coarse Gravel, medium dense, damp (0-20"). TILL	
15	S8		4 8	10	1.0	0.0							Brown fine SAND, trace Silt, wet. Same.	

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-8D

Total Depth = 45.5 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description
													Note: Hydropunch attempted from 15.0 to 17.0 feet. No recovery. TILL
													Split-spoon used to recover hydropunch tip from 17.0 to 17.5 feet.
													Soil augers advanced from 17.5 to 18.0 feet.
	S9		18 25 35 48	60	1.8	0.0							Brown SILT, and to little fine to coarse Sand, trace to little Clay, trace to little fine to coarse Gravel, very dense, wet (0-15").
20	S10		32 50/.4	82	0.8	0.0							Gray-brown fine to coarse SAND, little Silt, fine to coarse Gravel as rock fragments, very dense, wet.
	S11		8 10 12 13	22	0.8	0.0							Same, except trace Silt.
													Gray-brown medium to coarse SAND and fine to coarse GRAVEL as rock fragments, trace Clay, trace Silt, medium dense, wet.
	S12		3 8 60/.5	68	1.0	0.0							Same, except very dense. TILL
25													Top of rock at 25.5 feet. Light gray-green crystalline dolomite. Vugs and few fossils present.
	R1						25.5 30.5	82	22	8			Partially crystallized vugs at 25.6, 25.8 and 26.2 feet.
													High angle, vertical joint at 26.8 feet.
30													Broken rock zone from 27.0 to 28.9 feet. Fractures with iron staining and black mineralization. Semblances of high angle fracturing.
	R2						30.5 34.5	114	94	8.3			High angle, vertical joints at 29.0, 29.4, and 30.6 feet.
													Horizontal fracture with black mineralization at 31.7 feet.
													Partially crystallized vug at 33.6 feet.
35	R3							100	84	8.3			Non-crystallized vug at 34.8 feet.

Well Construction

Hydrated bentonite slurry from 32.8 feet to 25.0 feet.

Grade 00N sandpack from 33.3 feet to 32.8 feet.

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-8D

Total Depth = 45.5 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	R3						34.5 39.0	100	84	8.3			Horizontal fracture at 35.2 feet. Low angle, vertical joint at 38.8 feet. Horizontal fracture at 37.1 feet. Low angle, vertical joints at 38.1 and 38.2 feet. High angle, vertical joint from 38.8 to 39.1 feet.	Grade ON sandpack from 45.3 feet to 33.3 feet.
40	R4						39.0 43.0	98	58	9			Horizontal fracture with black mineralization at 40.0 feet. Low angle, vertical joints at 40.1 and 40.7 feet. Horizontal fracture at 41.8 feet.	2-inch diameter, 0.10-inch slot, SCH 40, PVC screen from 45.3 feet to 35.3 feet.
	R5						43.5	66	0	24			High angle, horizontal fracture at 42.3 feet.	
	R6						44.0	110	100	22				
45							44.0 45.5						Advanced roller bit from 44.0 to 45.5 feet.	
													Bottom of corehole at 45.5 feet.	
50														
55														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 11/23/94 / 11/23/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size** : 4 1/4 I.D. **Rig Type:** CME-55 **Spoon Size:** na-in. O. D. **Hammer Weight:** na-lb **Height of Fall:** na-in.	**Northing:** **Easting:** **Borehole Depth:** 25.0 ft. **Ground Surface Elev.:** 634.08 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-8S **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./F.T.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 634.08 ft.													GROUND SURFACE	Flush mount curb-box with bolted lid.
													See log MW-8D for subsurface soil conditions.	Concrete pad at surface. Top of casing elevation = 633.84 feet. Sand filter. 2-inch diameter, SCH 40, PVC riser from 14.5 feet to 0.44 feet. Cement/bentonite grout mixture from 10.0 feet to 4.0 feet. Hydrated bentonite slurry from 12.0 feet to 10.0 feet. Grade OON sandpack from 12.5 feet to 12.0 feet.
5														
10														
15														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-8S

Total Depth = 25.0 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
20													Bottom of boring at 25.0 feet.	Grade ON sandpack from 24.5 feet to 12.5 feet. 2-inch diameter, 0.10-inch slot, SCH 40, PVC screen from 24.5 feet to 14.5 feet.
25														
30														
35														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 11/22/94 / 11/29/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 6 1/4-in I.D. **Rig Type:** CME-55 **Spoon Size:** 2-in. O. D. **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** **Easting:** **Corehole Depth:** 44.1 ft. **Borehole Depth:** 27.8 ft. **Ground Surface Elev.:** 630.69 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-9D **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 630.69 ft.														Flush mount curb-box with bolted lid.
													GROUND SURFACE	
	S1		4 8 8 9	16	1.8	0.0							Dark brown SILT, trace fine Sand, trace Clay, trace Gravel, medium dense, dry. TOPSOIL	Concrete pad at surface. Top of casing elevation = 630.29 feet.
	S2		12 17 12 13	29	2.0	0.0							Light brown to brown fine SAND, little Silt trace Clay, medium dense, moist. TILL	Sand filter.
5	S3		4 8 12 13	20	1.8	0.0							Same, except brown to orange brown, damp (0-5"). Brown SILT, some to trace fine Sand, trace to little Clay, little subrounded Gravel, medium dense, wet.	2-inch diameter, SCH 40, PVC riser from 34.1 feet to 0.40 feet.
	S4		15 17 15 14	32	2.0	0.0							Brown SILT, little to and Clay, little fine to coarse Gravel, medium dense, damp to dry.	
	S5		6 7 10 10	17	2.0	0.0							Brown SILT and CLAY, some fine to coarse Gravel, medium dense, dry to damp. Same, except trace fine Sand, medium.	Cement/bentonite grout mixture from 27.0 feet to 4.0 feet.
10	S6		4 9 12 16	21	1.9	0.0							Same, except medium, damp.	
	S7		13 18 20 20	38	2.0	0.0							Same, except fine Sand seams at 13.2, 13.4, and 13.7 feet, medium.	
15	S8		8 10	21	1.8	0.0							Same except medium (0-16"). TILL	

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-8D

Total Depth = 44.1 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	S8		11 16	21	1.8	0.0							Gray-brown SILT, some fine Sand, little to trace Clay, medium, moist.	
	S9		12 18 13 20	31	1.8	0.0							Same, except some to and fine Sand, trace Clay, medium dense (0-15").	
													TILL	
	S10		9 12 13 21	25	1.8	0.0							Gray-brown SILT, little Clay, trace fine Sand, medium dense, damp.	
20													Same, except medium (0-3").	
	S11		12 13 9 13	22	0.0	0.0							Gray SILT, little very fine to fine Sand, little Clay, medium, moist.	
													No recovery.	
	S12		21 23 22 16	45	0.2	0.0							Same, except medium dense, wet.	
	S13												Hydropunch attempted from 24.0 to 26.0 feet. No recovery	
25													TILL	
	S14		11 7 6 50/.3	13	1.7	0.0							Brown fine to medium SAND, trace to some Silt, trace to some Clay, trace to little angular Gravel, moist (0-12").	
	S15												Gray-brown SILT and CLAY, trace angular Gravel, medium, moist.	Hydrated bentonite slurry from 31.8 feet to 27.0 feet.
													Top of rock at 27.8 feet. Light to medium gray-green dolomite. Vugs and few fossils present.	
30	R1						28.5 33.5	90	60	7.6				
													High angle, vertical joint from 32.0 to 32.1 feet.	
													Horizontal fractures at 32.1, 32.3, 32.5 and 32.8 feet.	Grade OON sandpack from 32.1 feet to 31.8 feet.
	R2						33.5 38.5	100	52	8.2			High angle, vertical joint from 34.1 to 34.3 feet.	
35														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-9D

Total Depth = 44.1 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	R2						33.5 38.5	100	52	8.2			Horizontal fracture at 35.2 feet. Horizontal fracture at 36.2 feet. Low angle, vertical joints at 36.5 and 37.0 feet. High angle, vertical joint at 37.3 feet. Low angle, vertical joint at 37.8 feet. Horizontal fractures at 38.0, 38.4, and 39.1 feet. Low angle, vertical joint at 39.5 feet. Crystallized and non-crystallized vugs from 39.7 to 42.5 feet.	Grade ON sandpack from 44.1 feet to 32.1 feet. 2-inch diameter, 0.10-inch slot, SCH 40, PVC screen from 44.1 feet to 34.1 feet.
40	R3						38.5 43.5	84	75	8.0				
	S16												Roller bit advanced from 43.5 to 44.1 feet.	
45													Bottom of corehole at 44.1 feet.	
50														
55														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 11/22/94 / 11/22/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 4 1/4 I.D. **Rig Type:** CME-55 **Spoon Size:** na-in. O. D. **Hammer Weight:** na-lb **Height of Fall:** na-in.	**Northing:** **Easting:** **Borehole Depth:** 27.2 ft. **Ground Surface Elev.:** 630.51 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-9S **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 630.51 ft.													GROUND SURFACE	Flush mount curb-box with bolted lid.
													See log MW-9D for subsurface soil conditions.	Concrete pad at surface. Top of casing elevation = 630.18 feet. Sand filter. 2-inch diameter, SCH 40, PVC riser from 17.2 feet to 0.35 feet. Cement/bentonite grout mixture from 12.7 feet to 4.0 feet. Hydrated bentonite slurry from 14.7 feet to 12.7 feet. Grade 00N sandpack from 15.2 feet to 14.7 feet.
5														
10														
15														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-9S

Total Depth = 27.2 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
20														Grade ON sandpack from 27.2 feet to 15.2 feet.
25														2-inch diameter, 0.10-inch slot, SCH 40, PVC sceen from 27.2 feet to 17.2 feet.
30													Bottom of boring at 27.2 feet.	
35														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 12/6/94 / 12/8/94
Drilling Company: Parratt Wolff Drilling Inc.
Driller's Name: Doug Richmond
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 6 1/4-in. I.D.
Rig Type: CME-55
Spoon Size: 2-in. O. D.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing:
Easting:

Corehole Depth: 44.0 ft.
Borehole Depth: 25.6 ft.
Ground Surface Elev.: 627.14 ft.

Geologist: Douglas M. Ruszczyk

Well No. MW-10D

Site:
Victor, NY

Client:
Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 627.14 ft.														Flush mount curb-box with bolted lid.
													GROUND SURFACE	
	S1		18 5 4 4	9	1.0	0.1							Brown SILT, some Gravel as asphalt, little Clay, trace Sand, trace wood fragments, loose, wet. FILL	Concrete pad at surface. Top of casing elevation = 626.8 feet.
	S2		4 3 3 3	6	0.0	-							No recovery.	Sand filter.
5	S3		1 2 1 2	3	0.9	0.0							Brown SILT, some Gravel, little Clay, little wood fragments, loose, wet.	2-inch diameter, SCH 40, PVC riser from 32.0 feet to 0.34 feet.
	S4		1 1 2 2	3	0.2	0.0							Same.	
	S5		2 2 2 2	4	0.7	0.0							Same, except some Gravel as asphalt.	Cement/bentonite grout mixture from 25.0 feet to 4.0 feet.
10	S6		4 4 3 3	7	1.2	0.1							Same, except some Gravel as asphalt. FILL	
	S7		4 4 5 6	9	1.4	0.0							Same (0-4"). Brown SILT, some Clay, little angular to rounded Gravel, rootlets, loose, wet. TOPSOIL	
15	S8		4 4	8	1.9	0.0							Same (0-2") Brown fine SAND, loose, moist.	

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-100

Total Depth = 44.0 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	S8		5 5	9	1.9	0.0							Brown SILT and CLAY, little to trace fine to medium Sand, loose, moist.	
													TILL	
	S9		4 26 50/.4	76	1.8	0.0							Brown fine to medium SAND, loose, moist. (0-3")	
	S10		18 4 5 8	9	1.2	0.0							Brown SILT, and CLAY, little Gravel as rock fragments, trace fine to medium Sand, very dense, moist.	
20													Brown SILT, some to little clay, trace to little fine to medium Sand, little fine Gravel, loose, moist.	
	S11		42 50/.1	92	0.1	0.0							Brown SILT and CLAY, some Gravel as rock fragments, very dense, wet.	
													TILL	
	S12		4 8 12 30	20	1.3	0.0							Dark brown fine to medium SAND, trace Clay, trace Silt, medium dense, wet. (0-5")	
	S13		8 8 8 50/.1	16	0.5	0.0							Gray-brown fine to medium SAND, some angular Gravel, little Clay, little Silt, medium dense, wet.	
25													Brown fine to medium SAND and GRAVEL, little Silt, trace Clay, medium dense, wet.	
	S14												Top of rock at 25.6 feet. Light gray-green crystalline dolomite. Few vugs and fossils present.	
	R1						26.0 30.0	84	68	11			Broken rock zone from 28.6 feet to 27.2 feet with vertical fracture.	Hydrated bentonite slurry from 30.5 feet to 25.0 feet.
30														
	R2						30.0 34.0	100	68	8.7			High angle, vertical joint from 30.8 feet to 31.8 feet. Horizontal fracture at 32.2 feet. Broken rock zone from 33.0 feet to 33.5 feet.	Grade 00N sandpack from 31.0 feet to 30.5 feet.
	R3						34.0 39.0	98	84	8.8				
35														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

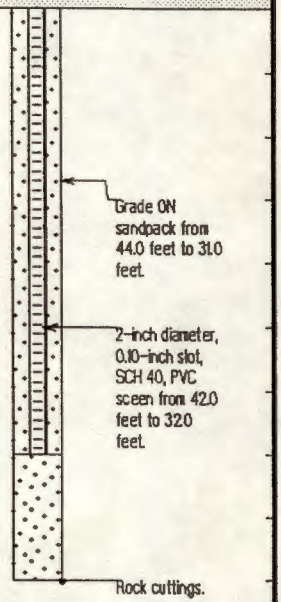
Client:
Griffin Technology Inc.

Well No. MW-100

Total Depth = 44.0 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	R3						34.0 39.0	98	64	8.8			Scattered horizontal fractures from 34.3 feet to 38.3 feet.	
40	R4						39.0 44.0	88	60	8.4			Low angle, vertical fracture at 38.8 feet. Broken rock zone from 40.3 feet to 41.3 feet. High angle, vertical fracture at 41.3 feet.	
45													Bottom of corehole at 44.0 feet.	
50														
55														



BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 12/8/94 / 12/8/94 **Drilling Company:** Parratt Wolff Drilling Inc. **Driller's Name:** Doug Richmond **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size** : 4 1/4 I.D. **Rig Type:** CME-55 **Spoon Size:** na-in. O. D. **Hammer Weight:** na-lb **Height of Fall:** na-in.	**Northing:** **Easting:** **Borehole Depth:** 23.8 ft. **Ground Surface Elev.:** 627.32 ft. **Geologist:** Douglas M. Ruszczyk	**Well No.** MW-10S **Site:** Victor, NY **Client:** Griffin Technology Inc.

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 627.32 ft.													GROUND SURFACE	Flush mount curb-box with bolted lid.
5													See log MW-10D for subsurface soil conditions.	Concrete pad at surface. Top of casing elevation = 627.00 feet. Sand filter. 2-inch diameter, SCH 40, PVC riser from 13.5 feet to 0.32 feet. Cement/bentonite grout mixture from 9.0 feet to 4.0 feet. Hydrated bentonite slurry from 11.0 feet to 9.0 feet. Grade 00N sandpack from 11.5 feet to 11.0 feet. Grade 0N sandpack from 23.5 feet to 11.5 feet.
10														
15														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Client:
Griffin Technology Inc.

Well No. MW-10S

Total Depth = 23.8 ft.

Site:
Victor, NY

DEPTH ELEVATION	Sample	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	HNU (ppm) Headspace	From/To	% Recovery	% RQD	Average rate (min./FT.)	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
20													Bottom of boring at 23.8 feet.	2-inch diameter, 0.10-inch slot, SCH 40, PVC screen from 23.5 feet to 13.5 feet.
25														
30														
35														

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Appendix C

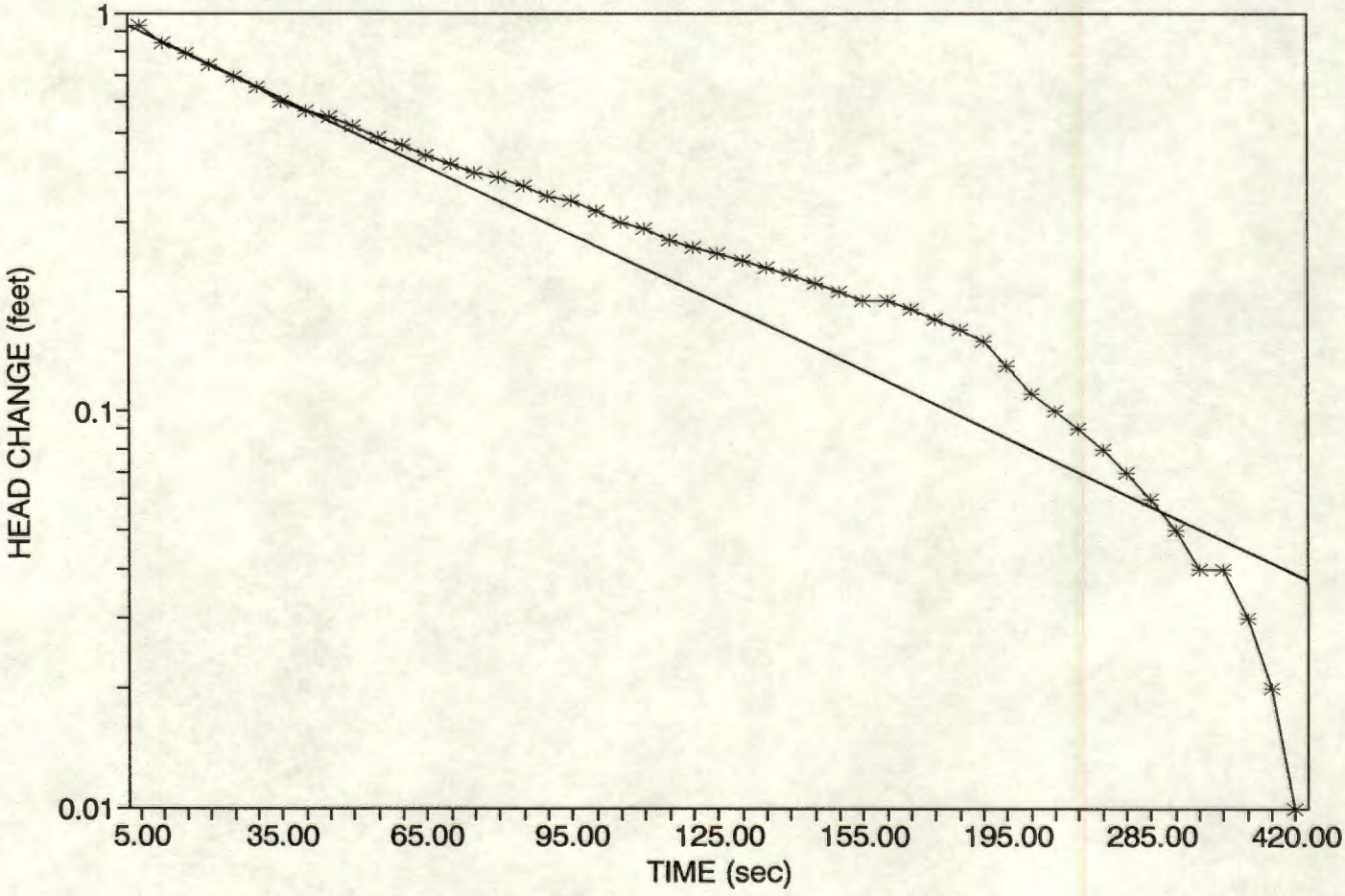
Hydraulic Conductivity Test Data

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-6S
Test Date: : December 16,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.5		-15.54
Static water depth from stickup (ft)	7.32		223.11
Depth to bottom of screen from ground level (ft)	19.4		591.92
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	20		609.60
Delta H at Time 0 (ft)	0.92		28.04
Delta H at Time t (ft)	0.10		3.05
Time t (seconds)	178		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	37.4		1.8E-03

Griffin Technology
MW-6S Rising Head Test



Griffin Technology Phase II Investigation

Well: MW-6S
Date: December 16, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	0.93		5.00	0.93	28.25
0	0	10	0.84		10.00	0.84	25.52
0	0	15	0.79		15.00	0.79	24.00
0	0	20	0.74		20.00	0.74	22.48
0	0	25	0.69		25.00	0.69	20.96
0	0	30	0.65		30.00	0.65	19.75
0	0	35	0.60		35.00	0.60	18.23
0	0	40	0.57		40.00	0.57	17.32
0	0	45	0.55		45.00	0.55	16.71
0	0	50	0.52		50.00	0.52	15.86
0	0	55	0.49		55.00	0.49	14.89
0	1	0	0.47		60.00	0.47	14.28
0	1	5	0.44		65.00	0.44	13.37
0	1	10	0.42		70.00	0.42	12.76
0	1	15	0.40		75.00	0.40	12.15
0	1	20	0.39		80.00	0.39	11.85
0	1	25	0.37		85.00	0.37	11.24
0	1	30	0.35		90.00	0.35	10.63
0	1	35	0.34		95.00	0.34	10.33
0	1	40	0.32		100.00	0.32	9.72
0	1	45	0.30		105.00	0.30	9.11
0	1	50	0.29		110.00	0.29	8.81
0	1	55	0.27		115.00	0.27	8.20
0	2	0	0.26		120.00	0.26	7.90
0	2	5	0.25		125.00	0.25	7.60
0	2	10	0.24		130.00	0.24	7.29
0	2	15	0.23		135.00	0.23	6.99
0	2	20	0.22		140.00	0.22	6.68
0	2	25	0.21		145.00	0.21	6.38
0	2	30	0.20		150.00	0.20	6.08

0	2	35	|	0.19	155.00	0.19	5.77
0	2	40	|	0.19	160.00	0.19	5.77
0	2	45	|	0.18	165.00	0.18	5.47
0	2	50	|	0.17	170.00	0.17	5.16
0	2	55	|	0.16	175.00	0.16	4.86
0	3	0	|	0.15	180.00	0.15	4.56
0	3	15	|	0.13	195.00	0.13	3.95
0	3	30	|	0.11	210.00	0.11	3.34
0	3	45	|	0.10	225.00	0.10	3.04
0	4	0	|	0.09	240.00	0.09	2.73
0	4	15	|	0.08	255.00	0.08	2.43
0	4	30	|	0.07	270.00	0.07	2.13
0	4	45	|	0.06	285.00	0.06	1.82
0	5	0	|	0.05	300.00	0.05	1.52
0	5	15	|	0.04	315.00	0.04	1.22
0	5	30	|	0.04	330.00	0.04	1.22
0	6	0	|	0.03	360.00	0.03	0.91
0	6	30	|	0.02	390.00	0.02	0.61
0	7	0	|	0.01	420.00	0.01	0.30
0	7	30	|	0.01	450.00	0.01	0.30
0	8	0	|	0.00	480.00	0.00	0.00

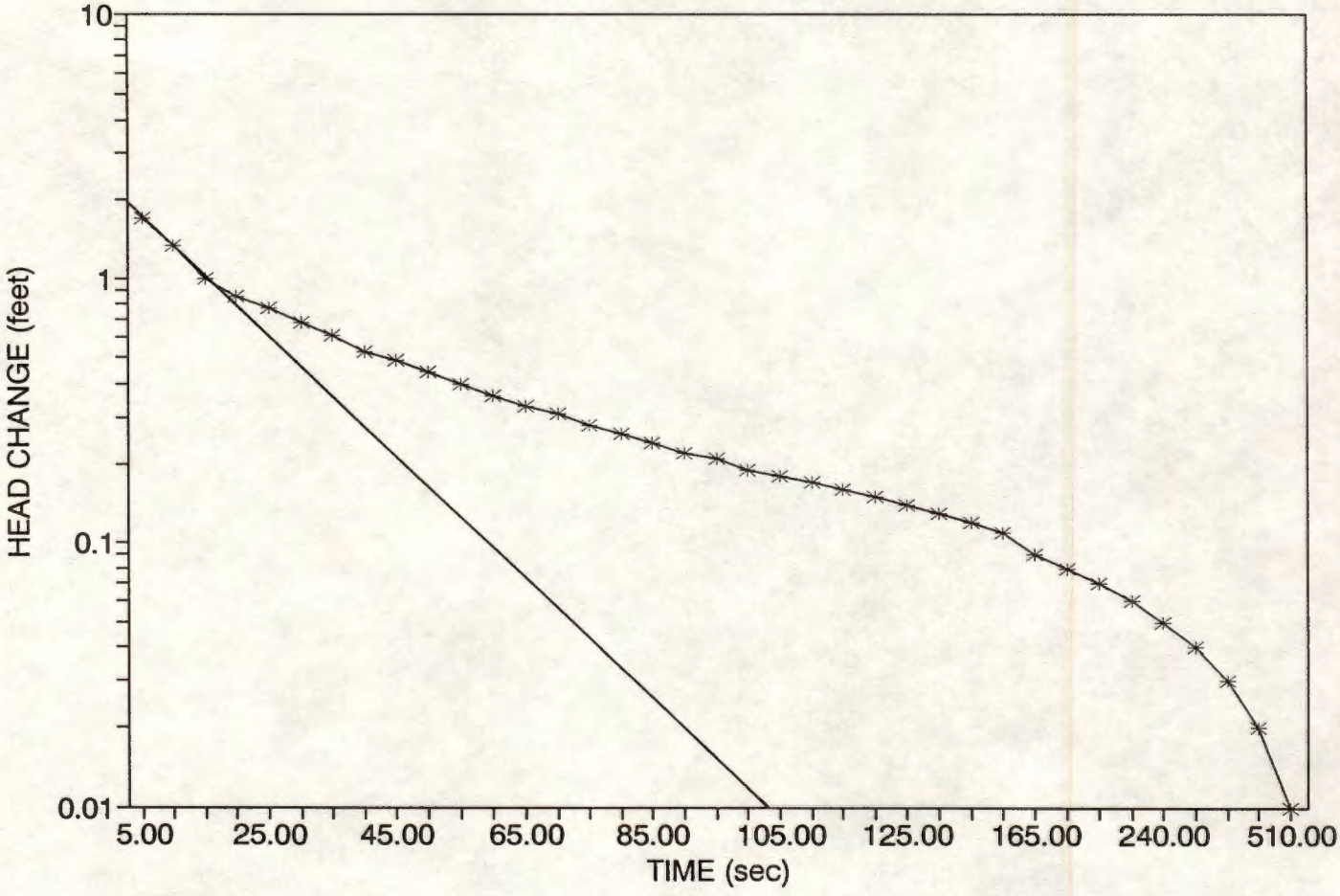
Griffin Technology Phase II Investigation

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-6D
Test Date: : December 14,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.4		-12.50
Static water depth from stickup (ft)	7.43		226.47
Depth to bottom of screen from ground level (ft)	38.0		1157.63
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	40		1203.96
Delta H at Time 0 (ft)	1.90		57.91
Delta H at Time t (ft)	0.10		3.05
Time t (seconds)	64		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	27.0		1.3E-03

Griffin Technology
MW-6D Rising Head Test



Griffin Technology Phase II Investigation

Well: MW-6D
Date: December 14, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	1.71		5.00	1.71	51.95
0	0	10	1.34		10.00	1.34	40.71
0	0	15	1.00		15.00	1.00	30.38
0	0	20	0.86		20.00	0.86	26.13
0	0	25	0.77		25.00	0.77	23.39
0	0	30	0.68		30.00	0.68	20.66
0	0	35	0.61		35.00	0.61	18.53
0	0	40	0.53		40.00	0.53	16.10
0	0	45	0.49		45.00	0.49	14.89
0	0	50	0.44		50.00	0.44	13.37
0	0	55	0.40		55.00	0.40	12.15
0	1	0	0.36		60.00	0.36	10.94
0	1	5	0.33		65.00	0.33	10.03
0	1	10	0.31		70.00	0.31	9.42
0	1	15	0.28		75.00	0.28	8.51
0	1	20	0.26		80.00	0.26	7.90
0	1	25	0.24		85.00	0.24	7.29
0	1	30	0.22		90.00	0.22	6.68
0	1	35	0.21		95.00	0.21	6.38
0	1	40	0.19		100.00	0.19	5.77
0	1	45	0.18		105.00	0.18	5.47
0	1	50	0.17		110.00	0.17	5.16
0	1	55	0.16		115.00	0.16	4.86
0	2	0	0.15		120.00	0.15	4.56
0	2	5	0.14		125.00	0.14	4.25
0	2	10	0.13		130.00	0.13	3.95
0	2	15	0.12		135.00	0.12	3.65
0	2	30	0.11		150.00	0.11	3.34
0	2	45	0.09		165.00	0.09	2.73
0	3	0	0.08		180.00	0.08	2.43

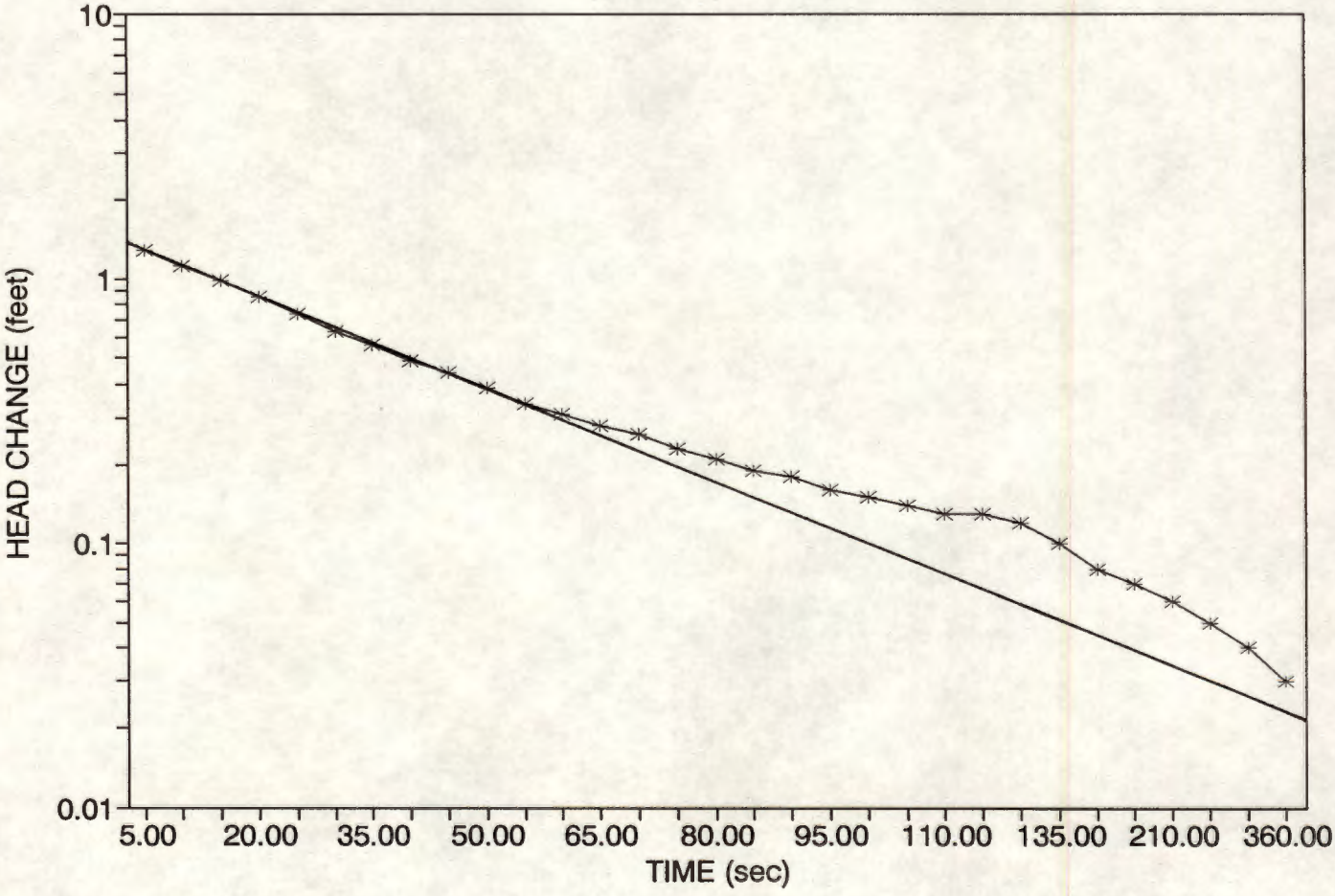
0	3	15	|	0.07	195.00	0.07	2.13
0	3	30	|	0.06	210.00	0.06	1.82
0	4	0	|	0.05	240.00	0.05	1.52
0	4	30	|	0.04	270.00	0.04	1.22
0	5	0	|	0.03	300.00	0.03	0.91
0	6	30	|	0.02	390.00	0.02	0.61
0	8	30	|	0.01	510.00	0.01	0.30
0	11	30	|	0.00	690.00	0.00	0.00

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-7S
Test Date: : December 16,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.3		-9.45
Static water depth from stickup (ft)	7.53		229.51
Depth to bottom of screen from ground level (ft)	26.2		798.27
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	30		914.40
Delta H at Time 0 (ft)	1.19		36.27
Delta H at Time t (ft)	0.10		3.05
Time t (seconds)	101		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	11.8		5.6E-04

Griffin Technology
MW-7S Rising Head Test



Griffin Technology Phase II Investigation

Well: MW-7S
Date: December 16, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

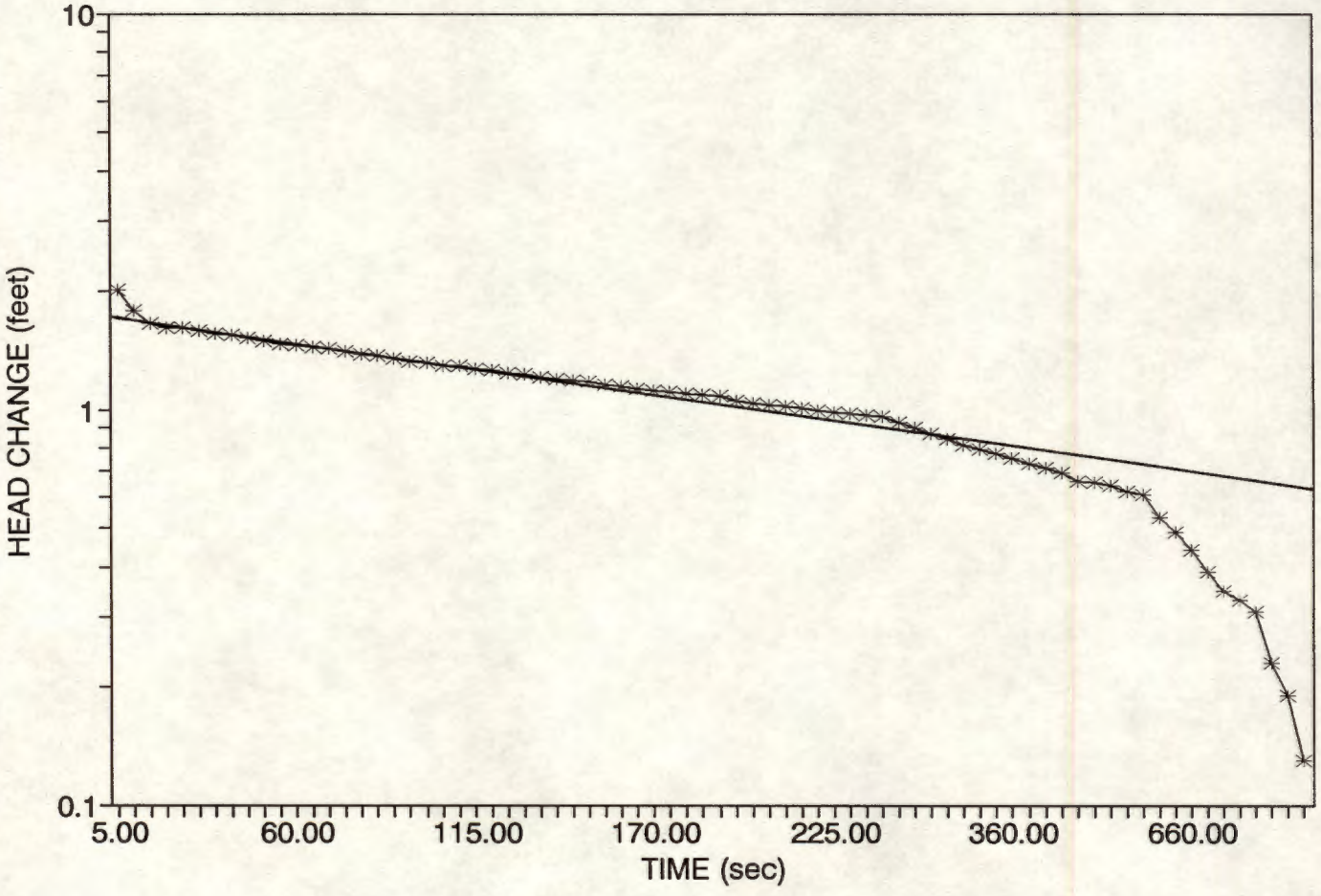
Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	1.29		5.00	1.29	39.19
0	0	10	1.12		10.00	1.12	34.03
0	0	15	0.98		15.00	0.98	29.77
0	0	20	0.86		20.00	0.86	26.13
0	0	25	0.74		25.00	0.74	22.48
0	0	30	0.63		30.00	0.63	19.14
0	0	35	0.56		35.00	0.56	17.01
0	0	40	0.49		40.00	0.49	14.89
0	0	45	0.44		45.00	0.44	13.37
0	0	50	0.39		50.00	0.39	11.85
0	0	55	0.34		55.00	0.34	10.33
0	1	0	0.31		60.00	0.31	9.42
0	1	5	0.28		65.00	0.28	8.51
0	1	10	0.26		70.00	0.26	7.90
0	1	15	0.23		75.00	0.23	6.99
0	1	20	0.21		80.00	0.21	6.38
0	1	25	0.19		85.00	0.19	5.77
0	1	30	0.18		90.00	0.18	5.47
0	1	35	0.16		95.00	0.16	4.86
0	1	40	0.15		100.00	0.15	4.56
0	1	45	0.14		105.00	0.14	4.25
0	1	50	0.13		110.00	0.13	3.95
0	1	55	0.13		115.00	0.13	3.95
0	2	0	0.12		120.00	0.12	3.65
0	2	15	0.10		135.00	0.10	3.04
0	2	30	0.08		150.00	0.08	2.43
0	3	0	0.07		180.00	0.07	2.13
0	3	30	0.06		210.00	0.06	1.82
0	4	0	0.05		240.00	0.05	1.52
0	4	30	0.04		270.00	0.04	1.22

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-7D
Test Date: : December 14,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.5		-13.72
Static water depth from stickup (ft)	34.38		1047.90
Depth to bottom of screen from ground level (ft)	44.8		1366.42
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	46		1411.22
Delta H at Time 0 (ft)	1.50		45.72
Delta H at Time t (ft)	1.00		30.48
Time t (seconds)	205		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	6.1		2.9E-04

Griffin Technology
MW-7D Rising Head Test



Griffin Technology Phase II Investigation

Well: MW-7D
Date: December 14, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	2.01		5.00	2.01	61.06
0	0	10	1.78		10.00	1.78	54.08
0	0	15	1.66		15.00	1.66	50.43
0	0	20	1.62		20.00	1.62	49.22
0	0	25	1.61		25.00	1.61	48.91
0	0	30	1.59		30.00	1.59	48.30
0	0	35	1.56		35.00	1.56	47.39
0	0	40	1.54		40.00	1.54	46.79
0	0	45	1.52		45.00	1.52	46.18
0	0	50	1.50		50.00	1.50	45.57
0	0	55	1.47		55.00	1.47	44.66
0	1	0	1.46		60.00	1.46	44.35
0	1	5	1.44		65.00	1.44	43.75
0	1	10	1.43		70.00	1.43	43.44
0	1	15	1.41		75.00	1.41	42.84
0	1	20	1.39		80.00	1.39	42.23
0	1	25	1.37		85.00	1.37	41.62
0	1	30	1.35		90.00	1.35	41.01
0	1	35	1.33		95.00	1.33	40.41
0	1	40	1.32		100.00	1.32	40.10
0	1	45	1.30		105.00	1.30	39.49
0	1	50	1.29		110.00	1.29	39.19
0	1	55	1.27		115.00	1.27	38.58
0	2	0	1.26		120.00	1.26	38.28
0	2	5	1.24		125.00	1.24	37.67
0	2	10	1.23		130.00	1.23	37.37
0	2	15	1.21		135.00	1.21	36.76
0	2	20	1.20		140.00	1.20	36.46
0	2	25	1.19		145.00	1.19	36.15
0	2	30	1.18		150.00	1.18	35.85

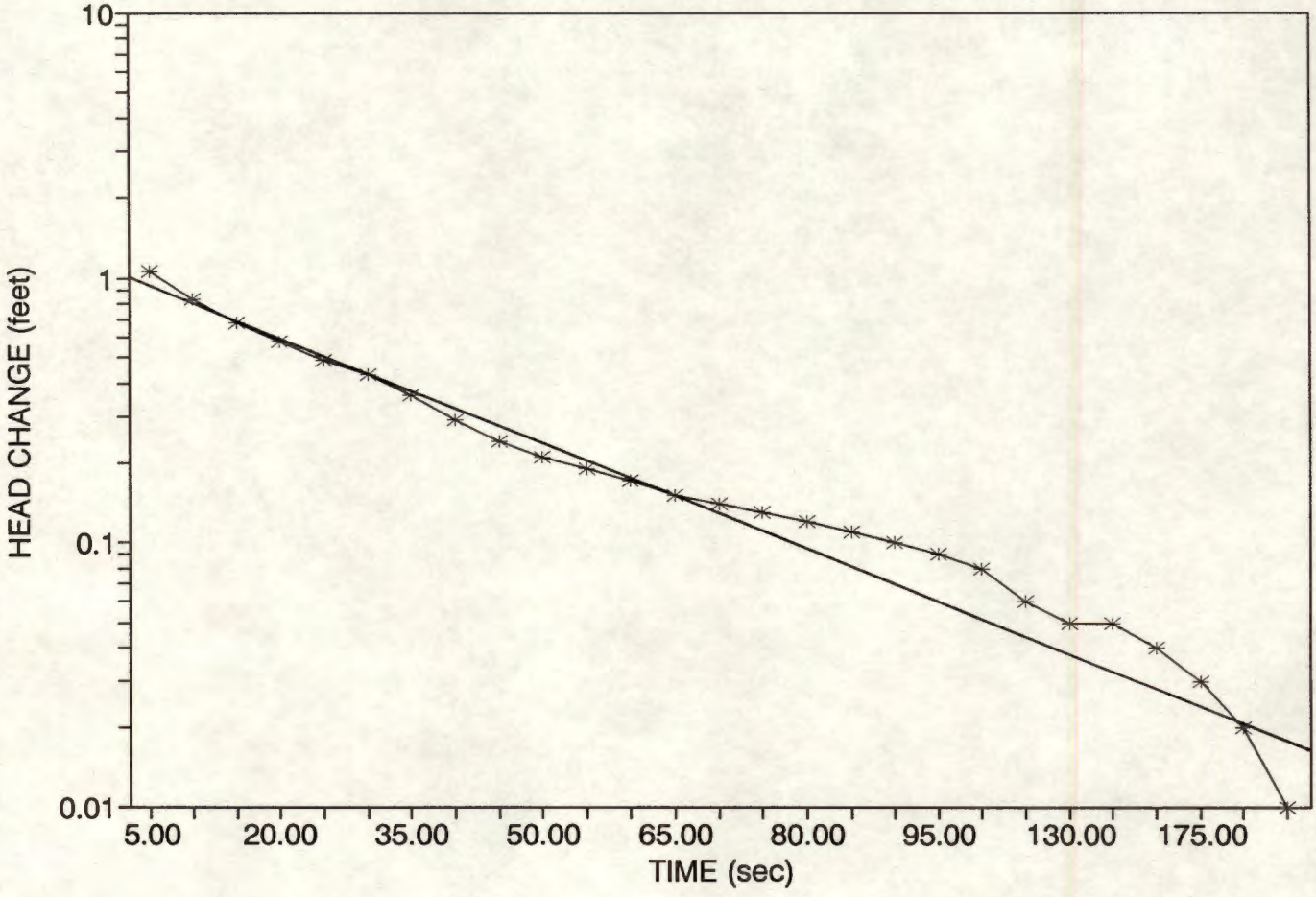
0	2	35	1.16	155.00	1.16	35.24
0	2	40	1.15	160.00	1.15	34.94
0	2	45	1.13	165.00	1.13	34.33
0	2	50	1.12	170.00	1.12	34.03
0	2	55	1.11	175.00	1.11	33.72
0	3	0	1.10	180.00	1.10	33.42
0	3	5	1.09	185.00	1.09	33.11
0	3	10	1.08	190.00	1.08	32.81
0	3	15	1.06	195.00	1.06	32.20
0	3	20	1.04	200.00	1.04	31.60
0	3	25	1.03	205.00	1.03	31.29
0	3	30	1.02	210.00	1.02	30.99
0	3	35	1.01	215.00	1.01	30.68
0	3	40	1.00	220.00	1.00	30.38
0	3	45	0.99	225.00	0.99	30.08
0	3	50	0.98	230.00	0.98	29.77
0	3	55	0.97	235.00	0.97	29.47
0	4	0	0.96	240.00	0.96	29.16
0	4	15	0.93	255.00	0.93	28.25
0	4	30	0.90	270.00	0.90	27.34
0	4	45	0.87	285.00	0.87	26.43
0	5	0	0.84	300.00	0.84	25.52
0	5	15	0.81	315.00	0.81	24.61
0	5	30	0.79	330.00	0.79	24.00
0	5	45	0.77	345.00	0.77	23.39
0	6	0	0.75	360.00	0.75	22.79
0	6	15	0.73	375.00	0.73	22.18
0	6	30	0.71	390.00	0.71	21.57
0	6	45	0.69	405.00	0.69	20.96
0	7	0	0.66	420.00	0.66	20.05
0	7	15	0.65	435.00	0.65	19.75
0	7	30	0.64	450.00	0.64	19.44
0	7	45	0.62	465.00	0.62	18.84
0	8	0	0.61	480.00	0.61	18.53
0	9	0	0.53	540.00	0.53	16.10
0	10	0	0.49	600.00	0.49	14.89
0	11	0	0.44	660.00	0.44	13.37
0	12	0	0.39	720.00	0.39	11.85
0	13	0	0.35	780.00	0.35	10.63
0	14	0	0.33	840.00	0.33	10.03
0	15	0	0.31	900.00	0.31	9.42
0	20	0	0.23	1200.00	0.23	6.99
0	25	0	0.19	1500.00	0.19	5.77
0	30	0	0.13	1800.00	0.13	3.95

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-8S
Test Date: : December 16,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.4		-13.41
Static water depth from stickup (ft)	11.39		347.17
Depth to bottom of screen from ground level (ft)	24.5		747.37
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	26		777.24
Delta H at Time 0 (ft)	1.00		30.48
Delta H at Time t (ft)	0.10		3.05
Time t (seconds)	78		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	14.5		6.8E-04

Griffin Technology
MW-8S Rising Head Test



Griffin Technology Phase II Investigation

Well: MW-8S
Date: December 16, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

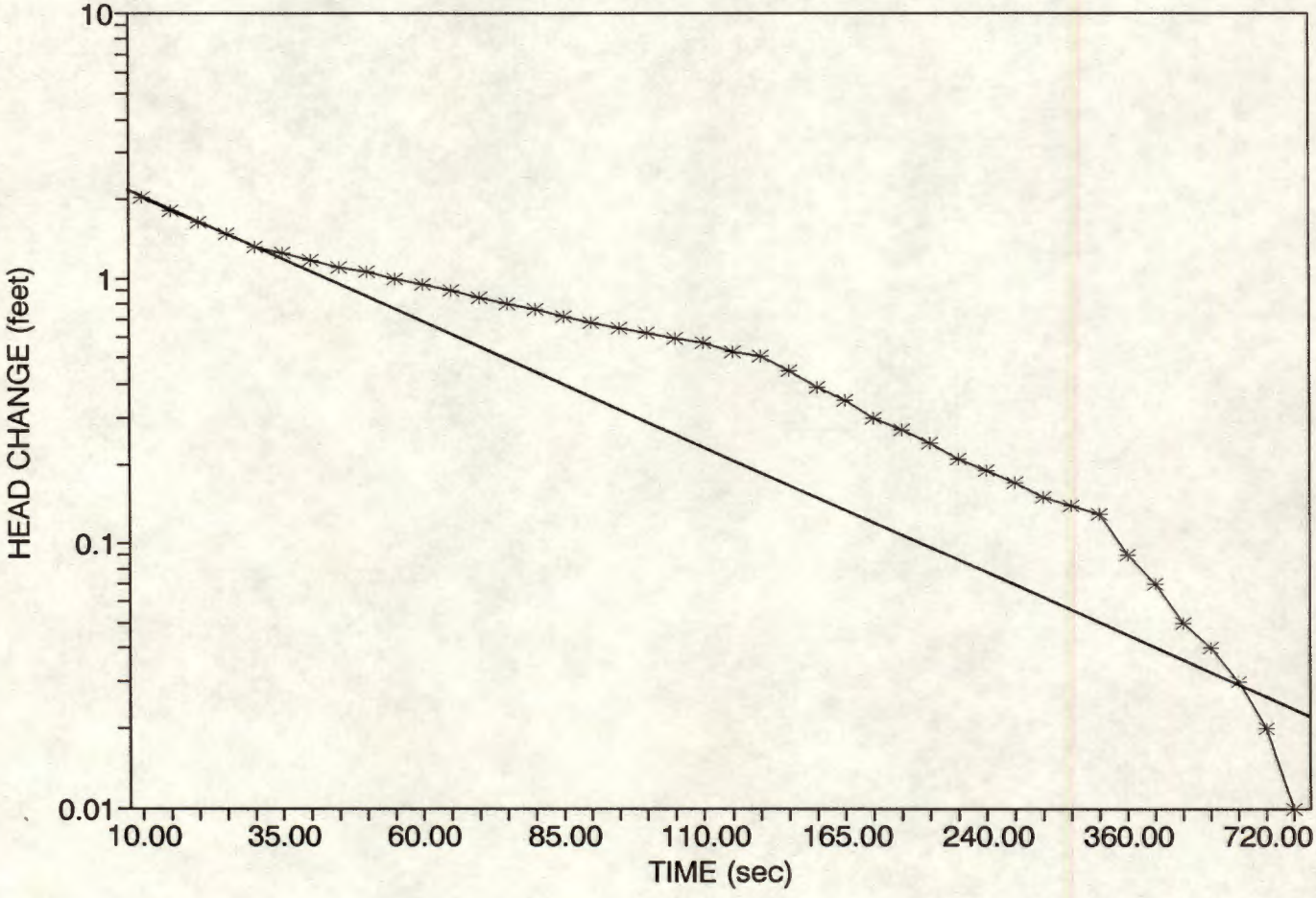
Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	1.07		5.00	1.07	32.51
0	0	10	0.84		10.00	0.84	25.52
0	0	15	0.68		15.00	0.68	20.66
0	0	20	0.58		20.00	0.58	17.62
0	0	25	0.49		25.00	0.49	14.89
0	0	30	0.43		30.00	0.43	13.06
0	0	35	0.36		35.00	0.36	10.94
0	0	40	0.29		40.00	0.29	8.81
0	0	45	0.24		45.00	0.24	7.29
0	0	50	0.21		50.00	0.21	6.38
0	0	55	0.19		55.00	0.19	5.77
0	1	0	0.17		60.00	0.17	5.16
0	1	5	0.15		65.00	0.15	4.56
0	1	10	0.14		70.00	0.14	4.25
0	1	15	0.13		75.00	0.13	3.95
0	1	20	0.12		80.00	0.12	3.65
0	1	25	0.11		85.00	0.11	3.34
0	1	30	0.10		90.00	0.10	3.04
0	1	35	0.09		95.00	0.09	2.73
0	1	40	0.08		100.00	0.08	2.43
0	1	55	0.06		115.00	0.06	1.82
0	2	10	0.05		130.00	0.05	1.52
0	2	25	0.05		145.00	0.05	1.52
0	2	40	0.04		160.00	0.04	1.22
0	2	55	0.03		175.00	0.03	0.91
0	3	25	0.02		205.00	0.02	0.61
0	3	55	0.01		235.00	0.01	0.30
0	4	25	0.01		265.00	0.01	0.30
0	4	55	0.00		295.00	0.00	0.00

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-8D
Test Date: : December 14,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.4		-12.50
Static water depth from stickup (ft)	12.75		388.62
Depth to bottom of screen from ground level (ft)	45.3		1381.05
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	47		1426.77
Delta H at Time 0 (ft)	2.09		63.70
Delta H at Time t (ft)	0.10		3.05
Time t (seconds)	206		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	8.7		4.1E-04

Griffin Technology
MW-8D Rising Head Test



Griffin Technology Phase II Investigation

Well: MW-8D
Date: December 14, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	0.00		5.00	0.00	0.00
0	0	10	2.04		10.00	2.04	61.98
0	0	15	1.81		15.00	1.81	54.99
0	0	20	1.63		20.00	1.63	49.52
0	0	25	1.47		25.00	1.47	44.66
0	0	30	1.32		30.00	1.32	40.10
0	0	35	1.25		35.00	1.25	37.98
0	0	40	1.17		40.00	1.17	35.54
0	0	45	1.11		45.00	1.11	33.72
0	0	50	1.06		50.00	1.06	32.20
0	0	55	1.00		55.00	1.00	30.38
0	1	0	0.95		60.00	0.95	28.86
0	1	5	0.90		65.00	0.90	27.34
0	1	10	0.85		70.00	0.85	25.82
0	1	15	0.80		75.00	0.80	24.30
0	1	20	0.76		80.00	0.76	23.09
0	1	25	0.72		85.00	0.72	21.87
0	1	30	0.68		90.00	0.68	20.66
0	1	35	0.65		95.00	0.65	19.75
0	1	40	0.62		100.00	0.62	18.84
0	1	45	0.59		105.00	0.59	17.92
0	1	50	0.57		110.00	0.57	17.32
0	1	55	0.53		115.00	0.53	16.10
0	2	0	0.51		120.00	0.51	15.49
0	2	15	0.45		135.00	0.45	13.67
0	2	30	0.39		150.00	0.39	11.85
0	2	45	0.35		165.00	0.35	10.63
0	3	0	0.30		180.00	0.30	9.11
0	3	15	0.27		195.00	0.27	8.20
0	3	30	0.24		210.00	0.24	7.29

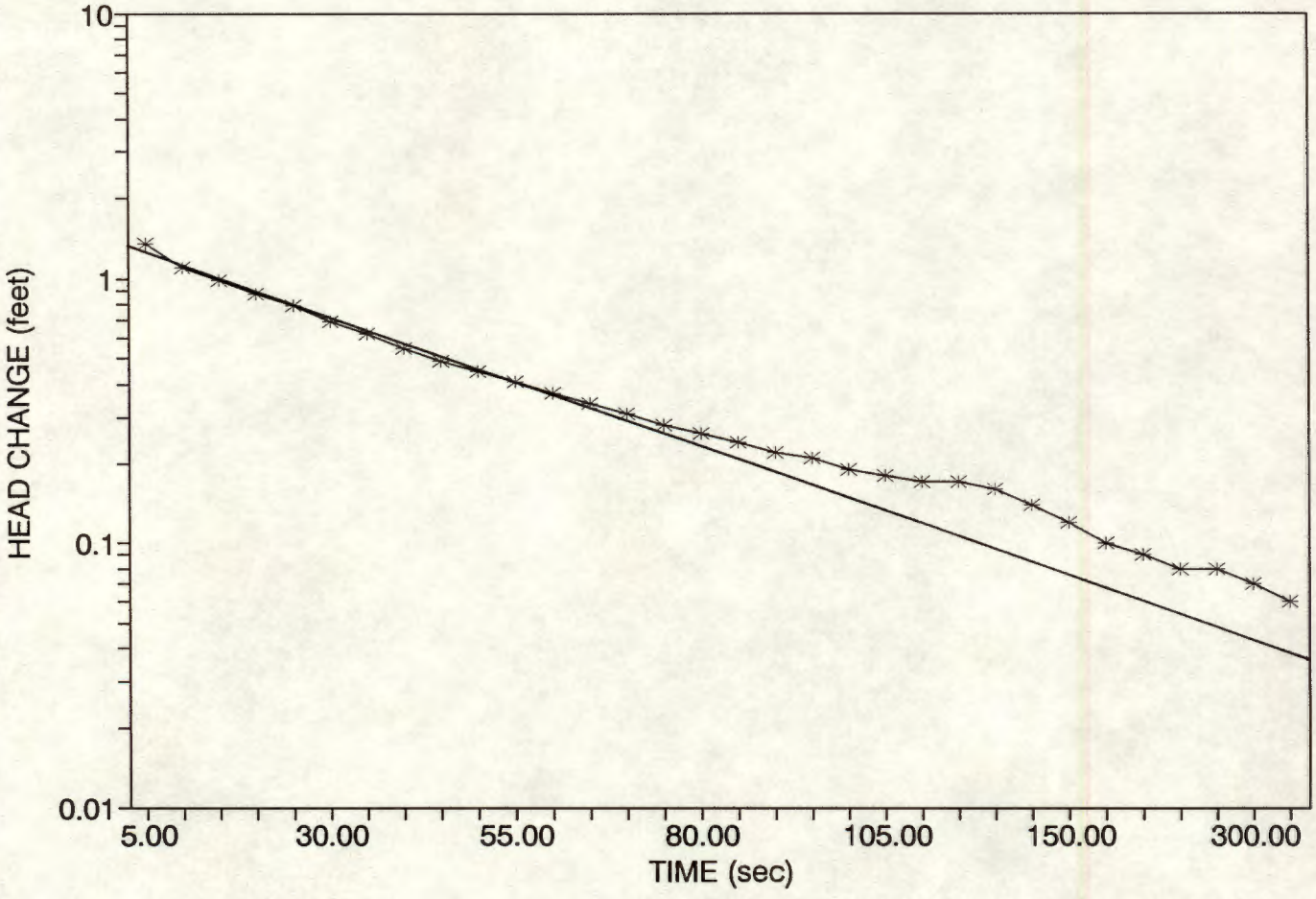
0	3	45	0.21	225.00	0.21	6.38
0	4	0	0.19	240.00	0.19	5.77
0	4	15	0.17	255.00	0.17	5.16
0	4	30	0.15	270.00	0.15	4.56
0	4	45	0.14	285.00	0.14	4.25
0	5	0	0.13	300.00	0.13	3.95
0	6	0	0.09	360.00	0.09	2.73
0	7	0	0.07	420.00	0.07	2.13
0	8	0	0.05	480.00	0.05	1.52
0	9	0	0.04	540.00	0.04	1.22
0	10	0	0.03	600.00	0.03	0.91
0	12	0	0.02	720.00	0.02	0.61
0	14	0	0.01	840.00	0.01	0.30
0	16	0	0.00	960.00	0.00	0.00

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-9S
Test Date: : December 16,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.4		-10.67
Static water depth from stickup (ft)	11.56		352.35
Depth to bottom of screen from ground level (ft)	27.2		827.53
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	28		847.34
Delta H at Time 0 (ft)	1.14		34.75
Delta H at Time t (ft)	0.10		3.05
Time t (seconds)	118		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	10.6		5.0E-04

Griffin Technology
MW-9S Rising Head Test



Griffin Technology Phase II Investigation

Well: MW-9S
Date: December 16, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

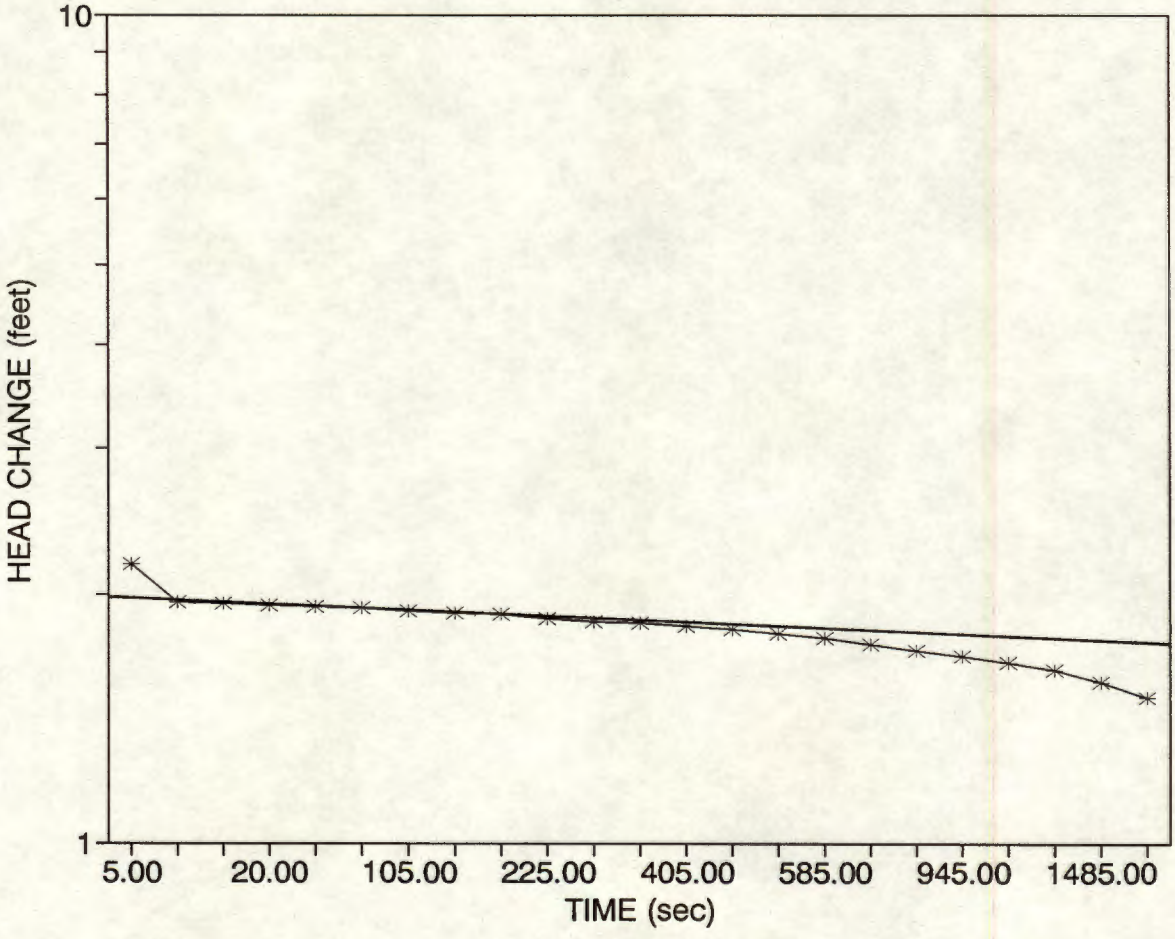
Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	1.35		5.00	1.35	41.01
0	0	10	1.11		10.00	1.11	33.72
0	0	15	0.99		15.00	0.99	30.08
0	0	20	0.88		20.00	0.88	26.73
0	0	25	0.79		25.00	0.79	24.00
0	0	30	0.69		30.00	0.69	20.96
0	0	35	0.62		35.00	0.62	18.84
0	0	40	0.55		40.00	0.55	16.71
0	0	45	0.49		45.00	0.49	14.89
0	0	50	0.45		50.00	0.45	13.67
0	0	55	0.41		55.00	0.41	12.46
0	1	0	0.37		60.00	0.37	11.24
0	1	5	0.34		65.00	0.34	10.33
0	1	10	0.31		70.00	0.31	9.42
0	1	15	0.28		75.00	0.28	8.51
0	1	20	0.26		80.00	0.26	7.90
0	1	25	0.24		85.00	0.24	7.29
0	1	30	0.22		90.00	0.22	6.68
0	1	35	0.21		95.00	0.21	6.38
0	1	40	0.19		100.00	0.19	5.77
0	1	45	0.18		105.00	0.18	5.47
0	1	50	0.17		110.00	0.17	5.16
0	1	55	0.17		115.00	0.17	5.16
0	2	0	0.16		120.00	0.16	4.86
0	2	15	0.14		135.00	0.14	4.25
0	2	30	0.12		150.00	0.12	3.65
0	2	45	0.10		165.00	0.10	3.04
0	3	0	0.09		180.00	0.09	2.73
0	3	30	0.08		210.00	0.08	2.43
0	4	0	0.08		240.00	0.08	2.43

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-9D
Test Date: : December 14,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.4		-12.19
Static water depth from stickup (ft)	12.71		387.40
Depth to bottom of screen from ground level (ft)	44.1		1343.86
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	46		1389.58
Delta H at Time 0 (ft)	1.98		60.35
Delta H at Time t (ft)	1.78		54.25
Time t (seconds)	1485		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	0.0		2.0E-06

Griffin Technology
MW-9D Rising Head Test



Griffin Technoloogy Phase II Investigation

Well: MW-9D
Date: December 14, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

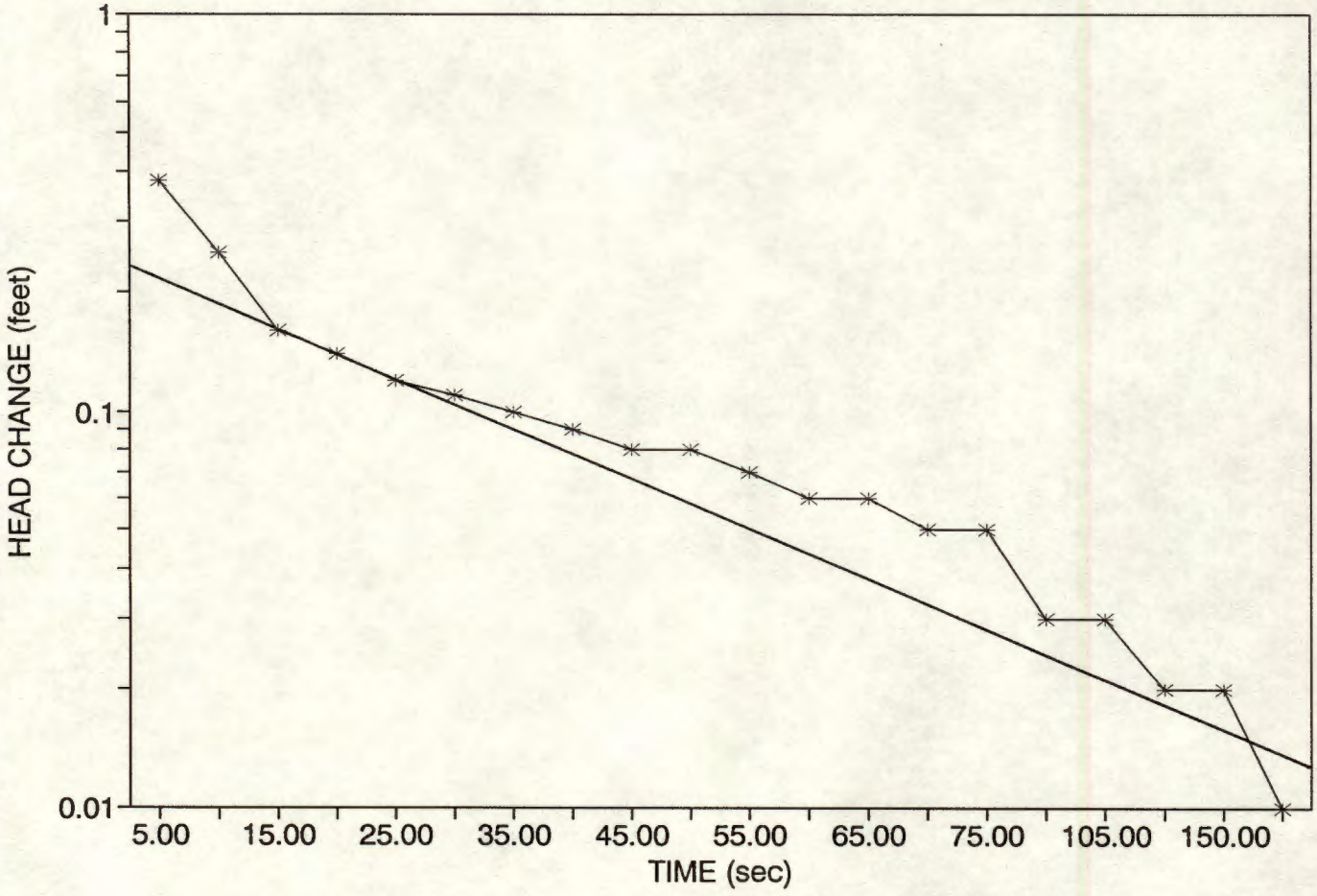
Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	2.17		5.00	2.17	65.92
0	0	10	1.96		10.00	1.96	59.54
0	0	15	1.95		15.00	1.95	59.24
0	0	20	1.94		20.00	1.94	58.94
0	0	25	1.93		25.00	1.93	58.63
0	0	55	1.92		55.00	1.92	58.33
0	1	45	1.91		105.00	1.91	58.03
0	2	15	1.90		135.00	1.90	57.72
0	2	45	1.89		165.00	1.89	57.42
0	3	45	1.87		225.00	1.87	56.81
0	4	45	1.85		285.00	1.85	56.20
0	5	45	1.84		345.00	1.84	55.90
0	6	45	1.83		405.00	1.83	55.60
0	7	45	1.81		465.00	1.81	54.99
0	8	45	1.79		525.00	1.79	54.38
0	9	45	1.77		585.00	1.77	53.77
0	11	45	1.74		705.00	1.74	52.86
0	13	45	1.71		825.00	1.71	51.95
0	15	45	1.68		945.00	1.68	51.04
0	17	45	1.65		1065.00	1.65	50.13
0	19	45	1.62		1185.00	1.62	49.22
0	24	45	1.56		1485.00	1.56	47.39
0	29	45	1.50		1785.00	1.50	45.57

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-10S
Test Date: : December 16,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.3		-9.75
Static water depth from stickup (ft)	14.87		453.24
Depth to bottom of screen from ground level (ft)	23.5		715.37
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	26		780.29
Delta H at Time 0 (ft)	0.21		6.40
Delta H at Time t (ft)	0.02		0.61
Time t (seconds)	110		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	73.0		3.4E-03

Griffin Technology
MW-10S Rising Head Test



Griffin Technology Phase II Investigation

Well: MW-10S
Date: December 16, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

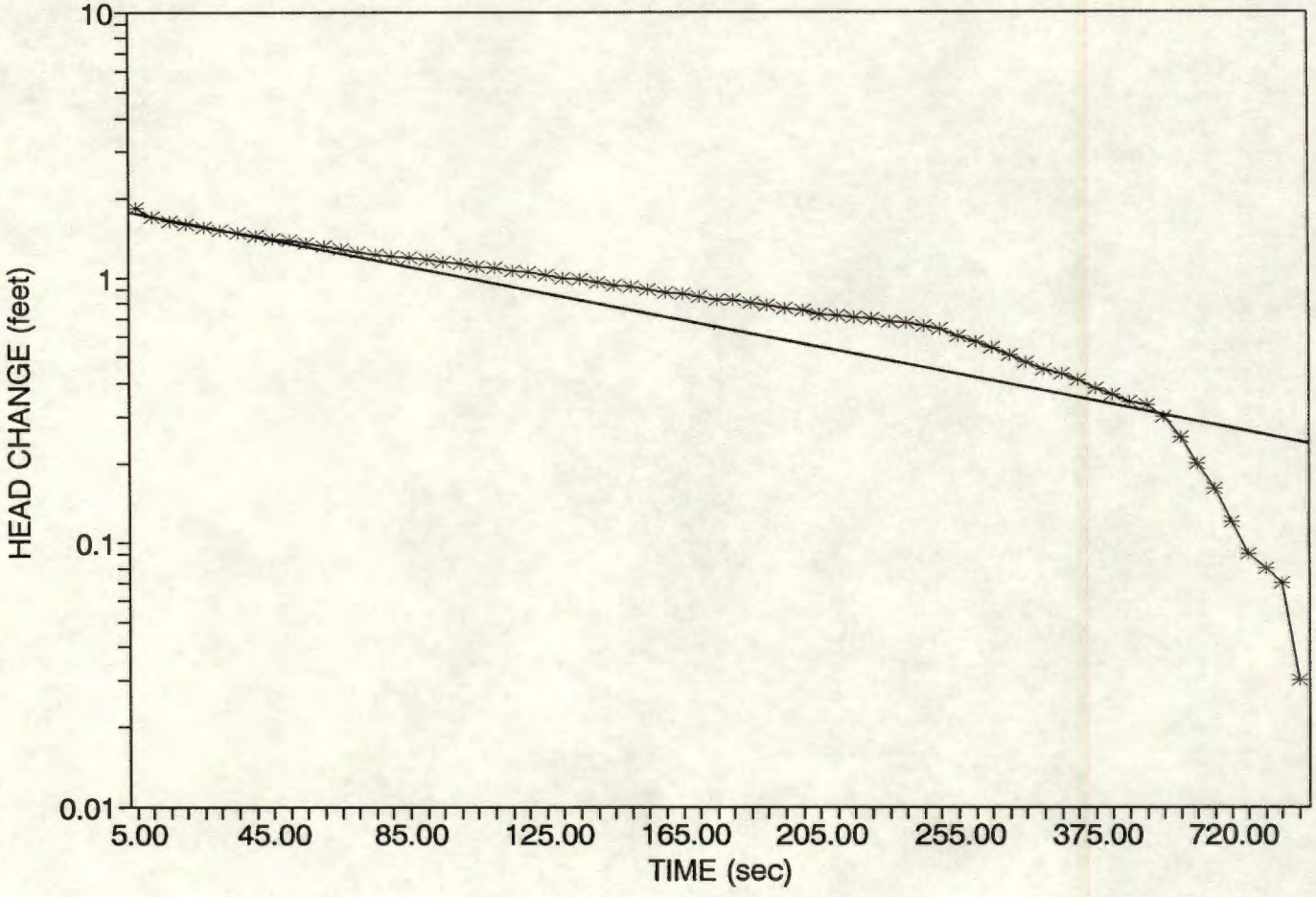
Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	0.38		5.00	0.38	11.54
0	0	10	0.25		10.00	0.25	7.60
0	0	15	0.16		15.00	0.16	4.86
0	0	20	0.14		20.00	0.14	4.25
0	0	25	0.12		25.00	0.12	3.65
0	0	30	0.11		30.00	0.11	3.34
0	0	35	0.10		35.00	0.10	3.04
0	0	40	0.09		40.00	0.09	2.73
0	0	45	0.08		45.00	0.08	2.43
0	0	50	0.08		50.00	0.08	2.43
0	0	55	0.07		55.00	0.07	2.13
0	1	0	0.06		60.00	0.06	1.82
0	1	5	0.06		65.00	0.06	1.82
0	1	10	0.05		70.00	0.05	1.52
0	1	15	0.05		75.00	0.05	1.52
0	1	30	0.03		90.00	0.03	0.91
0	1	45	0.03		105.00	0.03	0.91
0	2	0	0.02		120.00	0.02	0.61
0	2	30	0.02		150.00	0.02	0.61
0	3	0	0.01		180.00	0.01	0.30
0	4	0	0.00		240.00	0.00	0.00

Hydraulic Conductivity Computation

Project: Griffin Technology
Project No.: 379.01.06
Well No.: MW-10D
Test Date: : December 14,1994
Formation Tested: Overburden
Rising (R) or Falling Head (F): R

			(cm)
Reference Stickup (ft)	-0.3		-10.36
Static water depth from stickup (ft)	16.82		512.67
Depth to bottom of screen from ground level (ft)	42.0		1280.16
Boring Diameter (in)	8.3		20.96
Riser Diameter (in)	2.0		5.08
Screen Diameter (in)	2.0		5.08
Screen Length (ft)	12.50		381.00
Depth to Boundary	44		1325.88
Delta H at Time 0 (ft)	1.72		52.43
Delta H at Time t (ft)	0.50		15.24
Time t (seconds)	224		
Assumed Kh/Kv Ratio	100		
Porosity of Filter Pack	0.3		
	gpd/ft2		cm/sec
K, (Bouwer-Rice)	3.1		1.5E-04

Griffin Technology
MW-10D Rising Head Test



Griffin Technology Phase II Investigation

SLUG TEST DATA REDUCTION

Well: MW-10D
Date: December 14, 1994
Project: Griffin Technology
Rising (R) or Falling (F) Head: R
Bailer/Slug Dimensions: (1) 2.0' LONG, 0.2' O.D. SLUG

Transducer at equilibrium (psi): 0.00
Initial Time (seconds): 0.00

Clock Time			Hydrostatic Change		Elapsed Time in Seconds	Head Change in feet	Head Change in cm.
HR	MN	Sec	FT	IN			
0	0	0	0.00		0.00	0.00	0.00
0	0	5	1.83		5.00	1.83	55.60
0	0	10	1.70		10.00	1.70	51.65
0	0	15	1.63		15.00	1.63	49.52
0	0	20	1.60		20.00	1.60	48.61
0	0	25	1.56		25.00	1.56	47.39
0	0	30	1.52		30.00	1.52	46.18
0	0	35	1.48		35.00	1.48	44.96
0	0	40	1.44		40.00	1.44	43.75
0	0	45	1.41		45.00	1.41	42.84
0	0	50	1.38		50.00	1.38	41.92
0	0	55	1.35		55.00	1.35	41.01
0	1	0	1.32		60.00	1.32	40.10
0	1	5	1.29		65.00	1.29	39.19
0	1	10	1.26		70.00	1.26	38.28
0	1	15	1.23		75.00	1.23	37.37
0	1	20	1.21		80.00	1.21	36.76
0	1	25	1.19		85.00	1.19	36.15
0	1	30	1.17		90.00	1.17	35.54
0	1	35	1.15		95.00	1.15	34.94
0	1	40	1.13		100.00	1.13	34.33
0	1	45	1.11		105.00	1.11	33.72
0	1	50	1.09		110.00	1.09	33.11
0	1	55	1.07		115.00	1.07	32.51
0	2	0	1.05		120.00	1.05	31.90
0	2	5	1.03		125.00	1.03	31.29
0	2	10	1.00		130.00	1.00	30.38
0	2	15	0.98		135.00	0.98	29.77
0	2	20	0.96		140.00	0.96	29.16

0	2	25	0.94	145.00	0.94	28.56
0	2	30	0.92	150.00	0.92	27.95
0	2	35	0.90	155.00	0.90	27.34
0	2	40	0.88	160.00	0.88	26.73
0	2	45	0.87	165.00	0.87	26.43
0	2	50	0.85	170.00	0.85	25.82
0	2	55	0.83	175.00	0.83	25.22
0	3	0	0.82	180.00	0.82	24.91
0	3	5	0.80	185.00	0.80	24.30
0	3	10	0.78	190.00	0.78	23.70
0	3	15	0.76	195.00	0.76	23.09
0	3	20	0.75	200.00	0.75	22.79
0	3	25	0.73	205.00	0.73	22.18
0	3	30	0.72	210.00	0.72	21.87
0	3	35	0.71	215.00	0.71	21.57
0	3	40	0.70	220.00	0.70	21.27
0	3	45	0.68	225.00	0.68	20.66
0	3	50	0.67	230.00	0.67	20.35
0	3	55	0.66	235.00	0.66	20.05
0	4	0	0.64	240.00	0.64	19.44
0	4	15	0.60	255.00	0.60	18.23
0	4	30	0.57	270.00	0.57	17.32
0	4	45	0.54	285.00	0.54	16.41
0	5	0	0.51	300.00	0.51	15.49
0	5	15	0.48	315.00	0.48	14.58
0	5	30	0.45	330.00	0.45	13.67
0	5	45	0.43	345.00	0.43	13.06
0	6	0	0.41	360.00	0.41	12.46
0	6	15	0.38	375.00	0.38	11.54
0	6	30	0.36	390.00	0.36	10.94
0	6	45	0.34	405.00	0.34	10.33
0	7	0	0.33	420.00	0.33	10.03
0	8	0	0.30	480.00	0.30	9.11
0	9	0	0.25	540.00	0.25	7.60
0	10	0	0.20	600.00	0.20	6.08
0	11	0	0.16	660.00	0.16	4.86
0	12	0	0.12	720.00	0.12	3.65
0	13	0	0.09	780.00	0.09	2.73
0	14	0	0.08	840.00	0.08	2.43
0	15	0	0.07	900.00	0.07	2.13
0	20	0	0.03	1200.00	0.03	0.91
0	25	0	0.00	1500.00	0.00	0.00

Appendix D

Laboratory Analytical Results

Appendix D1

Analytical Results of Ground-Water, Surface-Water, and Sediment Sampling

General Testing Corporation

A Full Service Environmental Laboratory

JAN. 4 1995

Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Re: Griffin Facility

Dear Ms. Sue Coia Ahlman

Enclosed are the results of the analysis requested. The Analytical Data was provided to you on 12/28/94 per a Facsimile transmittal. All data has been reviewed prior to report submission.

Should you have any questions please contact me at 454-3760.

Thank you for letting us provide this service.

Sincerely,

GENERAL TESTING CORPORATION

Janice Jaeger/ksr

Janice Jaeger
Customer Service Representative

Enc.

710 Exchange Street • Rochester, NY 14608 • Tele: (716) 454-3760 • (716) 454-1245
85 Trinity Place • Hackensack, NJ 07601 • Tele: (201) 488-5242 • Fax: (201) 488-6386
435 Lawrence Bell Drive • Amherst, NY 14221 • Tele: (716) 634-0454 • Fax: (716) 634-9019
1201 E. Fayette Street, Suite 42 • Syracuse, NY 13210 • Tele: (315) 471-0936 • Fax: (315) 471-0943

Effective 10/1/91

GTC LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

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 and reanalysis could not be performed.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits. (Flag the entire batch - Inorganic analytes only)

* - Duplicate analysis not within control limits. (Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits. (Only used on the QC summary sheets)

M - Duplication injection precision not met (GFA only).

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

General Testing Corporation

CASE NARRATIVE

COMPANY: Blasland Bouck Engineers, PC
Griffin Facility
JOB #: R94/05066

VOLATILE ORGANICS

BBE water and soil samples were analyzed for Target Compound List (TCL) volatile organics using method 8260 from SW-846.

All Initial Calibration criteria were compliant.

All Continuing Calibration Check (CCC) criteria were compliant.

All surrogate standard recoveries were within QC limits.

All internal standard area criteria was met for all analyses.

The MS/MSD and Precision data from sample R94/05066-001 were all within QC limits.

Laboratory Blanks were free from contamination.

The Trip Blank was free of contamination.

Samples MW-10S, MW-7D, MW-7S, MW-6S, MW-5D, MW-5S, MW-4, AND MW-2 were reanalyzed at dilutions to bring target analyets within the calibration range of the method. A combination of the two analyses has been reported with the analytes overrange on the original being reported from the reanalysis.

No other analytical or QC problems were encountered with this analysis.

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference:
Griffin Facility

Received : 12/19/94

P.O. #:

ANALYTICAL UNITS - %

Sample:	-019							
Location:	SED-1							
Date Collected:	12/19/94							
Time Collected:	16:40							
Date Analyzed:	12/21/94							
Solids, %	45.2							

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference

Griffin Facility

Received : 12/19/94 P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		-001	-002	-003	-004	-005	-006	-007
Location:		MW-10D	MW-10S	MW-9S	MW-9D	MW-7D	MW-7S	MW-8S
Date Collected:		12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
Time Collected:	PQL	09:25	09:15	10:10	10:15	11:00	11:05	11:45
Date Analyzed:		12/22/94	12/22/94	12/26/94	12/22/94	12/22/94	12/22/94	12/23/94
Dilution:		1	1,2	1	1	1,2	1,2	1
Chloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	10	10 U	370	10 U	10 U	14	10 U	10 U
Carbon Disulfide	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	7.0	8.0	5.0 U
Chloroform	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	6.6	5.0 U
Carbon Tetrachloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichloropropene-Tran	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5.0	8.2	7.8	5.0 U	5.0 U	260	250	29
Dibromochloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichloropropene(Cis)	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone(MIB	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethan	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94 P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		-001	-002	-003	-004	-005	-006	-007
Location:		MW-10D	MW-10S	MW-9S	MW-9D	MW-7D	MW-7S	MW-8S
Date Collected:		12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
Time Collected:	PQL	09:25	09:15	10:10	10:15	11:00	11:05	11:45
Date Analyzed:		12/22/94	12/22/94	12/26/94	12/22/94	12/22/94	12/22/94	12/23/94
Dilution:		1	1,2	1	1	1,2	1,2	1
Ethylbenzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Total Xylene (o,m,p)	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Surrogate Standard Recoveries								
Dibromofluoromethane	86-118	92	97	98	98	97	94	97
Toluene d8	88-110	96	99	100	102	98	96	95
4-Bromofluorobenzene	86-115	89	93	95	101	94	92	93

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.
NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94 P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		-008	-009	-010	-011	-012	-013	-014
Location:		MW-8D	MW-6D	MW-6S	MW-5S	MW-5D	MW-4	MW-3
Date Collected:		12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
Time Collected:	PQL	11:55	13:35	13:30	NA	NA	NA	NA
Date Analyzed:		12/23/94	12/23/94	12/23/94	12/23/94	12/23/94	12/23/94	12/23/94
Dilution:		1	1	1,2	1,5	1,5	1,5	1
Chloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	10	42	10 U	170	10 U	10 U	10 U	10 U
Carbon Disulfide	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	23	5.0 U
Chloroform	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	5.0	5.0 U	7.5	7.8	15	23	6.7	5.0 U
Carbon Tetrachloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichloropropene-Tran	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5.0	55	190	270	580	820	710	190
Dibromochloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichloropropene(Cis)	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone(MIB	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethan	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94

P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		-008	-009	-010	-011	-012	-013	-014
Location:		MW-8D	MW-6D	MW-6S	MW-5S	MW-5D	MW-4	MW-3
Date Collected:		12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
Time Collected:	PQL	11:55	13:35	13:30	NA	NA	NA	NA
Date Analyzed:		12/23/94	12/23/94	12/23/94	12/23/94	12/23/94	12/23/94	12/23/94
Dilution:		1	1	1,2	1,5	1,5	1,5	1
Ethylbenzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Total Xylene (o,m,p)	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Surrogate Standard Recoveries								
Dibromofluoromethane	86-118	97	97	96	95	99	96	97
Toluene d8	88-110	97	97	97	95	96	97	96
4-Bromofluorobenzene	86-115	95	96	93	94	95	94	90

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Michael K. Penny

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94 P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		-015	-016	-017	-018	-020		
Location:		MW-2	MW-1	STR-1	TRIP BLANK	MW-9S		
Date Collected:		12/19/94	12/19/94	12/19/94	12/19/94	12/19/94		
Time Collected:	PQL	NA	16:05	16:35	NA	10:10		
Date Analyzed:		12/23/94	12/23/94	12/23/94	12/23/94	12/22/94		
Dilution:		1,2.5	1	1	1	1		
Chloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Bromomethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Vinyl Chloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Chloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Methylene Chloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Acetone	10	50	10 U	10 U	10 U	10 U		
Carbon Disulfide	10	10 U	10 U	10 U	10 U	10 U		
1,1-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
1,1-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
trans-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
cis-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Chloroform	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
2-Butanone (MEK)	10	10 U	10 U	10 U	10 U	10 U		
1,2-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
1,1,1-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Carbon Tetrachloride	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Bromodichloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
1,2-Dichloropropane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
1,3-Dichloropropene-Tran	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Trichloroethene	5.0	850	5.0 U	5.0 U	5.0 U	5.1		
Dibromochloromethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
1,1,2-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Benzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
1,3-Dichloropropene(Cis)	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Bromoform	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
4-Methyl-2-pentanone(MIB	10	10 U	10 U	10 U	10 U	10 U		
2-Hexanone	10	10 U	10 U	10 U	10 U	10 U		
Tetrachloroethene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
1,1,2,2-Tetrachloroethan	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Toluene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Chlorobenzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94

P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		-015	-016	-017	-018	-020		
Location:		MW-2	MW-1	STR-1	TRIP BLANK	MW-9S		
Date Collected:		12/19/94	12/19/94	12/19/94	12/19/94	12/19/94		
Time Collected:	PQL	NA	16:05	16:35	NA	10:10		
Date Analyzed:		12/23/94	12/23/94	12/23/94	12/23/94	12/22/94		
Dilution:		1,2.5	1	1	1	1		
Ethylbenzene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Styrene	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Total Xylene (o,m,p)	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		
Surrogate Standard Recoveries								
Dibromofluoromethane	86-118	99	97	102	101	95		
Toluene d8	88-110	97	97	101	97	95		
4-Bromofluorobenzene	86-115	93	95	102	100	93		

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94 P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/kg Dry Wt.

Sample:		-019						
Location:		SED-1						
Date Collected:		12/19/94						
Time Collected:	PQL	16:40						
Date Analyzed:		12/20/94						
Dilution:		1						
Chloromethane	5.0	11 U						
Bromomethane	5.0	11 U						
Vinyl Chloride	5.0	11 U						
Chloroethane	5.0	11 U						
Methylene Chloride	5.0	23						
Acetone	10	36						
Carbon Disulfide	10	22 U						
1,1-Dichloroethene	5.0	11 U						
1,1-Dichloroethane	5.0	11 U						
trans-1,2-Dichloroethene	5.0	11 U						
cis-1,2-Dichloroethene	5.0	11 U						
Chloroform	5.0	11 U						
2-Butanone (MEK)	10	22 U						
1,2-Dichloroethane	5.0	11 U						
1,1,1-Trichloroethane	5.0	11 U						
Carbon Tetrachloride	5.0	11 U						
Bromodichloromethane	5.0	11 U						
1,2-Dichloropropane	5.0	11 U						
1,3-Dichloropropene-Tran	5.0	11 U						
Trichloroethene	5.0	11 U						
Dibromochloromethane	5.0	11 U						
1,1,2-Trichloroethane	5.0	11 U						
Benzene	5.0	11 U						
1,3-Dichloropropene(Cis)	5.0	11 U						
Bromoform	5.0	11 U						
4-Methyl-2-pentanone(MIB	10	22 U						
2-Hexanone	10	22 U						
Tetrachloroethene	5.0	11 U						
1,1,2,2-Tetrachloroethan	5.0	11 U						
Toluene	5.0	11 U						
Chlorobenzene	5.0	11 U						

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94 P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS -ug/kg Dry Wt.

Sample:		-019
Location:		SED-1
Date Collected:		12/19/94
Time Collected:	PQL	16:40
Date Analyzed:		12/20/94
Dilution:		1
Ethylbenzene	5.0	11 U
Styrene	5.0	11 U
Total Xylene (o,m,p)	5.0	11 U
Surrogate Standard Recoveries		
Dibromofluoromethane	80-120	96
Toluene d8	81-117	93
4-Bromofluorobenzene	74-121	78

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Michael K. Penny

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94 P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		-021	-022	-023				
Location:		LAB METH BLANK	LAB METH BLANK	LAB METH BLANK				
Date Collected:		--	--	--				
Time Collected:	PQL	--	--	--				
Date Analyzed:		12/22/94	12/22/94	12/23/94				
Dilution:		1	1	1				
Chloromethane	5.0	5.0 U	5.0 U	5.0 U				
Bromomethane	5.0	5.0 U	5.0 U	5.0 U				
Vinyl Chloride	5.0	5.0 U	5.0 U	5.0 U				
Chloroethane	5.0	5.0 U	5.0 U	5.0 U				
Methylene Chloride	5.0	5.0 U	5.0 U	5.0 U				
Acetone	10	10 U	10 U	10 U				
Carbon Disulfide	10	10 U	10 U	10 U				
1,1-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U				
1,1-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U				
trans-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U				
cis-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U				
Chloroform	5.0	5.0 U	5.0 U	5.0 U				
2-Butanone (MEK)	10	10 U	10 U	10 U				
1,2-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U				
1,1,1-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U				
Carbon Tetrachloride	5.0	5.0 U	5.0 U	5.0 U				
Bromodichloromethane	5.0	5.0 U	5.0 U	5.0 U				
1,2-Dichloropropane	5.0	5.0 U	5.0 U	5.0 U				
1,3-Dichloropropene-Tran	5.0	5.0 U	5.0 U	5.0 U				
Trichloroethene	5.0	5.0 U	5.0 U	5.0 U				
Dibromochloromethane	5.0	5.0 U	5.0 U	5.0 U				
1,1,2-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U				
Benzene	5.0	5.0 U	5.0 U	5.0 U				
1,3-Dichloropropene(Cis)	5.0	5.0 U	5.0 U	5.0 U				
Bromoform	5.0	5.0 U	5.0 U	5.0 U				
4-Methyl-2-pentanone(MIB	10	10 U	10 U	10 U				
2-Hexanone	10	10 U	10 U	10 U				
Tetrachloroethene	5.0	5.0 U	5.0 U	5.0 U				
1,1,2,2-Tetrachloroethan	5.0	5.0 U	5.0 U	5.0 U				
Toluene	5.0	5.0 U	5.0 U	5.0 U				
Chlorobenzene	5.0	5.0 U	5.0 U	5.0 U				

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/05066 Date: JAN. 4 1995

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Griffin Facility

Received : 12/19/94 P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		-021	-022	-023				
Location:		LAB METH BLANK	LAB METH BLANK	LAB METH BLANK				
Date Collected:		--	--	--				
Time Collected:	PQL	--	--	--				
Date Analyzed:		12/22/94	12/22/94	12/23/94				
Dilution:		1	1	1				
Ethylbenzene	5.0	5.0 U	5.0 U	5.0 U				
Styrene	5.0	5.0 U	5.0 U	5.0 U				
Total Xylene (o,m,p)	5.0	5.0 U	5.0 U	5.0 U				
Surrogate Standard Recoveries								
Dibromofluoromethane	86-118	95	93	98				
Toluene d8	88-110	99	96	101				
4-Bromofluorobenzene	86-115	92	92	103				

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
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NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

VOLATILE ORGANICS - AQUEOUS SAMPLE

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: General Testing Corp.

Matrix Spike - Sample No. : R94/05066 -001

COMPOUND	SPIKE ADDED (ug/l)	SAMPLE CONCENTRATION (ug/l)	MS CONCENT. (ug/l)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	51.5	103	D-234
Trichloroethene	50.0	8.2	57.5	99	71-157
Benzene	50.0	0	48.4	97	37-151
Toluene	50.0	0	48.3	97	47-150
Chlorobenzene	50.0	0	48.3	97	37-160

COMPOUND	SPIKE ADDED (ug/l)	MSD CONCENT. (ug/l)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	53.0	106	3	30	D-234
Trichloroethene	50.0	57.3	98	0	30	71-157
Benzene	50.0	48.7	97	1	30	37-151
Toluene	50.0	48.5	97	0	30	47-150
Chlorobenzene	50.0	47.1	94	3	30	37-160

Columns to be used to flag recovery and RPD values with *.
* = Values outside of QC limits
MS QC Limits = EPA Acceptance Criteria
RPD Limits = Internal Acceptance Criteria

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Job No: R94/05066

Date: 4 JAN., 1995

	REFERENCE CHECK		
EPA METHOD 8260 - TCL	TRUE VALUE	% RECOVERY	ACCEPTANCE LIMITS (%)
Date Analyzed: 12/22/94			
Chloromethane	20	98	D - 273
Bromomethane	20	111	D - 242
Vinyl Chloride	20	106	D - 251
Chloroethane	20	104	42 - 140
Methylene Chloride	20	102	D - 221
Acetone	20	103	21 - 188
Carbon Disulfide	20	98	45 - 148
1,1-Dichloroethene	20	103	D - 234
1,1-Dichloroethane	20	110	59 - 155
trans-1,2-Dichloroethene	20	99	54 - 156
cis-1,2-Dichloroethene	NA	NA	54 - 156
Chloroform	20	98	51 - 138
2-Butanone (MEK)	20	90	42 - 175
1,2-Dichloroethane	20	97	49 - 155
1,1,1-Trichloroethane	20	94	52 - 162
Carbon Tetrachloride	20	99	70 - 140
Bromodichloromethane	20	91	35 - 155
1,2-Dichloropropane	20	98	D - 210
1,3-Dichloropropene-Trans	20	100	17 - 183
Trichloroethene	20	99	71 - 157
Dibromochloromethane	20	88	53 - 149
1,1,2-Trichloroethane	20	97	52 - 150
Benzene	20	100	37 - 151
1,3-Dichloropropene(Cis)	20	82	D - 227
Bromoform	20	84	45 - 169
4-Methyl-2-pentanone(MIBK)	20	93	47 - 155
2-Hexanone	20	83	48 - 151
Tetrachloroethene	20	87	64 - 148
1,1,2,2-Tetrachloroethane	20	104	46 - 157
Toluene	20	97	47 - 150
Chlorobenzene	20	88	37 - 160
Ethylbenzene	20	97	37 - 162
Styrene	20	92	75 - 131
Total Xylene (o,m,p)	20	83	62 - 124

NA - Not Added

9412000313

GENERAL TESTING CORPORATION / CHAIN-OF-CUSTODY RECORD

GTC Job. No. R94/5066

710 Exchange St. Rochester, NY 14608 | 1201 E. Fayette St. Syracuse, NY 13210 | 85 Trinity Place Hackensack, NJ 07601 | 435 Lawrence Bell Dr. Amherst, NY 14221-7077

Client Project No. 319.01

Sample Origination & Shipping Information

Collection Site GRIFFIN TECHNOLOGY

Address ROUTE 96 (Street) FARMINGTON (City) NEW YORK (State) (Zip)

Collector DOUGLAS M. RUSZCZYK (Print) Douglas M. Ruszczyk (Signature)

Bottles Prepared by _____ Rec'd by _____

Bottles Shipped to Client via _____ Seal/Shipping # _____

Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by:	Received by:	Date//Time
1. Sign Douglas M. Ruszczyk for Bibbens, Burkle & Lee	1. Sign Tom Hastings for GTC	12/19/94 17:30
2. Sign	2. Sign	/ / :
for	for	
3. Sign	3. Sign	/ / :
for	for	

Sample(s) Received in Laboratory by DS/TGarden 12/19/94 @17:30

	Client I.D. # / Lab #	Sample Location / Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep Preserved Y	Preserved N	Filtered Y	Filtered N	Bottle Set(s) (see below)
1	MW-10D / 3579-001	MONITORING WELL #10S (WATER) / 12/19/94 0925	W	8260	✓			✓	10
2	MW-10S / 3580-002	MONITORING WELL #10S (WATER) / 12/19/94 09:15	W		✓			✓	1
3	MW-9S / 3581-003	MONITORING WELL #9S (WATER) / 12/19/94 10:10	W		✓			✓	10
4	MW-9D / 3582-004	MONITORING WELL #9D (WATER) / 12/19/94 10:15	W		✓			✓	1
5	MW-7D / 3583-005	MONITORING WELL #7D (WATER) / 12/19/94 11:00	W		✓			✓	10

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	40ml VOA	
# of each	2									3	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____ (X), _____ (Y).

GENERAL TESTING CORPORATION / CHAIN-OF-CUSTODY RECORD

pg 4/5 doc

710 Exchange St. Rochester, NY 14608 | 1201 E. Fayette St. Syracuse, NY 13210 | 85 Trinity Place Hackensack, NJ 07601 | 435 Lawrence Bell Dr. Amherst, NY 14221-7077

GTC Job. No. 319.01

Client Project No. _____

Sample Origination & Shipping Information

Collection Site GRIFFIN TECHNOLOGY

Address ROUTE 96 (Street) FARMINGTON (City) NEW YORK (State) _____ (Zip)

Collector DOUGLAS M. KUSZCZYK (Print) Douglas M. Kuszczyk (Signature)

Bottles Prepared by _____ Rec'd by _____

Bottles Shipped to Client via _____ Seal/Shipping # _____

Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by:	Received by:	Date/Time
1. Sign Douglas M. Kuszczyk	1. Sign Tom Hastings	12/19/94
for BURNS, BOWEN, JAKE.	for GTC	17:30
2. Sign	2. Sign	/ /
for	for	:
3. Sign	3. Sign	/ /
for	for	:

Sample(s) Received in Laboratory by DS/Ygardner 12/19/94 @ 17:30

	Client I.D. # / Lab #	Sample Location / Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep Preserved Y	Sample Prep Preserved N	Sample Prep Filtered Y	Sample Prep Filtered N	Bottle Set(s) (see below)
1	MW-7S / 3584 006	MONITORING WELL #7S (WADES) / 12/19/94 11:05	W	8260	✓			✓	1
2	MW-8S / 3585 007	MONITORING WELL #8S (WADES) / 12/19/94 11:45	W		✓			✓	10
3	MW-8D / 3586 008	MONITORING WELL #8D (WADES) / 12/19/94 11:55	W		✓			✓	1
4	MW-6D / 3587 009	MONITORING WELL #6D (WADES) / 12/19/94 13:35	W		✓			✓	10
5	MW-6S / 3588 010	MONITORING WELL #6S (WADES) / 12/19/94 13:30	W		✓			✓	1

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	40 ml VIAL	
# of each	2									3	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____ (X), _____ (Y).

GENERAL TESTING CORPORATION / CHAIN-OF-CUSTODY RECORD

710 Exchange St.
Rochester, NY 14608

1201 E. Fayette St.
Syracuse, NY 13210

85 Trinity Place
Hackensack, NJ 07601

435 Lawrence Bell Dr.
Amherst, NY 14221-7077

GTC Job. No. R94/5066
Client Project No. 379.01

Sample Origination & Shipping Information

Collection Site: GRIFFIN TECHNOLOGY
Address: ROUTE 96 (Street) FARMINGTON (City) NEW YORK (State) (Zip)
Collector: DOUGLAS M. RUSZCZYK (Print) Douglas M. Ruszczyk (Signature)

Bottles Prepared by: GTC — Rec'd by: Client
Bottles Shipped to Client via: Client — Seal/Shipping #:
Samples Shipped via: Client — Seal/Shipping #:

Sample(s) Relinquished by:	Received by:	Date/Time
1. Sign Douglas M. Ruszczyk	1. Sign Tom Hastings	12/19/94
for BERGLAND, DIDDLE & LEE	for GTC	17:30
2. Sign	2. Sign	/ /
for	for	:
3. Sign	3. Sign	/ /
for	for	:

Sample(s) Received in Laboratory by: JA/Gardner 12/19/94 @ 17:30

	Client I.D. # / Lab #	Sample Location / Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Preserved Y	Preserved N	Filtered Y	Filtered N	Bottle Set(s) (see below)
1	MW-5S / 011 3589	MONITORING WELL #5S GRIFFIN TECH / 12/19/94 :	W	8260	✓			✓	1
2	MW-5D / 012 3590	MONITORING WELL #5D GRIFFIN TECH / 12/19/94 :	W	↓	✓			✓	1
3	MW-4 / 013 3591	MONITORING WELL #4 GRIFFIN TECH. / 12/19/94 :	W	↓	✓			✓	1
4	MW-3 / 014 3592	MONITORING WELL #3 GRIFFIN TECH / 12/19/94 :	W	↓	✓			✓	1
5	MW-2 / 015 3593	MONITORING WELL #2 GRIFFIN TECH. / 12/19/94 :	W	↓	✓			✓	1

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.		
# of each	2										

Additional Analytes ______________________

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), __________ (X), __________ (Y).

GENERAL TESTING CORPORATION / CHAIN-OF-CUSTODY RECORD

710 Exchange St. Rochester, NY 14608 | 1201 E. Fayette St. Syracuse, NY 13210 | 85 Trinity Place Hackensack, NJ 07601 | 435 Lawrence Bell Dr. Amherst, NY 14221-7077

GTC Job. No. R941066
Client Project No. 319.01

Sample Origination & Shipping Information

Collection Site GRIFFIN TECHNOLOGY
Address ROUTE 96 (Street) FARMINGTON (City) NEW YORK (State) (Zip)
Collector DOUGLAS M. KUSZCZYK (Print) Douglas M. Kuszczyk (Signature)

Bottles Prepared by GTC Rec'd by
Bottles Shipped to Client via Client Seal/Shipping #
Samples Shipped via " Seal/Shipping #

Sample(s) Relinquished by:	Received by:	Date//Time
1. Sign Douglas M. Kuszczyk	1. Sign Tom Hastings	12/19/94
for BARTON & LOGUIDICE	for GTC	17:30
2. Sign	2. Sign	/ /
for	for	:
3. Sign	3. Sign	/ /
for	for	:

Sample(s) Received in Laboratory by DS/TGardner 12/19/94@17:30

	Client I.D. # / Lab #	Sample Location / Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep Preserved Y	Preserved N	Filtered Y	Filtered N	Bottle Set(s) (see below)
1	MW-1 / 3594 016	MONITORING WELL #1 / 12/19/94 16:05	W	8260	✓			✓	1
2	STR-1 / 3595 017	BEAVER CREEK EAST OF MERTENSIA ROAD / 12/19/94 16:35	R		✓			✓	1
3	TRIP BLANK / 3596 020 (#18)	TRIP BLANK / - - :			✓			✓	1
4	SED-1 / 3597 020 (#19)	BEAVER CREEK EAST OF MERTENSIA ROAD / 12/19/94 16:40	X	↓ TDWPS		✓		✓	4
5		/ / :							

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.		
# of each	2			3							

Additional Analytes

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), SEDIMENT (X), (Y).

Appendix D2

Analytical Results of Residential Air and Sump Water Sampling

General Testing Corporation

A Full Service Environmental Laboratory

January 27, 1995

Mr. Doug Ruszczyk
Blasland Bouck Engineers P.C.
30 Corporate Woods Suite 160
Rochester, NY 14623

Re: Griffin Facility

Dear Mr. Ruszczyk:

Enclosed is a copy of the analytical data report for the above referenced facility. Should you have any questions, please contact me at 454-3760.

Thank you for your continued use of our services.

Sincerely,

Janice M. Jaeger

Janice M. Jaeger
Customer Service Representative

enc.

710 Exchange Street • Rochester, NY 14608 • Tele: (716) 454-3760 • (716) 454-1245
85 Trinity Place • Hackensack, NJ 07601 • Tele: (201) 488-5242 • Fax: (201) 488-6386
435 Lawrence Bell Drive • Amherst, NY 14221 • Tele: (716) 634-0454 • Fax: (716) 634-9019
1201 E. Fayette Street, Suite 42 • Syracuse, NY 13210 • Tele: (315) 471-0936 • Fax: (315) 471-0943

General Testing Corporation

A Full Service Environmental Laboratory

DEC. 23 1994

Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, NY 14623

Re: Griffin Facility
Groundwaters

Dear Ms. Sue Coia Ahlman

Enclosed are the results of the analysis requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at 454-3760.

Thank you for letting us provide this service.

Sincerely,

GENERAL TESTING CORPORATION

Janice Jaeger

Janice Jaeger
Customer Service Representative

Enc.

12-28-94
MAILED

710 Exchange Street • Rochester, NY 14608 • Tele: (716) 454-3760 • (716) 454-1245
85 Trinity Place • Hackensack, NJ 07601 • Tele: (201) 488-5242 • Fax: (201) 488-6386
435 Lawrence Bell Drive • Amherst, NY 14221 • Tele: (716) 634-0454 • Fax: (716) 634-9019

General Testing Corporation

A Full Service Environmental Laboratory

Effective 10/1/91

GTC LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

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 and reanalysis could not be performed.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits. (Flag the entire batch - Inorganic analytes only)

* - Duplicate analysis not within control limits. (Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits. (Only used on the QC summary sheets)

M - Duplication injection precision not met (GFA only).

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/04820 Date: DEC. 23 1994

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, NY 14623

Sample(s) Reference
Griffin Facility
Groundwaters

Received : 12/02/94

P.O. #:

TCL VOLATILES BY EPA METHOD 8260*

ANALYTICAL RESULTS - ug/l

Sample:		-001	-002	-003				
Location:		SUMP-1	TRIP BLANK	LAB METH BLANK				
Date Collected:		12/02/94	12/02/94	--				
Time Collected:	PQL	08:15	NA	--				
Date Analyzed:		12/08/94	12/08/94	12/08/94				
Dilution:		1	1	1				
Chloromethane	5.0	5.0 U	5.0 U	5.0 U				
Bromomethane	5.0	5.0 U	5.0 U	5.0 U				
Vinyl Chloride	5.0	5.0 U	5.0 U	5.0 U				
Chloroethane	5.0	5.0 U	5.0 U	5.0 U				
Methylene Chloride	5.0	5.0 U	5.0 U	5.0 U				
Acetone	10	10 U	10 U	10 U				
Carbon Disulfide	10	10 U	10 U	10 U				
1,1-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U				
1,1-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U				
trans-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U				
cis-1,2-Dichloroethene	5.0	5.0 U	5.0 U	5.0 U				
Chloroform	5.0	5.0 U	5.0 U	5.0 U				
2-Butanone (MEK)	10	10 U	10 U	10 U				
1,2-Dichloroethane	5.0	5.0 U	5.0 U	5.0 U				
1,1,1-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U				
Carbon Tetrachloride	5.0	5.0 U	5.0 U	5.0 U				
Bromodichloromethane	5.0	5.0 U	5.0 U	5.0 U				
1,2-Dichloropropane	5.0	5.0 U	5.0 U	5.0 U				
1,3-Dichloropropene-Trans	5.0	5.0 U	5.0 U	5.0 U				
Trichloroethene	5.0	5.0 U	5.0 U	5.0 U				
Dibromochloromethane	5.0	5.0 U	5.0 U	5.0 U				
1,1,2-Trichloroethane	5.0	5.0 U	5.0 U	5.0 U				
Benzene	5.0	5.0 U	5.0 U	5.0 U				
1,3-Dichloropropene(Cis)	5.0	5.0 U	5.0 U	5.0 U				
Bromoform	5.0	5.0 U	5.0 U	5.0 U				
4-Methyl-2-pentanone(MIBK)	10	10 U	10 U	10 U				
2-Hexanone	10	10 U	10 U	10 U				
Tetrachloroethene	5.0	5.0 U	5.0 U	5.0 U				
1,1,2,2-Tetrachloroethane	5.0	5.0 U	5.0 U	5.0 U				
Toluene	5.0	5.0 U	5.0 U	5.0 U				
Chlorobenzene	5.0	5.0 U	5.0 U	5.0 U				

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Date: DEC. 23 1994

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, NY 14623

Sample(s) Reference
Griffin Facility
Groundwaters

Received : 12/02/94

P.O. #:

TCL VOLATILES BY EPA METHOD 8260* ANALYTICAL RESULTS - ug/l

Sample:		R94/04820	R94/04820	R94/04820
Sample:		-001	-002	-003
Location:		SUMP-1	TRIP BLANK	LAB METH BLANK
Date Collected:		12/02/94	12/02/94	--
Time Collected:	PQL	08:15	NA	--
Date Analyzed:		12/08/94	12/08/94	12/08/94
Dilution:		1	1	1
Ethylbenzene	5.0	5.0 U	5.0 U	5.0 U
Styrene	5.0	5.0 U	5.0 U	5.0 U
Total Xylene (o,m,p)	5.0	5.0 U	5.0 U	5.0 U
SURROGATE STANDARD RECOVERIES				
Dibromofluoromethane	80 - 120	92	95	92
Toluene d8	81 - 117	94	97	95
4-Bromofluorobenzene	74 - 121	94	97	96

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.
NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Michael K. Perry

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/04820 Date: DEC. 23 1994

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, NY 14623

Sample(s) Reference
Griffin Facility
Groundwaters

Received : 12/02/94 P.O. #:

TCL ACID EXTRACTABLES BY EPA METHOD 8270* ANALYTICAL RESULTS - ug/l

Sample:		-001	-002	-003				
Location:		SUMP-1	TRIP BLANK	LAB METH BLANK				
Date Collected:		12/02/94	12/02/94	--				
Time Collected:	PQL	08:15	NA	--				
Date Extracted:		12/07/94		12/07/94				
Date Analyzed:		12/08/94		12/07/94				
Dilution:		1		1				
Phenol	10	10 U		10 U				
2-Chlorophenol	10	10 U		10 U				
2-Nitrophenol	10	10 U		10 U				
2,4-Dimethylphenol	10	10 U		10 U				
2,4-Dichlorophenol	10	10 U		10 U				
4-Chloro-3-methylphenol	10	10 U		10 U				
2,4,6-Trichlorophenol	10	10 U		10 U				
2,4-Dinitrophenol	20	20 U		20 U				
4-Nitrophenol	20	20 U		20 U				
2-Methyl-4,6-dinitrophenol	20	20 U		20 U				
Pentachlorophenol	20	20 U		20 U				
2-Methylphenol	10	10 U		10 U				
4-Methylphenol	10	10 U		10 U				
2,4,5-Trichlorophenol	10	10 U		10 U				
SURROGATE STANDARD RECOVERIES								
2-Fluorophenol	21-100%	42		38				
Phenol-d6	10-94%	32		29				
2,4,6-TriBromophenol	10-123%	73		101				

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Michael K. P...
Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R94/04820 Date: DEC. 23 1994

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, NY 14623

Sample(s) Reference
Griffin Facility
Groundwaters

Received : 12/02/94 P.O. #:

TCL BASE NEUTRALS BY EPA METHOD 8270* ANLYTICAL RESULTS - ug/l

Sample:		-001	-002	-003				
Location:		SUMP-1	TRIP BLANK	LAB METH BLANK				
Date Collected:		12/02/94	12/02/94	--				
Time Collected:	PQL	08:15	NA	--				
Date Extracted:		12/07/94		12/07/94				
Date Analyzed:		12/08/94		12/07/94				
Dilution:		1		1				
N-Nitrosodimethylamine	5.0	5.0 U		5.0 U				
Bis(2-chloroethyl) ether	5.0	5.0 U		5.0 U				
1,3 Dichlorobenzene	5.0	5.0 U		5.0 U				
1,4 Dichlorobenzene	5.0	5.0 U		5.0 U				
1,2 Dichlorobenzene	5.0	5.0 U		5.0 U				
2,2'oxybis(1-Chloropropane)	5.0	5.0 U		5.0 U				
N-Nitroso-Di-n-propylamine	5.0	5.0 U		5.0 U				
Hexachloroethane	5.0	5.0 U		5.0 U				
Nitrobenzene	5.0	5.0 U		5.0 U				
Isophorone	5.0	5.0 U		5.0 U				
bis(-2-chloroethoxy)methane	5.0	5.0 U		5.0 U				
1,2,4-Trichlorobenzene	5.0	5.0 U		5.0 U				
Naphthalene	5.0	5.0 U		5.0 U				
Hexachlorobutadiene	5.0	5.0 U		5.0 U				
Hexachlorocyclopentadiene	5.0	5.0 U		5.0 U				
2-Chloronaphthalene	5.0	5.0 U		5.0 U				
Dimethyl phthalate	5.0	5.0 U		5.0 U				
Acenaphthylene	5.0	5.0 U		5.0 U				
Acenaphthene	5.0	5.0 U		5.0 U				
2,4-Dinitrotoluene	5.0	5.0 U		5.0 U				
2,6-Dinitrotoluene	5.0	5.0 U		5.0 U				
Diethyl phthalate	5.0	5.0 U		5.0 U				
4-Chlorophenyl-phenyl-ether	5.0	5.0 U		5.0 U				
Fluorene	5.0	5.0 U		5.0 U				
1,2-Diphenylhydrazine	5.0	5.0 U		5.0 U				
N-Nitrosodiphenylamine	5.0	5.0 U		5.0 U				
4-Bromophenyl-phenylether	5.0	5.0 U		5.0 U				
Hexachlorobenzene	5.0	5.0 U		5.0 U				
Phenanthrene	5.0	5.0 U		5.0 U				
Anthracene	5.0	5.0 U		5.0 U				
Di-n-butyl phthalate	5.0	5.0 U		5.0 U				
Fluoranthene	5.0	5.0 U		5.0 U				
Pyrene	5.0	5.0 U		5.0 U				

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job Number: R94/04820 Date: DEC. 23 1994

Client:
Ms. Sue Coia Ahlman
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, NY 14623

Sample(s) Reference
Griffin Facility
Groundwaters

Received : 12/02/94 P.O. #:

TCL BASE NEUTRALS BY EPA METHOD 8270* ANALYTICAL RESULTS - ug/l

Sample:		-001	-002	-003				
Location:		SUMP-1	TRIP BLANK	LAB METH BLANK				
Date Collected:		12/02/94	12/02/94	--				
Time Collected:		08:15	NA	--				
Date Extracted:		12/07/94		12/07/94				
Date Analyzed:		12/08/94		12/07/94				
Dilution:		1		1				
Butyl benzyl phthalate	5.0	5.0 U		5.0 U				
3,3'-Dichlorobenzidine	5.0	5.0 U		5.0 U				
Benzo(a)anthracene	5.0	5.0 U		5.0 U				
Bis(2-ethylhexyl)phthalate	5.0	5.0 U		5.0 U				
Chrysene	5.0	5.0 U		5.0 U				
Di-n-octyl phthalate	5.0	5.0 U		5.0 U				
Benzo(b)Fluoranthene	5.0	5.0 U		5.0 U				
Benzo(k)fluoranthene	5.0	5.0 U		5.0 U				
Benzo(a)pyrene	5.0	5.0 U		5.0 U				
Indeno(1,2,3-cd)pyrene	5.0	5.0 U		5.0 U				
Dibenzo(a,h)anthracene	5.0	5.0 U		5.0 U				
Benzo(g,h,i)perylene	5.0	5.0 U		5.0 U				
4-Chloroaniline	5.0	5.0 U		5.0 U				
2-Methyl Naphthalene	5.0	5.0 U		5.0 U				
2-Nitroaniline	5.0	5.0 U		5.0 U				
3-Nitroaniline	5.0	5.0 U		5.0 U				
Dibenzofuran	5.0	5.0 U		5.0 U				
4-Nitroaniline	5.0	5.0 U		5.0 U				
SURROGATE STANDARD RECOVERIES								
Nitrobenzene-d5	35-114%	55		58				
2-Fluorobiphenyl	43-116%	56		59				
Terphenyl-d14	33-141%	62		62				

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145 NY ID# in Hackensack: 10801
NJ ID# in Rochester: 73331 NJ ID# in Hackensack: 02317

Michael K. Perry
Laboratory Director

94/12000061

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street, Rochester, NY 14608 — 85 Trinity Place, Hackensack, NJ 07601

GTC Job No. 294/4820
Client Project No. 379.01

Sample Origination & Shipping Information

Collection Site GRIFFIN TECHNOLOGY
Address ROUTE 96 (Street) VICTOR/FARMINGTON (City) N.Y. (State) (Zip)
Collector DOUGLAS M. KRUSZEWSKI (Print) Douglas M. Kruszewski (Signature)

Bottles Prepared by _____ Rec'd by _____
Bottles Shipped to Client via _____ Seal/Shipping # _____
Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by:		Received by:		Date/Time
1. Sign	Douglas M. Kruszewski	1. Sign	Michael R Aland	12/2/94
for	BLASLAND, BOUCK & LEE	for	BLASLAND, BOUCK & LEE	16:15
2. Sign	Michael R Aland	2. Sign	Tom Hastings	12/2/94
for	BBL	for	GTC	17:45
3. Sign		3. Sign		/ /
for		for		:

Sample(s) Received in Laboratory by DS/TG 12/2/94 @ 17:4:

#2490

Sample I.D.# SUMP-1

Collected 12/2/94 08:15

Analyte(s)	Bottle Type	Sample Volume	Preservative Added in field	pH Check	Laboratory: pH Adjusted To:	Laboratory: Initials	Laboratory: Date
METHOD 8240	40ML VIAL	4 VIALS	✓				
METHOD 8270	1L AMBER	4 JARS	—				
* ONLY DO ONE (1)			SGT *				

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place
Rochester, NY 14608 Hackensack, NJ 07601

GTC Job No. R94/4820
Client Project No. 379.01

Sample Origination & Shipping Information

Collection Site GRIFFIN TECHNOLOGY
Address ROUTE 96 VICTOR/FARMINGTON N.Y.
Street City State Zip
Collector DOUGLAS M. RUSZCZYK
Print Signature

Bottles Prepared by _____ Rec'd by _____
Bottles Shipped to Client via _____ Seal/Shipping # _____
Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by:		Received by:		Date/Time
1. Sign	DOUGLAS M. RUSZCZYK	1. Sign	Michael R. Slayer	12/2/94
for	BLASLAND, BOUCK & LEE	for	BLASLAND, BOUCK & LEE	16:15
2. Sign	Michael R. Slayer	2. Sign	Tom Hastings	12/2/94
for	BBL	for	GTC	17:45
3. Sign		3. Sign		/ /
for		for		:

Sample(s) Received in Laboratory by DS/Jgarcia 12/2/94 @ 17:45

#2491

Sample I.D.# TRIP BLANK

Collected 12/2/94 +

Analyte(s)	Bottle Type	Sample Volume	Preservative Added in field	Laboratory: pH Check	Laboratory: pH Adjusted To:	Laboratory: Initials	Laboratory: Date
METHOD 8240	40ml VIAL	2 JARS	✓				

379.01 #4

General Testing Corporation

A Full Service Environmental Laboratory

January 3, 1995

Ms. Sue Coia Ahlman
Blasland Bouck Engineers P.C.
30 Corporate Woods Suite 160
Rochester, NY 14623

Re: Griffin Technology

Dear Ms. Ahlman:

Enclosed is the analytical data report for the above referenced facility. The air sample was subcontracted to Performance Analytical. Should you have any questions, please contact me at 454-3760.

Thank you for your continued use of our services.

Sincerely,

Janice M. Jaeger

Janice M. Jaeger
Customer Service Representative

enc.

710 Exchange Street • Rochester, NY 14608 • Tele: (716) 454-3760 • (716) 454-1245
85 Trinity Place • Hackensack, NJ 07601 • Tele: (201) 488-5242 • Fax: (201) 488-6386
435 Lawrence Bell Drive • Amherst, NY 14221 • Tele: (716) 634-0454 • Fax: (716) 634-9019
1201 E. Fayette Street, Suite 42 • Syracuse, NY 13210 • Tele: (315) 471-0936 • Fax: (315) 471-0943

Performance Analytical Inc.
Environmental Testing and Consulting

LABORATORY REPORT

Client:	GENERAL TESTING CORPORATION	Date of Report:	12/16/94
Address:	710 Exchange Street	Date Received:	12/06/94
	Rochester, New York 14608	PAI Project No:	P94-7469
Contact:	Ms. Janice Jaeger	Purchase Order:	002333

Client Project ID: #379.01 Griffin Tech. #R93/4356

One (1) Stainless Steel Summa Canister labeled: "BA-1"

The sample was received at the laboratory under chain of custody on December 6, 1994. The sample was received intact. The sample was analyzed on December 9, 1994.

cis-1,2-Dichloroethene and Trichloroethene Analysis

The sample was analyzed for cis-1,2-Dichloroethene and Trichloroethene by gas chromatography/mass spectrometry (GC/MS). The analyses were performed according to the methodology outlined in EPA Method TO-14 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, EPA 600/4-84-041, U.S. Environmental Protection Agency, Research Triangle Park, NC, April, 1984 and May, 1988. The analyses were performed by gas chromatography/mass spectrometry utilizing thermal desorption/cryogenic concentration. The instrumentation used for sample analysis was comprised of a Finnigan Model 4500 GC/MS/DS interfaced to a Tekmar 5010 Automatic Desorber. A 100% Dimethylpolysiloxane capillary column (RT_x-1, Restek Corporation, Bellefonte, PA) was used to achieve chromatographic separation.

The results of analyses are included on the attached data sheets.

Data Release Authorization:

Kathleen Aguilera
Analytical Chemist

Reviewed and Approved:

Michael Tuday
Laboratory Director

Performance Analytical Inc.
Environmental Testing and Consulting

RESULTS OF ANALYSIS

Client : General Testing Corporation

Client Sample ID : N/A
PAI Sample ID : PAI Method Blank

Test Code : GC/MS EPA TO-14
Analyst : Kathleen Aguilera
Instrument : Finnigan 4500C/Tekmar 5010
Matrix : Summa Canister

Date Sampled : N/A
Date Received : N/A
Date Analyzed : 12/9/94
Volume(s) Analyzed : 1.00 (Liter)

Pi 1 = 0.0 Pf 1 = 0.0

D.F. = 1.00

CAS #	COMPOUND	RESULT ug/m3	REPORTING LIMIT ug/m3	RESULT ppb	REPORTING LIMIT ppb
156-59-2	cis-1,2-Dichloroethene	ND	5.0	ND	1.3
79-01-6	Trichloroethene	ND	5.0	ND	0.94

TR = Detected Below Indicated Reporting Limit
ND = Not Detected

Verified by : (AG)

Date : 12/15/94

20954 Osborne Street, Canoga Park, CA 91304 • Phone 818 709-1139 • Fax 818 709-2915

Performance Analytical Inc.
Environmental Testing and Consulting

RESULTS OF ANALYSIS

Client : General Testing Corporation

Client Sample ID : BA-1
PAI Sample ID : 9406581

Test Code : GC/MS EPA TO-14
Analyst : Kathleen Aguilera
Instrument : Finnigan 4500C/Tekmar 5010
Matrix : Summa Canister

Date Sampled : 12/2/94
Date Received : 12/6/94
Date Analyzed : 12/9/94
Volume(s) Analyzed : 1.00 (Liter)

Pi 1 = -3.0 **Pf 1 =** 2.8

D.F. = 1.50

CAS #	COMPOUND	RESULT ug/m3	REPORTING LIMIT ug/m3	RESULT ppb	REPORTING LIMIT ppb
156-59-2	cis-1,2-Dichloroethene	ND	5.0	ND	1.3
79-01-6	Trichloroethene	ND	5.0	ND	0.94

TR = Detected Below Indicated Reporting Limit
ND = Not Detected

Verified by : (SLG)

Date : 12/15/94

20954 Osborne Street, Canoga Park, CA 91304 • Phone 818 709-1139 • Fax 818 709-2915

Performance Analytical Inc.
Environmental Testing and Consulting

20954 Osborne Street
Canoga Park, California 91304
Phone 818 709-1139
Fax 818 709-2915

Chain of Custody Record
Analytical Services Request

Client/Project Name	Address/Phone	ANALYSES	PAI Project No.
GRIFFIN TECHNOLOGY / B3&L	30 CORPORATE WOODS, SUITE 160 ROCHESTER NEW YORK 14623		P947469
Project Location 6132 VICTOR-MANCHESTER RD VICTOR, NEW YORK 14564	**Client Project No.** 379.01		
Contact B3&L SUSAN COIA-AHLMAN	**Sampler (Signature)** Douglas M. Kuczek	**P.O. No.**	

Sample Identification No.	Date	Time	Lab Sample No.	Type of Sample	METHOD TO-14 TCE AND CIS-1,2 DICHLOROETHANE						Expected Turnaround Time	Remarks
BA-1	12/2/94	0800 - 1600	9406581	AIR	X						STANDARD	CANISTER: CC26
												360 827

Relinquished by: (Signature) Douglas M. Kuczek	Date 12/2/94	Time 1610	Received by: (Signature) Michael R. Ahlman	Date 12/2/94	Time 1610
Relinquished by: (Signature) Michael R. Ahlman	Date 12/2/94	Time 1745	Received by: (Signature) Tom Hastings	Date 12/2/94	Time 17 45
Relinquished by: (Signature)	Date	Time	Received by: (Signature) Kelly De La	Date 12/6/94	Time 9:00 AM.
Disposal Method					
Disposed by: (Signature)	Date	Time			

White Copy : Accompanies Samples

Yellow Copy : Sampler

Appendix D3

Analytical Results of SSI Soil Sampling

File 379.01

General Testing Corporation

A Full Service Environmental Laboratory

JUNE 28 1993

Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Re: Victor Facility

Dear Mr. Steve Demeo

Enclosed are the results of the analysis requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at 454-3760.

Thank you for letting us provide this service.

Sincerely,

GENERAL TESTING CORPORATION

Janice Jaeger

Janice Jaeger
Customer Service Representative

Enc.

710 Exchange Street • Rochester, NY 14608 • Tele: (716) 454-3760 • (716) 454-1245
85 Trinity Place • Hackensack, NJ 07601 • Tele: (201) 488-5242 • Fax: (201) 488-6386
435 Lawrence Bell Drive • Amherst, NY 14221 • Tele: (716) 634-0454 • Fax: (716) 634-9019

General Testing Corporation

CASE NARRATIVE

COMPANY: BLASLAND BOUCK ENGINEERS, PC
Victor Facility
JOB #: R93/02314

VOLATILE ORGANICS

Blasland Bouck soil samples were analyzed for Target Compound List (TCL) volatiles by method 8240 from SW-846.

The initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within QC acceptance limits except Toluene-d8 on sample R93/02314-001. The analysis was repeated and it was confirmed.

All QC data associated with this analysis was acceptable.

All laboratory blanks were free of any contamination.

All required analysis holding times were met.

No other analytical or QC problems were encountered with the analysis of these samples.

SEMIVOLATILE ORGANICS

Blasland Bouck soil samples were analyzed for TCL semivolatile organics using SW-846 method 8270.

All the initial and continuing calibration criteria were met for this method.

All surrogate standard recoveries were within QC limits on all samples.

The Reference Check Standard, Matrix Spike/Matrix Spike Duplicate, and precision QC data associated with these samples was acceptable.

No analytical or QC problems were encountered.

General Testing Corporation

Effective 10/1/91

GTC LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

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 and reanalysis could not be performed.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits. (Flag the entire batch - Inorganic analytes only)

* - Duplicate analysis not within control limits. (Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits. (Only used on the QC summary sheets)

M - Duplication injection precision not met (GFA only).

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 30 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference:
Victor Facility

Received : 06/15/93 P.O. #:

ANALYTICAL UNITS - %

Sample:	-001	-002
Location:	SSI-2	SSI-1
Date Collected:	06/15/93	06/15/93
Time Collected:	08:30	08:45
Date Analyzed:	06/17/93	06/17/93
Solids, %	86.5	83.2

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.
NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Michael K. Penny

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL VOLATILES BY EPA METHOD 8240* ANALYTICAL RESULTS - ug/kg Dry Wt.

Sample:		-001	-002					
Location:		SSI-2	SSI-1					
Date Collected:		06/15/93	06/15/93					
Time Collected:	PQL	08:30	08:45					
Date Analyzed:		6/18/93	6/18/93					
Dilution:		1	1					
Chloromethane	5.0	5.7 U	6.0 U					
Bromomethane	5.0	5.7 U	6.0 U					
Vinyl Chloride	5.0	5.7 U	6.0 U					
Chloroethane	5.0	5.7 U	6.0 U					
Methylene Chloride	5.0	5.7 U	6.0 U					
Acetone	10	11 U	12 U					
Carbon Disulfide	10	11 U	12 U					
1,1-Dichloroethene	5.0	5.7 U	6.0 U					
1,1-Dichloroethane	5.0	5.7 U	6.0 U					
trans-1,2-Dichloroethene	5.0	5.7 U	6.0 U					
cis-1,2-Dichloroethene	5.0	5.7 U	6.0 U					
Chloroform	5.0	5.7 U	6.0 U					
2-Butanone (MEK)	10	11 U	12 U					
1,2-Dichloroethane	5.0	5.7 U	6.0 U					
1,1,1-Trichloroethane	5.0	5.7 U	6.0 U					
Carbon Tetrachloride	5.0	5.7 U	6.0 U					
Bromodichloromethane	5.0	5.7 U	6.0 U					
1,2-Dichloropropane	5.0	5.7 U	6.0 U					
1,3-Dichloropropene-Trans	5.0	5.7 U	6.0 U					
Trichloroethene	5.0	5.7 U	6.0 U					
Dibromochloromethane	5.0	5.7 U	6.0 U					
1,1,2-Trichloroethane	5.0	5.7 U	6.0 U					
Benzene	5.0	5.7 U	6.0 U					
1,3-Dichloropropene(Cis)	5.0	5.7 U	6.0 U					
Bromoform	5.0	5.7 U	6.0 U					
4-Methyl-2-pentanone(MIBK)	10	11 U	12 U					
2-Hexanone	10	11 U	12 U					
Tetrachloroethene	5.0	5.7 U	6.0 U					
1,1,2,2-Tetrachloroethane	5.0	5.7 U	6.0 U					
Toluene	5.0	5.7 U	6.0 U					
Chlorobenzene	5.0	5.7 U	6.0 U					

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL VOLATILES BY EPA METHOD 8240* ANALYTICAL RESULTS - ug/kg Dry Wt.

Sample:		-001	-002
Location:		SSI-2	SSI-1
Date Collected:		06/15/93	06/15/93
Time Collected:	PQL	08:30	08:45
Date Analyzed:		6/18/93	6/18/93
Dilution:		1	1
Ethylbenzene	5.0	5.7 U	6.0 U
Styrene	5.0	5.7 U	6.0 U
Total Xylene (o,m,p)	5.0	5.7 U	6.0 U
Surrogate Standard Recoveries			
1,2-Dichloroethane-d4	70-121	100	102
Toluene d8	81-117	122*	117
4-Bromofluorobenzene	74-121	78	82

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.
NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Michael F. Penny
Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL ACID EXTRACTABLES BY EPA METHOD 8270* ANALYTICAL RESULTS - ug/kg Dry Wt.

Sample:		-001	-002
Location:		SSI-2	SSI-1
Date Collected:		06/15/93	06/15/93
Time Collected:	PQL	08:30	08:45
Date Extracted:		06/16/93	06/16/93
Date Analyzed:		6/21/93	6/21/93
Dilution:		1	1
Phenol	670	770 U	800 U
2-Chlorophenol	670	770 U	800 U
2-Nitrophenol	670	770 U	800 U
2,4-Dimethylphenol	670	770 U	800 U
2,4-Dichlorophenol	670	770 U	800 U
4-Chloro-3-methylphenol	670	770 U	800 U
2,4,6-Trichlorophenol	670	770 U	800 U
2,4-Dinitrophenol	1300	1500 U	1600 U
4-Nitrophenol	1300	1500 U	1600 U
2-Methyl-4,6-dinitrophenol	1300	1500 U	1600 U
Pentachlorophenol	1300	1500 U	1600 U
2-Methylphenol	670	770 U	800 U
4-Methylphenol	670	770 U	800 U
2,4,5-Trichlorophenol	670	770 U	800 U
SURROGATE STANDARD RECOVERIES			
2-Fluorophenol	25-121%	72	82
Phenol-d6	24-113%	79	90
2,4,6-TriBromophenol	19-122%	94	89

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Michael F. Penny

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL BASE NEUTRALS BY EPA METHOD 8270* ANALYTICAL RESULTS - ug/kg Dry Wt.

Sample:		-001	-002					
Location:		SSI-2	SSI-1					
Date Collected:		06/15/93	06/15/93					
Time Collected:	PQL	08:30	08:45					
Date Extracted:		06/16/93	06/16/93					
Date Analyzed:		6/21/93	6/21/93					
Dilution:		1	1					
N-Nitrosodimethylamine	330	380 U	400 U					
Bis(2-chloroethyl) ether	330	380 U	400 U					
1,3 Dichlorobenzene	330	380 U	400 U					
1,4 Dichlorobenzene	330	380 U	400 U					
1,2 Dichlorobenzene	330	380 U	400 U					
2,2'oxybis(1-Chloropropane)	330	380 U	400 U					
N-Nitroso-Di-n-propylamine	330	380 U	400 U					
Hexachloroethane	330	380 U	400 U					
Nitrobenzene	330	380 U	400 U					
Isophorone	330	380 U	400 U					
bis(-2-chloroethoxy)methane	330	380 U	400 U					
1,2,4-Trichlorobenzene	330	380 U	400 U					
Naphthalene	330	380 U	400 U					
Hexachlorobutadiene	330	380 U	400 U					
Hexachlorocyclopentadiene	330	380 U	400 U					
2-Chloronaphthalene	330	380 U	400 U					
Dimethyl phthalate	330	380 U	400 U					
Acenaphthylene	330	380 U	400 U					
Acenaphthene	330	380 U	400 U					
2,4-Dinitrotoluene	330	380 U	400 U					
2,6-Dinitrotoluene	330	380 U	400 U					
Diethyl phthalate	330	380 U	400 U					
4-Chlorophenyl-phenyl-ether	330	380 U	400 U					
Fluorene	330	380 U	400 U					
1,2-Diphenylhydrazine	330	380 U	400 U					
N-Nitrosodiphenylamine	330	380 U	400 U					
4-Bromophenyl-phenylether	330	380 U	400 U					
Hexachlorobenzene	330	380 U	400 U					
Phenanthrene	330	380 U	400 U					
Anthracene	330	380 U	400 U					
Di-n-butyl phthalate	330	380 U	400 U					
Benzidine	3300	3800 U	4000 U					
Fluoranthene	330	380 U	400 U					
Pyrene	330	380 U	400 U					

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job Number: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL BASE NEUTRALS BY EPA METHOD 8270* ANALYTICAL RESULTS - ug/kg Dry Wt.

Sample:		-001	-002					
Location:		SSI-2	SSI-1					
Date Collected:		06/15/93	06/15/93					
Time Collected:	PQL	08:30	08:45					
Date Extracted:		06/16/93	06/16/93					
Date Analyzed:		6/21/93	6/21/93					
Dilution:		1	1					
Butyl benzyl phthalate	330	380 U	400 U					
3,3'-Dichlorobenzidine	330	380 U	400 U					
Benzo(a)anthracene	330	380 U	400 U					
Bis(2-ethylhexyl)phthalate	330	380 U	400 U					
Chrysene	330	380 U	400 U					
Di-n-octyl phthalate	330	380 U	400 U					
Benzo(b)Fluoranthene	330	380 U	400 U					
Benzo(k)fluoranthene	330	380 U	400 U					
Benzo(a)pyrene	330	380 U	400 U					
Indeno(1,2,3-cd)pyrene	330	380 U	400 U					
Dibenzo(a,h)anthracene	330	380 U	400 U					
Benzo(g,h,i)perylene	330	380 U	400 U					
4-Chloroaniline	330	380 U	400 U					
2-Methyl Naphthalene	330	380 U	400 U					
2-Nitroaniline	330	380 U	400 U					
3-Nitroaniline	330	380 U	400 U					
Dibenzofuran	330	380 U	400 U					
4-Nitroaniline	330	380 U	400 U					
Carbazole	330	380 U	400 U					
SURROGATE STANDARD RECOVERIES								
Nitrobenzene-d5	23-120%	69	78					
2-Fluorobiphenyl	30-115%	75	81					
Terphenyl-d14	18-137%	96	88					

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145 NY ID# in Hackensack: 10801
NJ ID# in Rochester: 73331 NJ ID# in Hackensack: 02317

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL VOLATILES BY EPA METHOD 8240* ANALYTICAL RESULTS - ug/kg Wet Wt.

Sample:		-003
Location:		LAB METH BLANK
Date Collected:		--
Time Collected:	PQL	--
Date Analyzed:		6/18/93
Dilution:		1
Chloromethane	5.0	5.0 U
Bromomethane	5.0	5.0 U
Vinyl Chloride	5.0	5.0 U
Chloroethane	5.0	5.0 U
Methylene Chloride	5.0	5.0 U
Acetone	10	10 U
Carbon Disulfide	10	10 U
1,1-Dichloroethene	5.0	5.0 U
1,1-Dichloroethane	5.0	5.0 U
trans-1,2-Dichloroethene	5.0	5.0 U
cis-1,2-Dichloroethene	5.0	5.0 U
Chloroform	5.0	5.0 U
2-Butanone (MEK)	10	10 U
1,2-Dichloroethane	5.0	5.0 U
1,1,1-Trichloroethane	5.0	5.0 U
Carbon Tetrachloride	5.0	5.0 U
Bromodichloromethane	5.0	5.0 U
1,2-Dichloropropane	5.0	5.0 U
1,3-Dichloropropene-Trans	5.0	5.0 U
Trichloroethene	5.0	5.0 U
Dibromochloromethane	5.0	5.0 U
1,1,2-Trichloroethane	5.0	5.0 U
Benzene	5.0	5.0 U
1,3-Dichloropropene(Cis)	5.0	5.0 U
Bromoform	5.0	5.0 U
4-Methyl-2-pentanone(MIBK)	10	10 U
2-Hexanone	10	10 U
Tetrachloroethene	5.0	5.0 U
1,1,2,2-Tetrachloroethane	5.0	5.0 U
Toluene	5.0	5.0 U
Chlorobenzene	5.0	5.0 U

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93

P.O. #:

TCL VOLATILES BY EPA METHOD 8240* ANALYTICAL RESULTS - ug/kg Wet Wt.

Sample:		-003
Location:		LAB METH BLANK
Date Collected:		--
Time Collected:	PQL	--
Date Analyzed:		6/18/93
Dilution:		1
Ethylbenzene	5.0	5.0 U
Styrene	5.0	5.0 U
Total Xylene (o,m,p)	5.0	5.0 U
Surrogate Standard Recoveries		
1,2-Dichloroethane-d4	70-121	101
Toluene d8	81-117	102
4-Bromofluorobenzene	74-121	96

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Michael F. [illegible]
Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL ACID EXTRACTABLES BY EPA METHOD 8270* ANALYTICAL RESULTS - ug/kg Wet Wt.

Sample:		-003						
Location:		LAB METH BLANK						
Date Collected:		--						
Time Collected:	PQL	--						
Date Extracted:		06/16/93						
Date Analyzed:		6/21/93						
Dilution:		1						
Phenol	670	670 U						
2-Chlorophenol	670	670 U						
2-Nitrophenol	670	670 U						
2,4-Dimethylphenol	670	670 U						
2,4-Dichlorophenol	670	670 U						
4-Chloro-3-methylphenol	670	670 U						
2,4,6-Trichlorophenol	670	670 U						
2,4-Dinitrophenol	1300	1300 U						
4-Nitrophenol	1300	1300 U						
2-Methyl-4,6-dinitrophenol	1300	1300 U						
Pentachlorophenol	1300	1300 U						
2-Methylphenol	670	670 U						
4-Methylphenol	670	670 U						
2,4,5-Trichlorophenol	670	670 U						
SURROGATE STANDARD RECOVERIES								
2-Fluorophenol	25-121%	77						
Phenol-d6	24-113%	85						
2,4,6-TriBromophenol	19-122%	83						

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145
NJ ID# in Rochester: 73331
NJ ID# in Hackensack: 02317
NY ID# in Hackensack: 10801

Laboratory Director

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job No: R93/02314 Date: JUNE 28 1993

Client:
Mr. Steve Demeo
Blasland Bouck Engineers PC
30 Corporate Woods, Suite 160
Rochester, New York 14623

Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL BASE NEUTRALS BY EPA METHOD 8270* ANALYTICAL RESULTS - ug/kg Wet Wt.

Sample:		-003						
Location:		LAB METH						
		BLANK						
Date Collected:		--						
Time Collected:	PQL	--						
Date Extracted:		06/16/93						
Date Analyzed:		6/21/93						
Dilution:		1						
N-Nitrosodimethylamine	330	330 U						
Bis(2-chloroethyl) ether	330	330 U						
1,3 Dichlorobenzene	330	330 U						
1,4 Dichlorobenzene	330	330 U						
1,2 Dichlorobenzene	330	330 U						
2,2'oxybis(1-Chloropropane)	330	330 U						
N-Nitroso-Di-n-propylamine	330	330 U						
Hexachloroethane	330	330 U						
Nitrobenzene	330	330 U						
Isophorone	330	330 U						
bis(-2-chloroethoxy)methane	330	330 U						
1,2,4-Trichlorobenzene	330	330 U						
Naphthalene	330	330 U						
Hexachlorobutadiene	330	330 U						
Hexachlorocyclopentadiene	330	330 U						
2-Chloronaphthalene	330	330 U						
Dimethyl phthalate	330	330 U						
Acenaphthylene	330	330 U						
Acenaphthene	330	330 U						
2,4-Dinitrotoluene	330	330 U						
2,6-Dinitrotoluene	330	330 U						
Diethyl phthalate	330	330 U						
4-Chlorophenyl-phenyl-ether	330	330 U						
Fluorene	330	330 U						
1,2-Diphenylhydrazine	330	330 U						
N-Nitrosodiphenylamine	330	330 U						
4-Bromophenyl-phenylether	330	330 U						
Hexachlorobenzene	330	330 U						
Phenanthrene	330	330 U						
Anthracene	330	330 U						
Di-n-butyl phthalate	330	330 U						
Benzidine	3300	3300 U						
Fluoranthene	330	330 U						
Pyrene	330	330 U						

General Testing Corporation

A Full Service Environmental Laboratory

LABORATORY REPORT

Job Number: R93/02314 Date: JUNE 28 1993

Client:
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Sample(s) Reference
Victor Facility

Received : 06/15/93 P.O. #:

TCL BASE NEUTRALS BY EPA METHOD 8270* ANALYTICAL RESULTS - ug/kg Wet Wt.

Sample:		-003						
Location:		LAB METH BLANK						
Date Collected:		--						
Time Collected:	PQL	--						
Date Extracted:		06/16/93						
Date Analyzed:		6/21/93						
Dilution:		1						
Butyl benzyl phthalate	330	330 U						
3,3'-Dichlorobenzidine	330	330 U						
Benzo(a)anthracene	330	330 U						
Bis(2-ethylhexyl)phthalate	330	330 U						
Chrysene	330	330 U						
Di-n-octyl phthalate	330	330 U						
Benzo(b)Fluoranthene	330	330 U						
Benzo(k)fluoranthene	330	330 U						
Benzo(a)pyrene	330	330 U						
Indeno(1,2,3-cd)pyrene	330	330 U						
Dibenzo(a,h)anthracene	330	330 U						
Benzo(g,h,i)perylene	330	330 U						
4-Chloroaniline	330	330 U						
2-Methyl Naphthalene	330	330 U						
2-Nitroaniline	330	330 U						
3-Nitroaniline	330	330 U						
Dibenzofuran	330	330 U						
4-Nitroaniline	330	330 U						
Carbazole	330	330 U						
SURROGATE STANDARD RECOVERIES								
Nitrobenzene-d5	23-120%	76						
2-Fluorobiphenyl	30-115%	80						
Terphenyl-d14	18-137%	88						

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145 NY ID# in Hackensack: 10801
NJ ID# in Rochester: 73331 NJ ID# in Hackensack: 02317

Laboratory Director

GENERAL TESTING CORPORATION / CHAIN-OF-CUSTODY RECORD

710 Exchange Street, Rochester, NY 14608 | 85 Trinity Place, Hackensack, NJ 07601 | 435 Lawrence Bell Drive, Amherst, NY 14221-7077

GTC Job. No. R93/2314

Client Project No. 379.01

Sample Origination & Shipping Information

Collection Site: Victor Facility

Address: Victor (Street / City) NY (State) (Zip)

Collector: Stephen J. DeMeo (Print) (Signature)

Bottles Prepared by: GTC — Rec'd by: S. DeMeo

Bottles Shipped to Client via: Client — Seal/Shipping #:

Samples Shipped via: — Seal/Shipping #:

Sample(s) Relinquished by:	Received by:	Date/Time
1. Sign for Blasland & Bouck Engrs, P.C.	1. Sign Tom Hastings for GTC	6/15/93 10:40
2. Sign for	2. Sign for	/ / :
3. Sign for	3. Sign for	/ / :

Sample(s) Received in Laboratory by: Tom Hastings 6/15/93 @ 10:40

Client I.D. # / Lab #	Sample Location / Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep Preserved Y	Preserved N	Filtered Y	Filtered N	Bottle Set(s) (see below)
1	SSI-2		8240 8270	X				10, 11
R93/2314-001	6/15/93 8:30							
2	SSI-1		8240 8270	X				10, 11
R93/2314-002	6/15/93 8:45							
	/ / :							
4	/ / :							
5	/ / :							

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	2 oz. Gl. Jar	4 oz. Gl. Jar
# of each										2	2

Additional Analytes: _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), (X), (Y).

Appendix E

Soil Gas Survey Report

NER
Northeast Research Institute LLC

605 Parfet Street • Suite 100
Lakewood, Colorado 80215-5518
303-238-0090 • 800-845-5137
Fax 303-238-2522

FINAL REPORT ON THE FINDINGS OF THE PETREX SOIL GAS SURVEY CONDUCTED FOR BLASLAND, BOUCK & LEE, INC. AT THE GRIFFIN TECHNOLOGY, INC. SITE LOCATED IN VICTOR, NEW YORK

PREPARED BY: DATE:

Jane Matheney-Rood 2/2/95
Jane Matheney-Rood, Project Manager

APPROVED BY: DATE:

Paul A. Harrington 2-2-95
Paul A. Harrington, Senior Project Manager

NORTHEAST RESEARCH INSTITUTE
605 PARFET STREET, SUITE 100
LAKEWOOD, COLORADO 80215
(303) 238-0090

0295-2200E

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Northeast Research Institute LLC (NERI) and Blasland, Bouck & Lee, Inc. (BBL) recently completed a PETREX Soil Gas Survey at the Griffin Technology, Inc. (Griffin) Site located in Victor, New York. Compounds of concern at this site included trichloroethene (TCE), trichloroethane (TCA), and 1,2-dichloroethene (DCE).

The purposes of the PETREX Soil Gas Survey were to identify chlorinated compounds and any additional volatile and semi-volatile organic compounds in the soil gas; attempt to determine if the autobody shop is the source for these compounds; and to determine the migration direction and extent of identified compounds.

Tetrachloroethene (PCE) and trichloroethene (TCE) were detected in the soil gas. The distributions of PCE and TCE were mapped, and areas of high ion counts were identified. TCA and DCE were not detected in the soil gas at any PETREX sampler locations.

A potential source area for PCE was located in the vicinity of sampler 1. The migration direction for PCE was difficult to determine due to the isolated nature of elevated response levels.

Potential source areas for TCE were located in the vicinity of samplers 1 and 11. The migration direction for TCE was difficult to determine due to the isolated nature of elevated response levels.

2.0 INTRODUCTION

NERI and BBL recently completed a PETREX Soil Gas Survey at the Griffin Site located in Victor, New York. Compounds of concern at this site were chlorinateds including trichloroethene (TCE), trichloroethane (TCA), and 1,3-dichloroethene (DCE).

3.0 OVERVIEW OF THE PETREX TECHNIQUE

Each PETREX soil gas sampler consists of two or three activated charcoal adsorption elements (collectors) housed in a resealable glass container in an inert atmosphere.

Soil gas sample collection is performed by unsealing the sampler and exposing the collector to the soil gas of the subsurface environment at the base of a shallow borehole. Sample collection proceeds via free vapor diffusion through the opening of the uncapped sampler container. Following a controlled period of time, the sampler is retrieved from the borehole, resealed, and submitted for analysis.

One collector from each soil gas sampler is analyzed by Thermal Desorption/Mass Spectrometry (TD-MS). Selected second collectors may be analyzed by Thermal Desorption-Gas Chromatography/Mass Spectrometry (TD-GC/MS) for compound confirmation. At least ten percent of samplers used in any project are three collector samplers. The third collector is used for setting instrument sensitivity prior to analysis.

Compounds are identified by comparison to standard reference spectra run on the same instrument. The mass spectral ion count of the appropriate indicator peak(s) for each compound or group of compounds is then plotted as relative response on a map and contoured using a variety of standard geostatistical analyses.

For a more detailed and technical discussion of the method, please refer to Appendix A, PETREX Protocol.

4.0 OBJECTIVES

The purposes of the PETREX Soil Gas Survey were to:

1. Identify chlorinated compounds and any additional volatile and semivolatile organic compounds (VOCs and SVOCs) in the soil gas; and

2. Determine the area(s) of high ion counts and areal extent of identified compounds.

5.0 SCOPE OF WORK

A total of 20 PETREX soil gas samplers were utilized for this soil gas survey. Each sampler was analyzed by TD-MS. Sampler locations are displayed on Plate 1, Appendix D.

6.0 FIELD ACTIVITIES

Sampler installation and retrieval was performed by BBL personnel who were trained in the methods and protocols associated with performing a PETREX Soil Gas Survey. The PETREX samplers were installed on November 19 and retrieved on December 5, 1994.

Sampler exposure time was determined by the use of time test samplers (time tests). Time test samplers were installed concurrently with the survey sampler installation and removed for analysis following varying exposure periods. The purpose of the time test samplers was to assess the loading rate of VOC's and SVOC's onto the PETREX collectors. Based upon the analyses of time test samplers, an exposure period of approximately 1 week was determined adequate to allow for an accurate interpretation of the data.

7.0 METHOD QA/QC

7.1 Lot Control

Quality assurance/quality control (QA/QC) collectors from each lot manufactured by NERI were analyzed by TD-MS to ensure that they were contaminant free before the lot of collectors used in the field was released from the PETREX laboratory. No compounds were detected above background on the QA/QC collectors.

7.2 Travel Blanks

Two PETREX samplers were provided as travel blanks. These travel blanks remained sealed and traveled with the survey samplers from the laboratory to the field and back to the laboratory to monitor for potential contamination of the survey samplers. The travel blanks were analyzed under the same instrument conditions as the survey collectors. Results of TD-MS analyses of the travel blanks for the targeted compounds are provided in Table 1, Appendix C.

A more detailed description of the PETREX QA/QC may be found in the PETREX Protocol located in Appendix A.

8.0 RESULTS

Tetrachloroethene (PCE) and trichloroethene (TCE) were detected in the soil gas. These chlorinated compounds were mapped and displayed on Plates 2 and 3 in Appendix D. Contouring intervals for Plates 2 and 3 were determined by breaks exhibited in the data and are displayed on the histograms (Figures 3 and 4) included in Appendix E.

Plate 1: Sample Locations
Plate 2: Relative Response of Tetrachloroethene
Plate 3: Relative Response of Trichloroethene

The response values are reported in ion counts and are presented in tabular format in Table 1, Appendix C. Ion count values are the unit of measure assigned by the mass spectrometer to the relative intensities associated with each of the reported compounds. These intensity levels or response levels do not represent an actual concentration of the reported compounds; however, they are best utilized as a semiquantitative measurement. A difference in ion count values of an order of magnitude or more is considered significant when interpreting potential source areas and migration/dispersion pathways versus background areas.

Example mass spectra of the compounds identified are provided as Figures 1 and 2, Appendix B.

Table 2 lists the reported compounds and the indicator mass peaks which were chosen to represent the compound occurrences reported on Plates 2 and 3.

TABLE 2
REPORTED COMPOUNDS AND THEIR INDICATOR MASS PEAKS

Compound	Indicator Mass Peak(s)
PCE	164
TCE	130

8.1 The Distribution of PCE

The distribution of PCE in the soil gas was mapped and is displayed on Plate 2, Appendix D. A primary potential source area for PCE was located in the vicinity of sampler 1. Migration direction for PCE was difficult to determine due to the isolated nature of elevated relative response values.

8.2 The Distribution of TCE

The distribution of TCE in the soil gas was mapped and is displayed on Plate 3, Appendix D. Primary potential source areas for TCE were located in the vicinity of samplers 1 and 11. Migration direction was difficult to determine due to the discrete nature of elevated relative response values.

9.0 CONCLUSIONS

PCE and TCE were detected in the soil gas at the Griffin Site located in Victor, New York. TCA was not detected in the soil gas at any PETREX sampler locations. The distributions of these chlorinated compounds were mapped and areal extents partially defined. The primary potential source area for PCE was located in the vicinity of sampler 1. The primary potential source areas for TCE were located in the vicinity of samplers 1 and 11. The migration direction for PCE and TCE was difficult to determine due to the isolated nature of elevated response levels. TCE may be present in the soil gas as an anaerobic breakdown product of PCE, since TCE was detected at the same sampler locations as PCE (locations 1 and 11).

10.0 LIMITATIONS

This report represents NERI's professional interpretation and judgment based on technical information gathered during investigative activities. Professional judgments expressed herein are restricted to facts available within the established limits of the scope of work, budget, and schedule. NERI assumes no responsibility for the existence or disclosure of conditions which did not come to its knowledge, or conditions not generally recognized as environmentally unacceptable, at the time this report was prepared.

It is NERI's specific intent that all observations and conclusions presented will be used as a guide and not necessarily a firm course of action unless explicitly stated as such. No warranties are expressed or implied and the information included in this report is not to be construed as legal advice.

F2200JR1/02.01.95

APPENDIX A
PETREX Protocol

REVISED SEPTEMBER 1993

PETREX ENVIRONMENTAL SOIL GAS PROTOCOL

INTRODUCTION

The PETREX Technique provides a means by which trace quantities of gases from subsurface derived organic contaminants can be detected and collected at the earth's surface. The Technique is integrative, thereby eliminating the short-term variations associated with other gas/vapor detection methods. The PETREX Technique directly collects and records a broad range of organic compounds emanating from subsurface sources.

SOIL GAS COLLECTOR PREPARATION

Adsorption collector wires (after construction) are cleaned by heating to 358° C in a high vacuum system. Wires are packed under an inert atmosphere in glass culture tubes. One collector out of every batch of thirty is checked for cleanliness by mass spectrometry. Another collector from the batch is checked for adsorptive capability. Based on the results, the batch of collectors is approved for release into the field.

SOIL GAS SAMPLER INSTALLATION

The sampler consists of two or three collectors, each a ferromagnetic wire coated with an activated charcoal adsorbent in a screw top glass culture tube. Each sampler is typically placed in a shallow hole, 14-18 inches deep. The hole is backfilled and the location is marked. The sampler is left in the ground from one to thirty days, then retrieved and sealed for transportation back to the laboratory for analysis.

The PETREX soil gas sampling technique is adaptable to various surface conditions commonly encountered within survey areas. These surfaces typically include concrete, asphalt, grass, and gravel. Two installation methods are routinely utilized to adapt to these surface conditions.

The first method utilizes a coring shovel for sampler installations in grass or otherwise loosely consolidated soil conditions. The shovel cores a 14 inch deep by 2 inch diameter hole in the surface soils.

PETREX soil gas samplers are placed (open end down) at the bottom of each core hole. The samplers are then backfilled with an aluminum foil plug and the original excavated soil. To complete installation, sample locations are marked with ribbon flagging and a numbered pin flag, as well as entered into a field notebook and plotted on a field map.

The second method of sampler installation utilizes an electric rotary hammer, equipped with an 18 inch by 1.5 inch diameter drill bit, for sampler installations under concrete, asphalt, or otherwise consolidated conditions. A hole is drilled through the surface to the dimensions of the drill bit equipped to the rotary hammer.

PETREX soil gas samplers are placed at the bottom of each drilled hole. For retrieval purposes, a cleaned galvanized steel wire is attached to each sampler. Aluminum foil is used to plug each hole to approximately two inches below grade. Then each hole is capped to grade with hydraulic cement. The hydraulic cement serves as protection from the external surface environment.

To complete sampler installation, sampler locations are marked with paint (where applicable), entered into a field notebook, and plotted on a field map.

SOIL GAS SAMPLER RETRIEVAL

PETREX soil gas samplers are retrieved following a time period that has allowed for the soil gas emanating from the subsurface environment of a survey area to equilibrate with the installed PETREX samplers. This time integration period is determined for each PETREX soil gas survey based on time calibration data or site conditions.

Retrieval operations are dependent on surface conditions and routinely consist of the following two methods.

The first method applies to grass covered or loosely consolidated soil conditions. A trowel is utilized to expose the backfilled samplers; then with a pair of tongs, the samplers are brought to the surface. At the surface, the samplers are sealed, cleaned, and labeled. Following retrieval, all debris are gathered and the core hole is backfilled with original material.

The second method applies to concrete, asphalt, or other consolidated surface conditions. A hammer and chisel is utilized to remove the hydraulic cement plug and expose the sampler. By means of the pre-attached retrieval wire, the sampler is brought to the surface. At the surface, the retrieval wire is removed and the sampler is sealed, cleaned, and labeled. Following retrieval, each drill hole is backfilled and patched with cement or asphalt.

TIME CALIBRATION SAMPLERS

Time calibration samplers are included in PETREX soil gas surveys, as appropriate. These samplers are included as a means of monitoring the loading rates of volatile and semivolatile organic compounds (VOCs and SVOCs) emanating from the soil gas at a survey area onto the PETREX collectors.

During PETREX sampler installation, two sets of three to five time calibration samplers are also installed at survey sample locations that best represent the range of soil gas response for the survey area. These representative locations are determined based on previous soils and/or groundwater studies and other site specific conditions such as gradient and potential source areas.

The first set of time calibration samplers are generally retrieved within a week or less following the initial installation and the second set one week later. Often, permanent on-site personnel are instructed to perform time calibration sampler retrieval.

Lengths of exposure periods of the survey samplers for each survey are determined based on the results of each respective set of time calibration samplers. Time calibration samplers are usually analyzed within 24 hours upon receipt at the laboratory. At the first indication of significant relative ion count intensities and significant total ion count values, the decision is made to retrieve the entire complement of survey samplers.

If there are no significant relative ion count intensities detected from the second set of time calibration samplers, then the survey samplers are allowed to equilibrate in the field for a maximum time period of up to 30 days. The average environmental PETREX soil gas survey requires a collector integration period of one day to two weeks.

METHOD QA/QC

Within every survey sampler, the two or three collector wires should have adsorbed identical compounds. Like compounds on separate collectors relate an acceptable quality assurance (QA) during the survey's analysis. The first wire is analyzed by Thermal Desorption/Mass Spectrometry (TD/MS). The data from the first wire is reported on the relative response maps. The second wire is retained for analysis by Thermal Desorption-Gas Chromatography/Mass Spectrometry (TD-GC/MS), if warranted by the initial TD/MS analysis of the second wire.

Approximately ten percent of the total PETREX survey samplers contain three collector wires. The third collector wire, a QC collector wire, is used by the operator to test the mass spectrometer's operating conditions prior to survey analysis. Some of these quality control (QC) collectors are also used to check the mass spectrometer sensitivity during survey analysis. In addition, the QC collector may be used to compare the reproducibility of the detected VOCs.

TRAVEL BLANKS

Two PETREX samplers, each containing a single collector wire, are included with each PETREX soil gas survey as travel blanks. These blanks are analyzed with the survey samplers to indicate whether there may have been contamination introduced to the survey samplers during installation or shipment. If compounds other than normal atmospherics (e.g., CO_2, H_20, N_2, and Ar) are detected on the blanks, these results are taken into consideration in the data presentation. This process, an initial step to data interpretation, involves the correction of ion count values of the detected blank contaminants from the entire survey's data set. The resulting ion count values are provided on the relative response maps.

MASS SPECTROMETER TUNING

An Extranuclear Quadrupole C-50 Mass Spectrometer or similar instrument, equipped with a Curie-point pyrolysis/thermal desorption inlet, is used for collector analysis. Mass assignment and resolution are manually adjusted using a Perfluorotributylamine (PFTBA) standard or a built-in tuning program, depending on the instrument. A linear correction, based on the known spectrum of PFTBA, is calculated. This correction is applied to a second PFTBA spectrum. If correct mass (M/Z) values are obtained, the operator proceeds to the next tuning step. If not, Step 1 is repeated until correct masses are obtained.

Peak intensity ratios are set from the major peaks in the PFTBA spectrum using the following values:

Mass (M/Z)		Spectrum Intensities
69	=	100%
131	=	48% ± 5%
219	=	50% ± 5%

During tuning, the ion signal for mass (M/Z) 69 of PFTBA is measured at a preset sample pressure and detector voltage and compared to previous values at the same setting.

Electron energy is set to 70 electron volts. All other operating parameters, such as scans, scan range, and mass offset, are established in the computer program. These values may only be changed by the laboratory manager.

Tuning is performed at the beginning of a run so that an individual survey is analyzed at the same set of instrument conditions. The samplers are analyzed in random order.

LABORATORY ANALYSIS

Periodic machine background and blank PETREX collector analyses are performed to assure that there is no carry-over between successive collectors. If there are peaks present which are not related to atmospheric gases, the supervisor is notified and the mass spectrometer is shut down and cleaned as necessary.

A written sample number record is kept during the analysis to prevent accidental cross numbering. The mass spectrometer control program contains appropriate "flag statements" that prompt the operator with a warning if an input sample number has already been analyzed. The operator then checks the current number, along with the disk storage location of the previously entered number to identify the true numbering situation.

COMPOUND IDENTIFICATION

Compound identification is based on molecular weight, compound fragmentation, and isotope distribution, as applicable. Each VOC exhibits a unique mass spectral signature. NERI maintains a large library of spectra of individual compounds, accessible by computer. In addition, the company maintains a large library of mass spectra of commonly used chemical mixtures; e.g., gasolines, diesels, industrial oils and solvents, coatings, plastics, etc. These spectra are used to assist in both compound and mixture identifications.

The ion count response of an indicator peak(s), representative of the compound and away from interference by other compounds, is extracted for data presentation and mapping.

INTERPRETATION OF SOIL GAS DATA

Soil gas data (including PETREX) reflect volatile and semivolatile organics collected at a point in the near surface. The sources of these volatile organics may be in the stratigraphic column and/or in groundwater below the collection point. Thus, the organics can be derived from surface spills, deposition, or migration into the deeper vadose zone, and groundwater. The soil gas survey reveals the areal extent of contamination and is the optimum guide in identifying areas in order to develop a vertical profile, including the drilling of soil borings and monitoring wells.

Soil gas data are always semi-quantitative in that multiple sources in soil and/or groundwater cannot be differentiated. However, the higher ion responses are representative of higher concentrations in the subsurface, given that geologic conditions are relatively consistent.

Due to chemical differences between individual compounds, including their ability to both adsorb and desorb from the charcoal PETREX collector element, it is invalid to compare the ion count of a compound at one sampling location to that of another compound.

Patterns of compound distribution in the soil gas, as detected at the surface, can be strongly influenced by irregularities in the near surface and subsurface environment through which the soil gas diffuses. These irregularities include subsurface man-made structures, such as concrete foundations, drainage systems, and wells, and such naturally occurring structures as fractured and unfractured bedrock, clay, and shale lenses.

Other factors influencing the soil gas signal include ground and surface water, the free carbon content of soils, microbiotic activity in the soil, and natural and synthetic ground cover.

All of these factors indicate that the most powerful use of soil gas data is in reconnaissance; identifying and mapping the relative abundance of the widest array of chemical species and mixtures. Efforts to relate soil gas response directly to groundwater or soil contaminant concentrations is generally not regarded as productive owing to the assumptions that are required for heterogeneity and source distribution.

RELATIVE RESPONSE DETERMINATION AND MAPPING

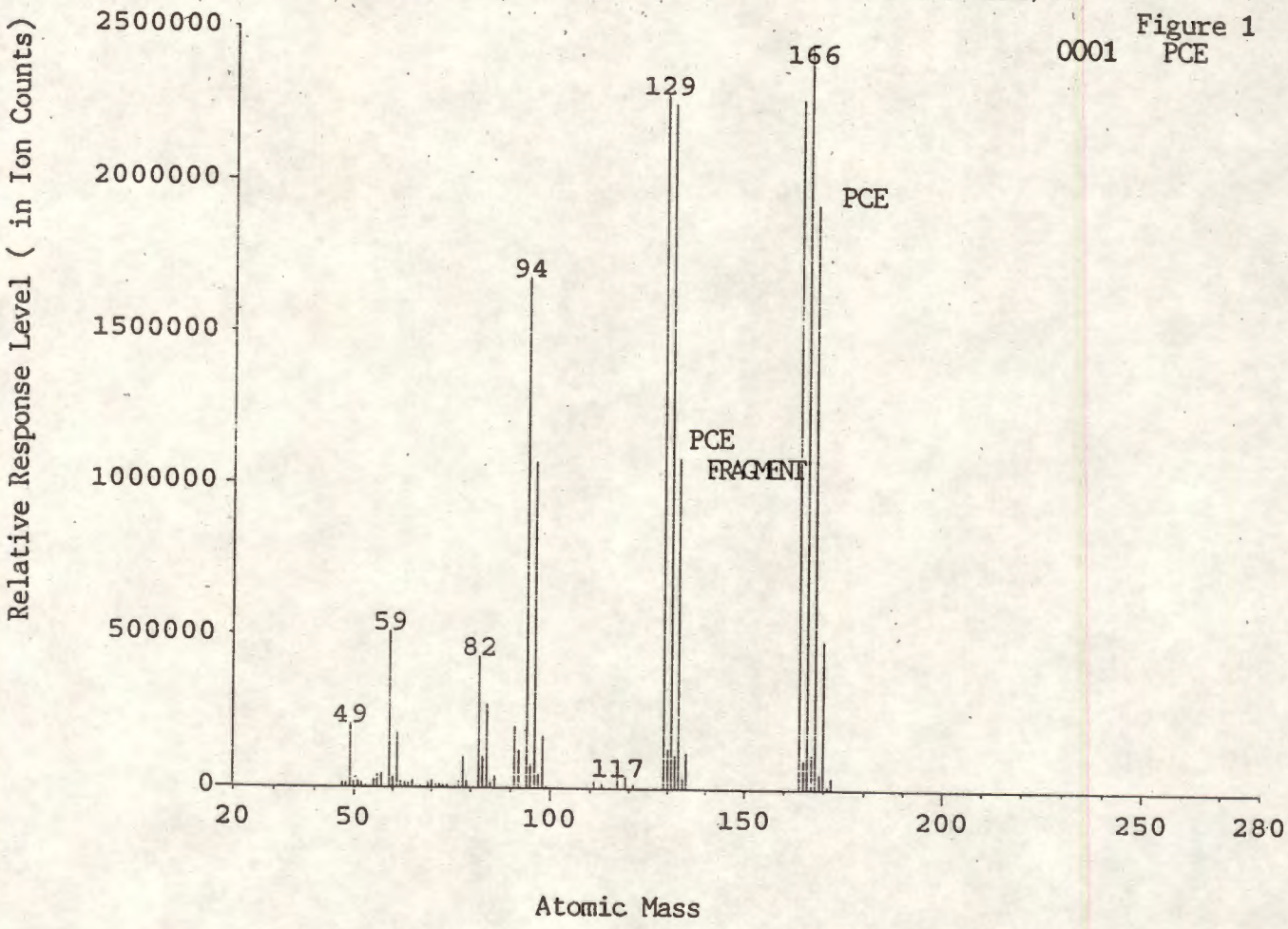
The relative response values are reported as the ion counts of indicator peaks for any given compound or mixture. Sample locations on a base map are digitized as X-Y coordinates and ion counts for the reported compounds are plotted at respective locations.

Mapping of the ion counts occurs after contour intervals for each compound or component class are determined. In order to establish the contour intervals, factors such as statistical analysis of ion count distribution, physiochemical considerations, and component-source material relationships (if known) are taken into account for each compound or class, in each area, on an individual basis. Each map is then contoured by hand. The resultant contour zones for each compound or component class in each area are color coded on a relative basis depending on whether the data are interpreted to be of high, moderate to high, moderate, etc., intensity. The response values found on each of the response maps are color coded and contoured on this basis.

APPENDIX B
Sample Mass Spectra

2ccv-1 0001: Scan Avg 1-20 (0.01 - 0.14 min)

Figure 1
0001 PCE

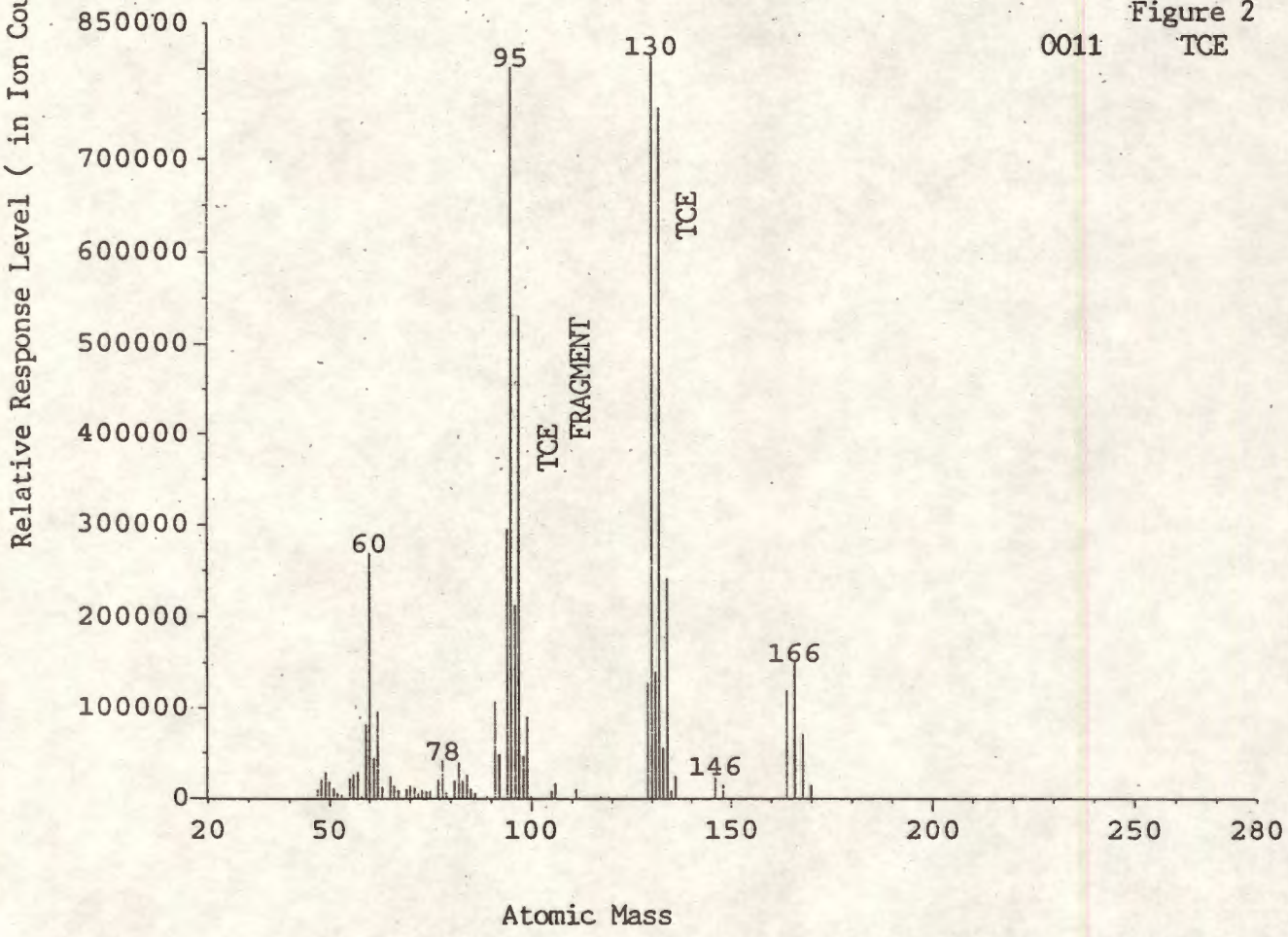


2200-1

0011: Scan Avg 1-20 (0.01 - 0.14 min)

Figure 2

0011 TCE



APPENDIX C
Table 1
Relative Ion Response Levels for Identified Compounds

TABLE 1
GRIFFIN TECHNOLOGY, INC.
VICTOR, NEW YORK
Values are in Ion Counts
February 1, 1995

SAMPLE	PCE	TCE	
1	2276450	129187	
2	66725	3048	
3	114378	18678	
4	67970	87526	
5	83311	12230	
6	56889	3923	
7	21021	74389	
8	42822	1634	
9	54431	8640	
10	73671	6064	
11	119417	814578	
12	22190	1598	
13	392338	12672	
14	57987	2427	
15	25152	ND	
16	102165	840	
17	51618	4545	
18	30475	ND	
19	83400	4115	
20	63723	672	
900	ND	ND	Travel Blank
901	ND	ND	Travel Blank

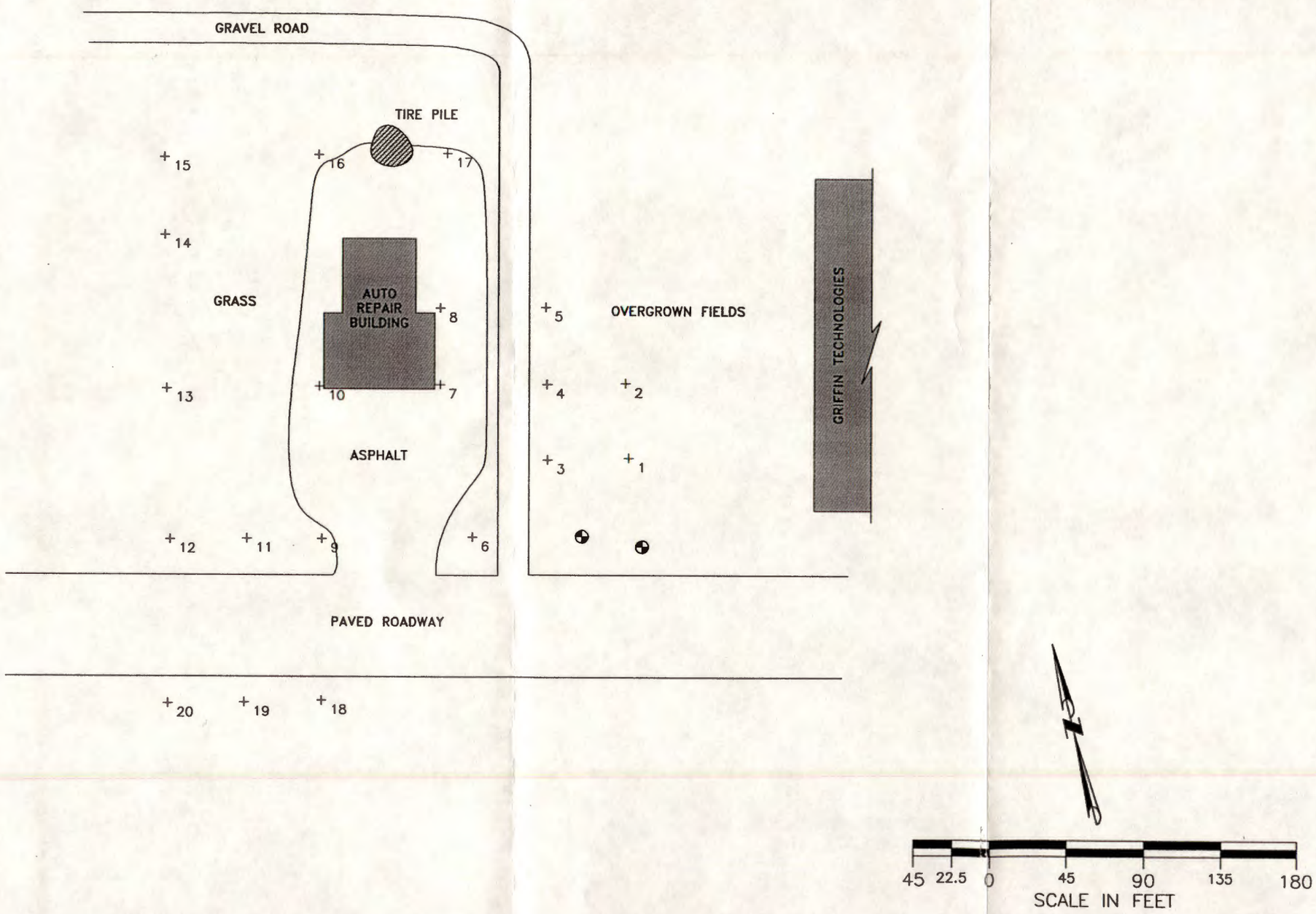
PCE - Tetrachloroethene
Indicator Mass Peak(s) 164

TCE - Trichloroethene
Indicator Mass Peak(s) 130

ND - Not Detected

T2200JR1.XLS

APPENDIX D
Plates 1 - 3



Northeast Research Institute LLC
605 Parfet Street
Suite 100
Lakewood, Colorado 80215
(303) 238-0090

Drawn By:	Project #:
JCS	2200E
Checked By: PAH	Date: December 15, 1994
Project Manager: JMR	File Name: 2200-1.dwg

Blasland, Bouck, and Lee, Inc.

Griffin Technology, Inc.
Victor, New York

PETREX FINGERPRINT TECHNOLOGY®

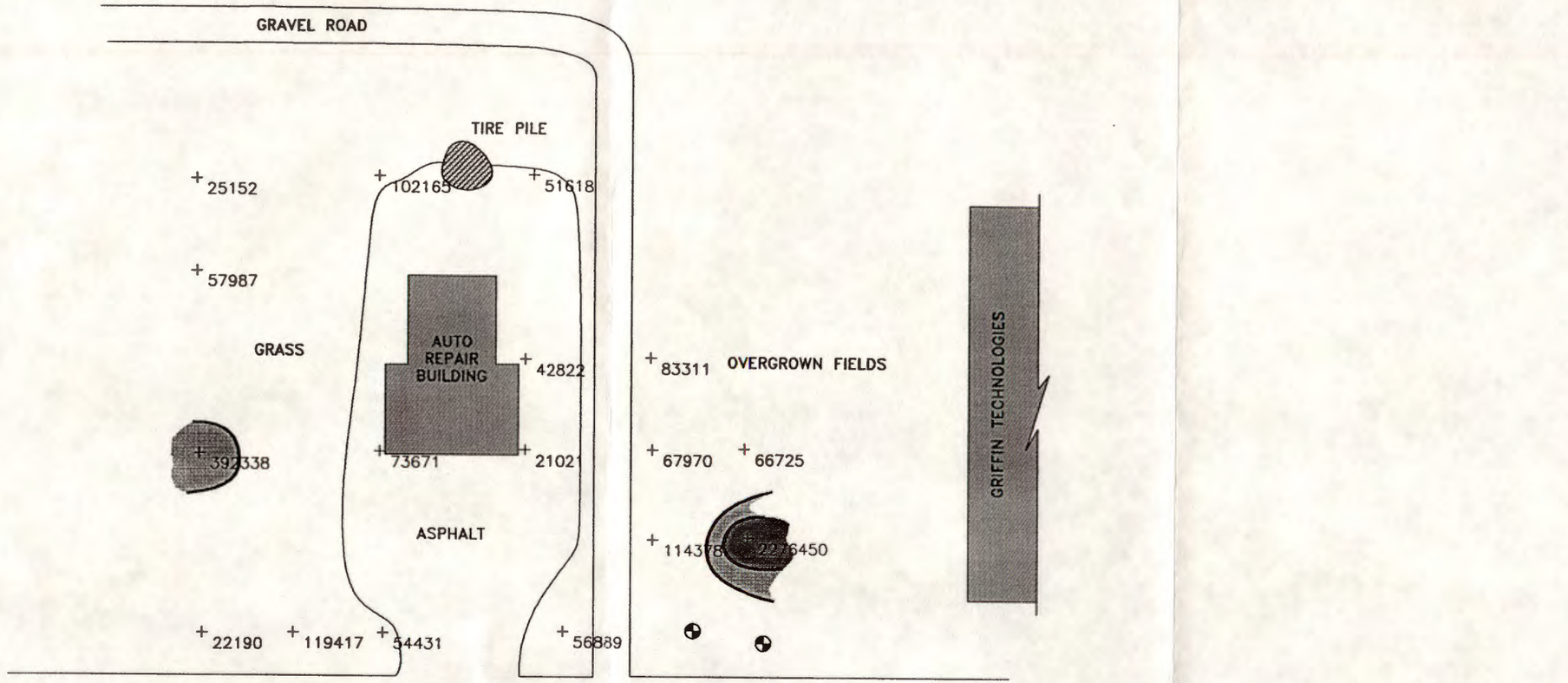
LEGEND

Features:

+ PETREX Sample Location
⊕ Monitoring Well Location

Sample Locations

Plate 1



Northeast Research Institute LLC
805 Parfet Street
Suite 100
Lakewood, Colorado 80215
(303) 238-0090

Drawn By:	Project #:
JCS	2200E
Checked By: PAH	Date: December 15, 1994
Project Manager: JMR	File Name: 2200-2.dwg

Blasland, Bouck, and Lee, Inc.

Griffin Technology, Inc.
Victor, New York

PETREX FINGERPRINT TECHNOLOGY®

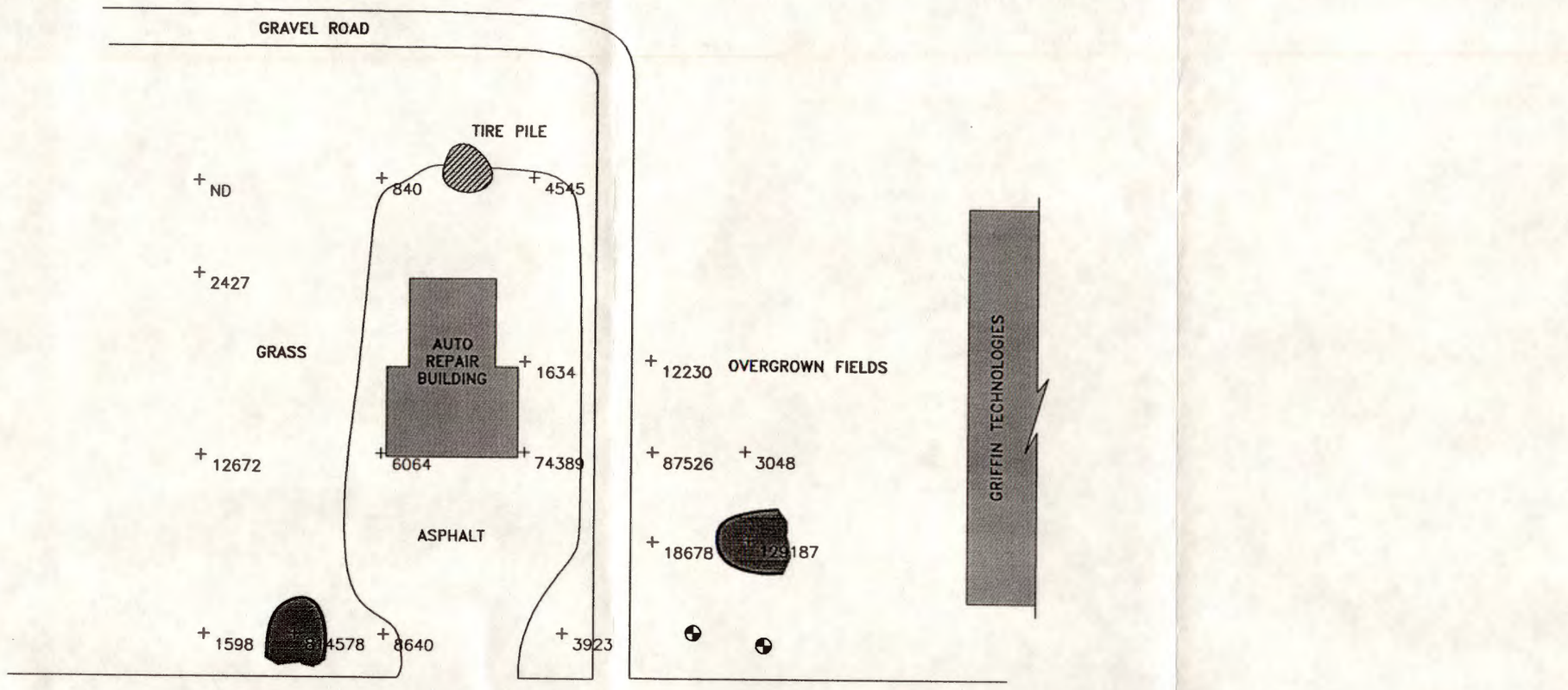
LEGEND

Relative Response Values:
- ≥ 1,000,000
- 200,000 – 999,999

Features:
- + PETREX Sample Location
- Monitoring Well Location

Relative Response
Tetrachloroethene (PCE)

Plate 2

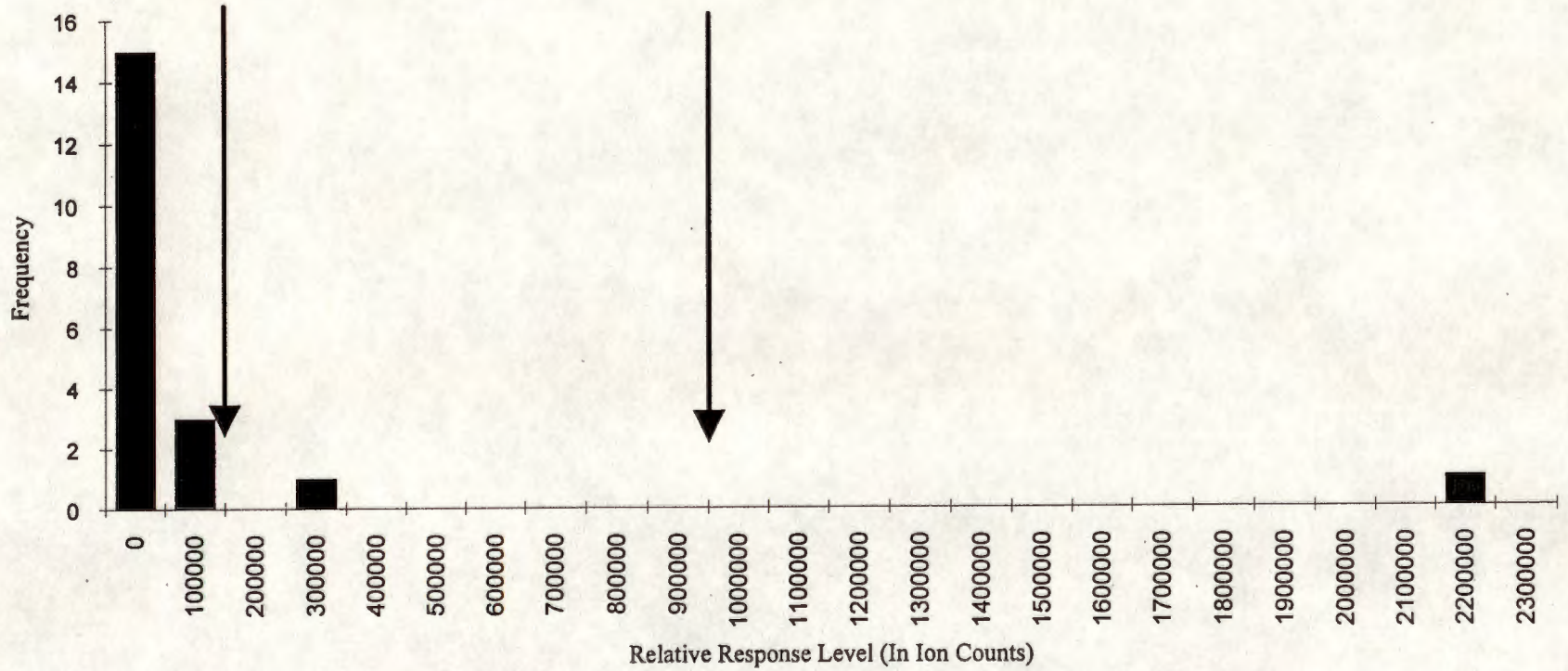


Northeast Research Institute LLC 605 Parfet Street Suite 100 Lakewood, Colorado 80215 (303) 238-0090	Drawn By: JCS Checked By: PAH Project Manager: JMR	Project #: 2200E Date: December 15, 1994 File Name: 2200-3.dwg	Blasland, Bouck, and Lee, Inc. Griffin Technology, Inc. Victor, New York PETREX FINGERPRINT TECHNOLOGY®	LEGEND Relative Response Values: ≥ 100,000 Features: + PETREX Sample Location Monitoring Well Location ND Not Detected	Relative Response Trichloroethene (TCE) Plate 3

APPENDIX E
Histograms

FIGURE 3

PCE HISTOGRAM

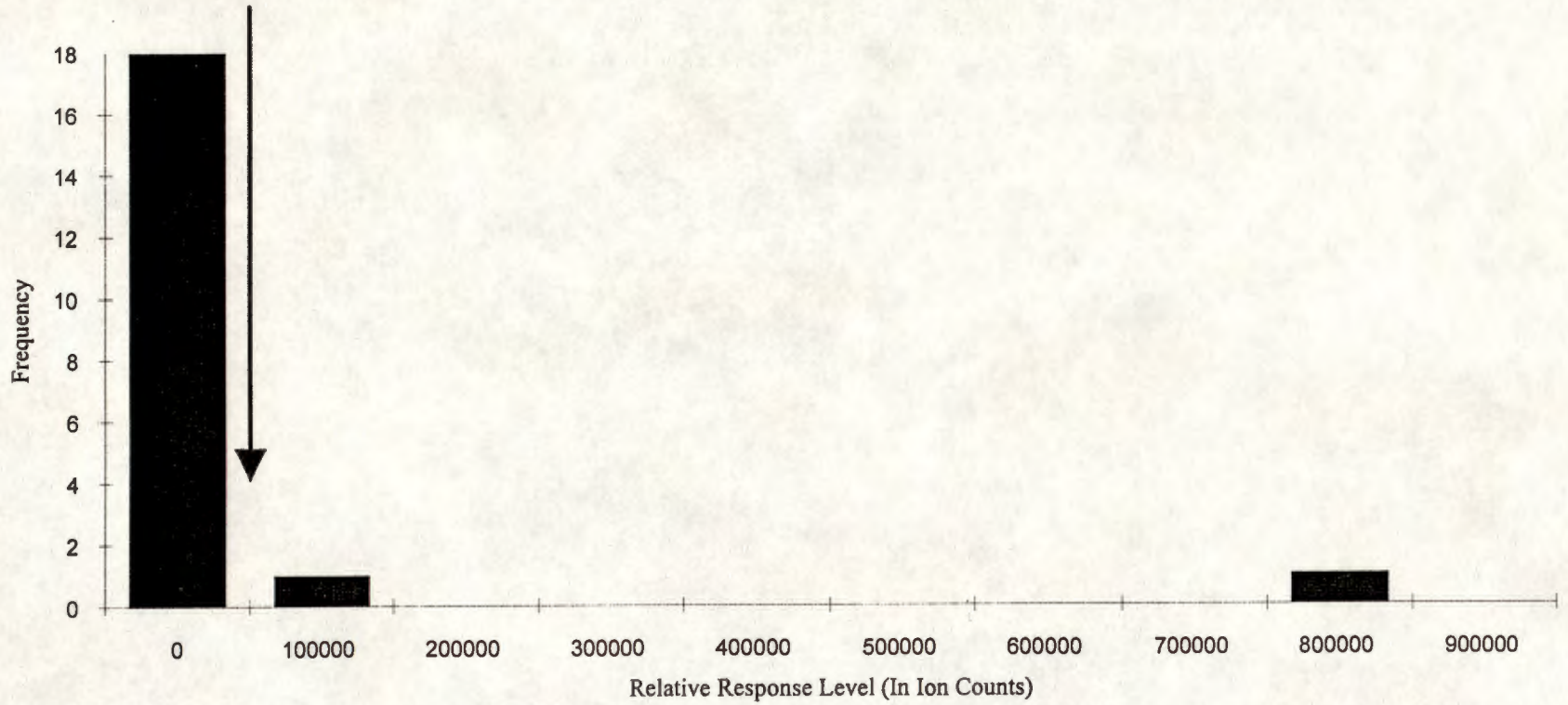


Arrows indicate sample population breaks
used to establish contour interval on Plate 2.

H2200PCE.XLS

FIGURE 4

TCE HISTOGRAM



Arrow indicates sample population break
used to establish contour interval on Plate 3.

H2200TCE.XLS