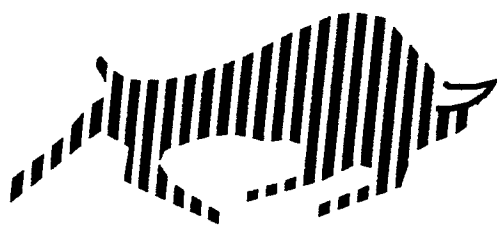


**ADDENDUM TO
FINAL REPORT
ON
RCRA FACILITY
INVESTIGATION**



buffalo
COLOR CORPORATION

BUFFALO, NEW YORK

PREPARED BY:



**Golder
Associates**

DECEMBER 1998

PROJECT NO. 963-9117

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ADDENDUM TO

FINAL REPORT
ON
RCRA FACILITY INVESTIGATION
BUFFALO COLOR CORPORATION
BUFFALO, NEW YORK

Submitted to:

Buffalo Color Corporation
100 Lee Street
Buffalo, New York 14240

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December 21, 1998

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Buffalo Color Corporation
100 Lee Street
Buffalo, New York 14240

Attention: Mr. David E. Sauer, Manager, Environmental Affairs

RE: ADDENDUM TO FINAL REPORT ON
RCRA FACILITY INVESTIGATION
BUFFALO COLOR CORPORATION
BUFFALO, NEW YORK

Gentlemen:

Golder Associates Inc. (Golder Associates) is pleased to submit the above referenced Addendum to the Final Report on the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) at the Buffalo Color Corporation (BCC), located in Buffalo, New York as required by Module III E.7(a) of the 6 New York Code of Rules and Regulations (NYCRR) Part 373 Post-Closure Permit (Permit) for the BCC facility. This addendum presents the results of the second supplemental investigation performed for the RFI during July and August 1998.

Golder Associates appreciates the opportunity to provide professional services to BCC. If you have any questions regarding this report, please do not hesitate to call.

Very truly yours,

GOLDER ASSOCIATES INC.

David J. Mitchell, P.G.
Senior Engineering Geologist/
Project Manager

Brian C. Senefelder, CHMM
Senior Scientist/Project Director

BCS/DJM:dml

Attachments

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1. INTRODUCTION

1.1 General

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report has been prepared to meet the requirements in Module III E.(7)(a) of the Buffalo Color Corporation (BCC) 6 New York Code of Rules and Regulations (NYCRR) Part 373 Post-Closure Permit (New York State Department of Environmental Conservation (NYSDEC) Identification (ID) Number 9-1402-00076/00-112-0) issued to BCC on February 10, 1995. BCC has been required to perform a RFI at the facility located at 100 Lee Street in Buffalo, New York (see Figure 1) in response to the corrective action requirements of RCRA and the Hazardous and Solid Waste Amendments of 1984 (HSWA). The RFI was performed to determine the nature and extent of releases of hazardous wastes and/or constituents from solid waste management units (SWMUs) and areas of concern (AOCs) at the facility. The requirement to perform the RFI for the SWMU Area A, B, C, and E (Area ABCE, see Figure 2) is specified in Module III E.(5)(a) of the Permit.

The NYSDEC approved Scope of Work (SOW) prepared by Golder Associates (Appendix III-6 of the Permit) proposed a phased approach to the RFI. A summary of previous pre-RFI investigations and their relevance to the RFI investigation was included in the report "RCRA Facility Investigation Task I, Description of Current Conditions" prepared for BCC (Golder Associates, April 1995).

The RFI Work Plan, (Golder Associates June, 1995) submitted to the NYSDEC on June 29, 1995, which was subsequently approved, included the following RFI Management Plans:

- Volume 1 : Project Management Plan (PMP);
- Volume 2 : Quality Assurance Project Plan (QAPjP);
- Volume 3 : Health and Safety Plan (HSP);
- Volume 4 : Community Relations Plan (CRP); and
- Volume 5 : Data Management Plan (DMP).

These RFI Management Plans specified the methods and procedures to be used to manage the RFI, to describe data generated during the RFI, to gather and provide valid RFI data, to protect the health and safety (H&S) of the investigators and general public, and to keep the community informed about the RFI.

Columbia Analytical Services Inc. (CAS) (formerly General Testing Corporation (GTC)) was the analytical laboratory used during the RFI for the chemical analyses of soil and water samples. Geotechnical testing of soil samples was performed by Golder Associates' geotechnical laboratory. Drilling services were provided by SJB Services, Inc., and Zebra, Inc. Surveying services were provided by DeLeplante - LaJeunesse and Associates, Inc.

The field work for Phase I and II of the RFI was initiated on April 22, 1996, and was completed in August 1996. Review of the results of groundwater sampling analytical data and groundwater flow data from completion of the Phase I and Phase II RFI investigation activities indicated that hazardous constituents were detected in groundwater samples collected from monitoring wells located at the perimeter of Area ABCE. Consequently, as indicated in BCC's October 28, 1996 correspondence to the NYSDEC, supplemental investigations were necessary to further characterize and evaluate groundwater quality and flow off-site.

A supplemental investigation was approved by the NYSDEC and performed to characterize and evaluate the potential migration and extent of hazardous constituents in groundwater from SWMU Area ABCE to off-site and apparently hydraulically downgradient areas bordering BCC, specifically, the PVS facility and areas along the western edge of the site including the Buffalo Sewer Authority (BSA) sewer and Orlando Street. Additional surficial soil samples were also collected from unpaved areas in Area ABCE. Field work for the supplemental investigations was initiated on May 27, 1997, and was completed in July 1997.

The draft Final RFI Report (Golder Associates, November 1997) was submitted to the NYSDEC and USEPA by BCC in November 1997. Comments were received from the NYSDEC regarding the draft Final RFI Report on March 4, 1998.

This Addendum to the Final RFI Report presents the results of the second supplemental environmental investigation performed at Area ABCE and at locations off-site of the BCC property. These additional investigations were proposed to further address the NYSDEC's comments regarding the BCC draft Final RFI Report and the potential sources of hazardous constituents detected in samples collected from off-site shallow aquifer groundwater monitoring wells. These field investigations were performed during July and August 1998.

1.2 Report Organization

Section 2 presents the scope of work and procedures followed for the second supplemental investigation. Characterization of the environmental setting at the facility is presented in Section 3 and the results of the second supplemental investigation are presented in Section 4. Section 5 presents the summary of findings and conclusions.

2. SCOPE OF WORK AND INVESTIGATION PROCEDURES

2.1 General

The scope of work for the second supplemental investigation was developed to further evaluate the potential of BCC contaminated groundwater as the source of hazardous constituents in shallow groundwater in the vicinity of RFI monitoring wells RFI-38 and RFI-40. The primary objective of these investigations was to further evaluate whether these constituents have migrated within groundwater from the BCC property. Additionally, a piezometer installation program was included as part of the supplemental investigations to further evaluate the degree of influence BSA sewers may have on the shallow aquifer flow regime within the study area. As part of the piezometer installation program, a piezometer was also installed west of RFI-PZ-19 and BCC Outfall 011.

2.2 Methods of Investigation

With the exception of a modification of materials for monitoring well construction, and elimination of analysis of groundwater samples for PCBs and alcohols, the second supplemental investigation was conducted in accordance with the investigative methodologies presented in the RFI Work Plan (Revision 1A). Based on the review of groundwater chemistry data from Phase I and Phase II of the RFI, the use of polyvinyl chloride (PVC) riser and screen for construction of monitoring wells was determined to not undermine the integrity of the wells or groundwater chemistry obtained from such wells. Consequently, PVC was used in construction of the supplemental investigation monitoring wells. Additionally, the piezometers installed along the BSA sewer were constructed of 1 inch diameter PVC and were not provided with protective casings.

Field boring logs and monitoring well installation logs documenting the monitoring point installation process are provided in Appendix A and Appendix B, respectively. Field records of monitoring well development are presented in Appendix C, while hydraulic testing results and field investigation air monitoring logs are presented in Appendix D and Appendix E, respectively.

2.3 Monitoring Well RFI-38 Area

The supplemental investigations included:

- Installation of four (4) monitoring wells within the shallow overburden (i.e. extending to a depth equivalent to the top of the glaciolacustrine clay unit) at the PVS facility in the vicinity of monitoring well RFI-38. The newly installed monitoring wells are designated RFI-44 through RFI-47 and located as indicated on Figure 3. The monitoring wells were developed and a variable head test was performed on each of the wells to determine hydraulic conductivity of the shallow aquifer. Two water level monitoring events were performed at each new monitoring well;
- Two groundwater sampling events were performed at each of the newly installed monitoring wells. Analytical testing was conducted for those parameters listed for groundwater in Table 8 of the RFI Quality Assurance Project Plan (Volume 2 of 5, Revision 1A) excluding analysis for alcohols and PCBs. Alcohols or PCBs have not been detected within Phase I and Phase II RFI groundwater samples and consequently are not included for analysis during the supplemental investigations. In addition to trip blank analysis, quality control samples (per event) included one field duplicate, one rinsate blank, and one matrix spike/matrix spike duplicate; and
- Surveying was performed to record field coordinates and relevant surface elevations of the monitoring wells.

2.4 Monitoring Well RFI-40 Area

The supplemental investigations included:

- Installation of four monitoring wells (designated RFI-48 through RFI-51) on the PVS facility property in the vicinity of monitoring well RFI-40 at the locations shown on Figure 3. The monitoring wells were completed at a depth equivalent to the top of the glaciolacustrine clay unit. The monitoring wells were developed and variable head tests were performed to determine hydraulic conductivity of the shallow overburden at these locations. Two water level monitoring events were performed at the wells;
- Two groundwater sampling events were performed at the monitoring wells. Additionally, two groundwater sampling events were performed at RFI-PZ-18 which was previously installed during Phase I of the RFI in close proximity to the breach in the BSA sheet piling in Area E of the BCC property. Analytical testing was conducted for those parameters listed for groundwater in Table 8

of the RFI Quality Assurance Project Plan (Volume 2 of 5, Revision 1A) excluding analysis for alcohols and PCBs; and

- Surveying was performed to record field coordinates and relevant surface elevations of the monitoring wells.

2.5 BSA Sewer

The supplemental investigations included:

- Installation of six piezometers (designated RFI-PZ-21 through RFI-PZ-26) within the backfill and above the crown of the BSA sewer at the locations shown on Figure 3. Additionally, one piezometer (designated RFI-PZ-27) was installed west of RFI-PZ-19 and BCC Outfall 011 as shown on Figure 3. Two water level monitoring events were performed at the piezometers; and
- Surveying was performed to record field coordinates and relevant surface elevations of the piezometers.

2.6 Additional Activities

Additional activities performed as part of the second supplemental investigation included:

- Two water level monitoring events at each of the previously installed RFI monitoring wells and piezometers and existing BCC pre-RFI monitoring wells and piezometers. These events were performed concurrently with water level monitoring events scheduled for monitoring wells and piezometers installed as part of the second supplemental investigation. The water level within the RFI river stilling well was also measured during these events; and
- Ten additional soil samples were sent to the RFI laboratory for Total Organic Carbon (TOC) analysis. These TOC samples were obtained from archived RFI boring samples and include representative samples from the primary stratigraphic units within the study area.

2.7 Sample Management

Sample containers were supplied by the laboratory. Sample containers, volumes, reagents, preservation procedures, and analytical holding times was performed in accordance with those outlined in Tables 15 and 16 of the QAPjP except as noted in

Section 2.10. Sample containers were kept closed until the time each set of sample containers were filled. After filling, the containers were securely closed, any residue was wiped from the sides of the containers, and the containers were immediately placed in a cooler. Preservatives were added after collection. Samples were kept chilled using ice and shipped to the laboratory usually on the day of sample collection.

Sampling information was marked on a sample label attached to the sample container. The information on the sample label included, the sample ID number, requested analysis, and sample date and time. Each sample was assigned a unique sample ID number recorded on the sample bottle label and on chain-of-custody document. Sample collection forms are provided in Appendix F. Groundwater samples were identified through use of the well ID number (e.g., RFI-45).

All environmental samples were handled under chain-of-custody procedures, beginning in the field. The Field Manager was the field sample custodian. Sample custody for field activities included the use of chain-of-custody forms, sample labels, custody seals, and field notebooks. Once samples were transported to the analytical laboratory, custodial responsibility was transferred to the Laboratory Sample Custodian where they followed the laboratory's sample receipt and chain-of-custody procedures.

2.8 Quality Assurance/Quality Control (QA/QC) Samples

Four types of QA/QC samples were utilized to meet the project data quality objectives. QA/QC samples were collected only for samples undergoing chemical analysis. These are defined as follows:

- **Trip Blanks**

A blank that is prepared in the laboratory, transported to the sampling site, handled in the same manner as other samples, except that it remained unopened, and then returned to the laboratory for VOC analysis to ensure that contamination is not introduced to samples via transportation or handling procedures;

- Field/Equipment Rinsate Blanks

A blank prepared in the field using distilled water. Water was poured over/through sampling equipment which has been decontaminated in accordance with specified procedures. The blank water is collected in sample bottles and analyzed for all the parameters of interest. The purpose of this blank is to ensure that field conditions and/or equipment are not introducing contaminants to the samples.

- Field Duplicates

A duplicate sample taken in the field and sent to the laboratory for analysis. The results provide some indication of the homogeneity of the sample medium and the precision of the analytical laboratory and its equipment; and

- Matrix Spike/Matrix Spike Duplicates (MS/MSDs)

A "MS" is a subsample of an investigatory sample to which the laboratory adds a spike containing analytes at known concentrations prior to extraction/analysis of the sample to assess the effect of sample matrix on the extraction and analysis methodology. The MSD is another subsample from the original investigatory sample (subsampling performed at the laboratory) which is similarly spiked.

Field duplicates were identified as Field Dup. Trip blanks and rinsate blanks were identified as TB or Trip Blank and RB or Rinsate, respectively.

Trip blanks were utilized for each day samples were collected for VOC analysis of water samples. In addition to trip blank analysis, quality control samples (per event) included one field duplicate, one rinsate blank, and one matrix spike/matrix spike duplicate.

QA/QC samples collected are summarized below:

- Trip Blanks
 - TB (8/5/98)
 - TB (8/6/98)
 - TB (8/20/98) (2)
 - Trip Blank (8/31/98)
- Field Duplicates
 - Field Dup (8/6/98) (Duplicate of RFI-44)
 - Field Dup (8/20/98) (Duplicate of RFI-48)

- Rinsate Blanks RB (8/5/98)
Rinsate (8/20/98)
- MS/MSD RFI-46 (8/5/98)
RFI-49 (8/20/98)
RFI-49 (8/31/98)

There was insufficient sample volume to perform the QC analyses for the sample collected from RFI-49 on August 20, 1998. Consequently, Golder Associates resampled this well on August 31, 1998.

2.9 Analytical Procedures

Samples collected during this project were analyzed using USEPA methodologies. Methodologies for chemical testing were from the following documents:

- “Methods for Chemical Analysis of Water and Wastes,” USEPA-600/4-79-020, 1989, revised March 1983;
- “Test Methods for Evaluating Solid Waste - Physical/Chemical Methods,” SW-846, 3rd Edition, USEPA Office of Solid Waste, Washington, DC, November 1986; and

Method references for the groundwater sample and soil analyses performed for this project are summarized in the analytical reports provided as Appendix G and H.

2.10 Data Validation

In order to assess the quality of the data and meet the data quality objectives (DQOs) and hence its usability, a data validation and review procedure was performed. This validation procedure consisted of a review of data quality indicators to meet certain acceptance criteria for precision, accuracy, representativeness, completeness and comparability. The following information was reviewed by the RFI laboratory, CAS, and Golder Associates:

- Sample results;
- Preservation methods;
- Dates of analyses and sample preparation to check hold times;
- Sample preparation and analytical methods used;
- Chain-of-custody;
- Laboratory and field duplicate results;
- MS/MSD recovery results;
- Surrogate recovery results;
- Procedural blank results (method blanks, trip blanks, field rinsate blanks);
- Quantitation limits; and
- Units specified for all determinations.

Included with each laboratory report provided in Appendices G and H, CAS provides a list of data qualifiers and a detailed case narrative that discusses the results of the analyses and data quality control/quality assurance (QA/QC) issues.

The following summarizes QA/QC issues associated with the samples collected for this project based on this review:

- Matrix Interferences

Due to the characteristics of the samples collected given the study area operational history, matrix interferences were encountered in selected samples which resulted in some matrix spike and surrogate recoveries outside of the specified QC criteria. Several samples were analyzed at dilutions (e.g. RFI-44) due to high levels of interfering organics present or to obtain target compounds within the linear range of the analytical method.

- Field Duplicates

Sample matrix accounted for some variability in field duplicate samples in the case of RFI-44 where acenaphthene, dibenzofuran and phenol were detected in the Field Duplicate sample but not in the sample from RFI-44 (8/6/98). Due to the sample matrix, and required dilution, higher analytical detection limits were observed for this RFI-44 sample for SVOCs compared to the Field Duplicate sample.

- Rinsate Blanks

Chloroform was detected in both rinsate blanks collected at 8 µg/l. The source of the chloroform is not known. Chloroform was detected in samples from RFI-44 at 120-160 µg/l and RFI-47 at 7.8-8 µg/l. The chloroform detections in the samples from RFI-47 therefore, may be suspect given the similar concentration detected in the rinsate blank.

Except for the variations noted above and in the analytical report case narratives, review of the analyses and QA/QC data indicate that the data generated from the samples collected for this project met the data quality objectives and acceptance criteria and therefore, are considered valid and useable.

3. ENVIRONMENTAL SITE CHARACTERIZATION

3.1 Facility Specific Geology/Hydrogeology

3.1.1 Introduction

The subsurface geologic and hydrogeologic conditions of the BCC facility and adjacent PVS facility have been previously described in detail within Sections 4.3.2 and 4.3.3, respectively, of the Final RFI Report (Golder Associates, November 1998, Revision 1). The description within the Final RFI Report of the facility specific geology and hydrogeology is based on characterization of the subsurface underlying the site from advancement of twenty-three (23) Phase I soil borings, four (4) Phase II soil borings, and ten (10) Supplemental Investigation soil borings. In addition, data from previous studies performed at the site or in the vicinity of the site were also utilized as applicable. The following sections describe the geologic and hydrogeologic findings developed from the second supplemental investigation which included the advancement of eight (8) borings, installation of eight (8) monitoring wells within the borings, and seven (7) Geoprobe installed piezometers.

3.1.2 Geology

Figure 4 presents a location map of geologic cross-sections prepared for the RFI investigation. Figure 5 and Figure 6 present geologic cross-sections which have been amended from those presented in the Final RFI Report by the addition of the eight (8) second supplemental investigation borings.

As indicated by the cross-sections (Figures 5 and 6) and boring logs (Appendix A), the soil stratigraphic sequence and geologic model for the areas addressed by the second supplemental investigation are generally consistent with those projected for these areas and described within the Final RFI Report. Notable modifications to the facility specific geologic description as presented within the Final RFI Report are as follows:

- The advancement of boring RFI-48 indicated that fill was present from ground surface to the top of the glaciolacustrine clay unit at this location. As indicated on Figure 4, RFI-48 is located in relatively close proximity to the Buffalo River shoreline and it was previously projected that the alluvium underlying much of the PVS facility would also be present in the subsurface at this location. However, apparently as part of the development of this area on the PVS property, alluvium present at this location was removed and replaced with fill (see Figure 6); and
- The advancement of boring RFI-45 indicated the presence of a thick sequence of alluvium at this location within the investigation area. It was previously projected that alluvium was not present at this location. Consequently, considering the stratigraphic sequence identified at RFI-45, the relative location of the alluvium/upper tills contact has been adjusted slightly northward towards the BCC property (see Figure 7 described below).

It should be noted that because the piezometers installed in the BSA backfill as part of the second supplemental investigation were constructed by Geoprobe techniques using a drive tip, no samples or cuttings of the BSA backfill were generated. Consequently, no evaluation of the fill types encountered at these locations was performed.

3.1.3 Hydrogeology

Two rounds of groundwater elevation measurements were obtained as part of the second supplemental investigation. These events were conducted on August 6-7, 1998 and August 19-20, 1998, the results of which are presented in Table 1 and Table 2, respectively.

In general, as indicated by comparison of Table 1 and Table 2, water levels from the two measurement events were similar. However, water levels from several wells (e.g. RFI-35 and RFI-37) on the PVS property and completed within the upper tills unit are believed to be non-representative of actual water table elevations under atmospheric conditions. These wells were observed to be initially pressurized when first opened for the August 6-7 measuring event. Consequently, the water levels were depressed within the wells and given the low hydraulic conductivity of the soils at these locations, the water levels did not fully recover by completion of the first event. This condition was avoided during the

August 19-20 measuring event by opening the well prior to the event to allow sufficient time for equilibrium with atmospheric conditions to develop. A potentiometric contour map of the shallow aquifer for the entire RFI area has been developed using the water levels obtained during the August 19-20, 1998 event and is presented as Figure 7.

Evaluation of Figure 7 indicates the shallow aquifer potentiometric surface at the time of the August 19-20 measuring event is generally consistent with the shallow aquifer potentiometric maps prepared for the RFI and described within the Final RFI Report. Notable differences between the August 19-20, 1998 potentiometric map (Figure 7) and those presented within the Final RFI Report are as follows:

- On average, the August 19-20, 1998 potentiometric surface represents the lowest site-wide water table condition measured during the RFI. At many locations within the investigation area, the potentiometric surface was lower by 1 foot or more in comparison to the water level measurements and potentiometric contour maps for the shallow aquifer as presented within the Final RFI Report. In addition, the Buffalo River elevation of 573.13 feet mean sea level (MSL) is the lowest level recorded during the RFI;
- Water levels from several of the 1-inch diameter piezometers installed during the second supplemental investigation indicate a mounding of subsurface water at several locations above the BSA sewer at locations near the junction of Lee and Prenatt Streets. Possible explanations for the mounding at these locations may be loss of water from utilities crossing the BSA line in these areas or the influence of precipitation events on more readily infiltrated and recharged sewer backfill located within sheet piling as compared to the low permeability, poorly recharged clay tills of the areas surrounding the BSA sewer;
- A slight mounding of groundwater in the vicinity of well RFI-49 is indicated by water levels obtained from this monitoring point. The mounding is attributed to the presence and water retention effects of a soil covered, 50,000 gallon above ground storage tank (#2 fuel oil) located adjacent to RFI-49 and roughly encompassed by the 574 feet MSL potentiometric contour indicated on Figure 7 at this location. Communication with PVS Chemicals personnel indicated this storage tank and surrounding soil has been present at this location since approximately 1973. Additionally, although the primary zone of completion at RFI-49 has been identified as alluvium, as indicated by hydraulic testing results (see below), the alluvium is slightly less permeable at this location, and as a consequence, facilitates the water level mounding effects related to the storage tank; and

- A groundwater divide is indicated along the Orlando St. boundary of the investigation area creating a component of flow to the north-northeast in the vicinity of the Orlando St. and Elk St. intersection. This condition is interpreted as being attributed to flow towards the backfill of a trunk sewer running along Elk St and to the backfill of a large diameter interceptor sewer located at the intersection of Orlando Street and Elk Street. Using this interpretation, the comparatively dry conditions at the time of the August measuring events has lowered the potentiometric surface within the sewer backfill and enhanced its identification as a sink for local groundwater.

To determine the bulk hydraulic conductivity of the zone of completion for the new monitoring wells, as part of the second supplemental investigation, hydraulic testing was performed within each of the wells (RFI-44 through RFI-51) installed during this phase of the RFI. Table 3 summarizes the results of the hydraulic testing, while Appendix D provides graphs of the field data generated by each test. In summary, hydraulic conductivity values for zones of completion of the monitoring wells ranged from a high of 1.35×10^{-2} centimeters/second (cm/s) within fill at RFI-48 to a low of 2.26×10^{-5} cm/s within fill/upper tills at RFI-51. The hydraulic conductivity for the alluvium, which was encountered in six of the eight borings of the second supplemental investigation, ranged from a high of 8.22×10^{-3} cm/s at RFI-50 to a low of 5.28×10^{-5} cm/s at RFI-47. These results are consistent with results of hydraulic conductivity testing performed at previously installed RFI monitoring wells and piezometers. It should be noted that due to the small riser diameter (1-inch), hydraulic testing was not performed within the piezometers installed as part of the second supplemental investigation.

4. ANALYTICAL RESULTS

4.1 Introduction

The laboratory reports containing the chemical analytical results for groundwater samples collected and QA/QC sample results are provided in Appendix G. The report containing the TOC testing results for the selected soil samples are provided in Appendix H.

The following sections present the results of the analyses groundwater investigation samples. For presentation purposes, only the constituents detected are reported in summary tables. Analytes detected in method blanks and in samples are not reported in the tables. In addition to specific constituent concentrations, total concentrations for VOCs, SVOCs, and metals analyzed are provided for the samples for general comparative purposes. Actual sample detection limits for each analytical method are found in the laboratory reports provided in the above Appendices to this report. The analytical results are compared to potentially applicable action levels as defined in Module I. J.(1) and required by Module III E.(7)(a) of the BCC Permit based on NYSDEC regulations and guidelines. Included are the following:

- Class GA Fresh Groundwater Standards and Guidance Values (6NYCRR Parts 700-705, Water Quality Regulations for Surface Waters and Groundwaters, as amended June 1998); and
- Division Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels (NYSDEC, HWR-94-4046, January 24, 1994).

Action levels for groundwater were also provided as Table 1 to BCC in the NYSDEC correspondence of September 10, 1993. The was subsequently updated and provided by the NYSDEC as the "Technical and Administrative Guidance Memorandum No. 3028 - Contained-In Criteria for Environmental Media (August 26, 1997)". However, presentation of these values does not reflect BCC's concurrence that these guidance levels represent properly determined site specific action levels or clean-up levels.

4.2 Groundwater Analyses

Shallow Aquifer - Second Supplemental Investigation Off-Site

The results of the two (2) rounds (August 5-6, 1998 and August 20, 1998) of groundwater sample analyses for VOCs, SVOCs, metals, and inorganics collected from eight (8) RFI shallow aquifer wells (RFI-44, RFI-45, RFI-46, RFI-47, RFI-48, RFI-49, RFI-49, RFI-50 and RFI-51) and one (1) piezometer (RFI-PZ-18) in areas off-site from the BCC property (Area ABCE) on the PVS property during the second supplemental investigation activities are summarized in Table 4 and Table 5. Alcohols or PCBs were not detected within Phase I and Phase II RFI groundwater samples and consequently were not included for analysis of off site groundwater samples during the two supplemental investigations.

Constituents that were detected at concentrations that exceeded the 6NYCRR Part 703 Class GA groundwater standards/NYSDEC action levels in samples in both sampling events in the off-site shallow aquifer wells and piezometers are summarized in Table 6 and shown on Figure 8 with the results from the previous RFI investigations. The groundwater analytical results from this second supplemental investigation are discussed below:

Volatile Organic Compounds

- Only samples from RFI-44, RFI-46 and RFI-47 exceeded Class GA groundwater standards for the following compounds:
 - RFI-44 (Chloroform, Acetone, Benzene, m+p-Xylene, Toluene, 2-Butanone, Ethylbenzene, Styrene, o-Xylene)

Toluene, 2-butanone, ethylbenzene, styrene, and o-xylene were not detected in the August 20, 1998 sample from RFI-44. However, this is likely due to elevated analytical detection limits caused by sample matrix interferences. These compounds were detected in the Field Duplicate sample of the RFI-44 August 6, 1998 sample,

- RFI-46 (Toluene)

This compound was detected at a concentration (5.0-6.7 µg/l) just above the Class GA standard of 5 µg/l,

- RFI-47 (Chloroform)

Chloroform was detected in both rinsate blanks collected at 8 µg/l. Chloroform was detected in samples from RFI-47 at 7.8-8 µg/l. The chloroform detections in the samples from RFI-47 therefore, may be suspect given the similar concentration detected in the rinsate blank;

- No VOCs were detected in RFI-45, RFI-48, RFI-49, RFI-50, RFI-51 or RFI-PZ-18. RFI-45 is upgradient of RFI-38. RFI-49, RFI-51 and RFI-PZ-18 are upgradient of RFI-40.

Semi-Volatile Organic Compounds

- Only samples from RFI-44 (2-Methylnaphthalene, Naphthalene) and RFI-46 (Naphthalene) had SVOCs detected that exceeded Class GA groundwater standards. No SVOCs were detected in RFI-45, RFI-47, RFI-48, RFI-49, RFI-50, RFI-51 or RFI-PZ-18. RFI-45 is upgradient of RFI-38, and RFI-49, RFI-51 and RFI-PZ-18 are upgradient of RFI-40;

Metals

- Metals detected at concentrations that exceeded Class GA groundwater standards or NYSDEC action levels included:
 - Arsenic (RFI-48, RFI-51),
 - Cadmium (RFI-44, RFI-45, RFI-46, RFI-47, RFI-48),
 - Chromium (RFI-44),
 - Copper (RFI-44),
 - Iron (RFI-44, RFI-45, RFI-46, RFI-47, RFI-48, RFI-49, RFI-50, RFI-51, RFI-PZ-18),
 - Lead (RFI-44, RFI-45, RFI-PZ-18),

- Manganese (RFI-44, RFI-45, RFI-46, RFI-47, RFI-48, RFI-49, RFI-50, RFI-51, RFI-PZ-18),
- Nickel (RFI-44, RFI-46, RFI-47),
- Selenium (RFI-44),
- Zinc (RFI-44, RFI-46, RFI-49),
- Iron and manganese exceeded Class GA groundwater standards in all eight (8) wells and the one (1) piezometer.;
- With the exception of copper, zinc, selenium and mercury, the other metals were also detected in Area ABCE shallow downgradient wells (upgradient from the supplemental wells and piezometers) at concentrations that exceeded Class GA groundwater standards.

Inorganics

- Sulfate exceeded Class GA groundwater standards in all samples except RFI-PZ-18. The sulfate concentration range of exceedances in samples from the shallow aquifer off-site wells on the PVS property appears to be higher than that observed in the shallow aquifer wells in Area ABCE. The highest concentrations were observed in samples from RFI-44 (22,100-23,800 mg/l);
- Nitrate/nitrite-nitrogen exceeded Class GA groundwater standards in samples from RFI-45, RFI-46 and RFI-47 and not in samples from shallow aquifer wells in Area ABCE;
- Chloride exceeded Class GA groundwater standards in samples from RFI-48, RFI-49, RFI-50 and RFI-PZ-18.
- Samples collected from the following wells were slightly acidic exceeded Class GA groundwater standards:
 - RFI-44 (pH 2.5 - 4.2)
 - RFI-45 (pH 6.3 -6.4)
 - RFI-46 (pH 5.5-5.7)
 - RFI-47 (pH 4.6-4.7)
 - RFI-48 (pH 6.4)

pH ranges reported by other parties for shallow aquifer samples collected on the PVS property by other parties were 3.0-6.25. By comparison, shallow

aquifer Area ABCE wells were observed to be either neutral in pH or slightly alkaline (pH range 9.04-10.8 for RFI-22, RFI-24, RFI-26).

- Sulfide did not exceeded Class GA groundwater standards in samples from these wells and RFI-PZ-18.

4.3 Soil Total Organic Carbon Analyses

Ten additional soil samples were sent to the RFI laboratory for Total Organic Carbon (TOC) analysis. These TOC samples were obtained from archived RFI boring samples and include representative samples from the primary stratigraphic units within the study area. The results of these analyses are presented below indicating original sample identification number and the soil type.

Sample Identification	Soil Type	Depth (Ft. BGS)	Total Organic Carbon Content (mg/kg)
RFI- 16 (F)	Fill	6-8	19,500
RFI-19D (F)	Fill	4-6	20,000
RFI-31 (F)	Fill	4-6	4,990
RFI-19D (T)	Upper Tills	6-8	15,400
RFI-31 (T)	Upper Tills	8-10	12,300
RFI-32 (T)	Upper Tills	4-6	2,790
RFI-16 (A)	Alluvium	18-20	12,000
RFI-22 (A)	Alluvium	30-32	7,120
RFI-24 (A)	Alluvium	28-30	7,480
RFI-25 (A)	Alluvium	18-20	3,610

NOTE: Ft. BGS = Feet below ground surface.

These data indicate that the TOC concentration of the soil types vary, with the higher TOC concentrations being observed in surficial and shallow subsoils. As indicated in the RFI Final Report, the results of the soil sample analyses performed during the RFI indicate the presence of hazardous constituents in soil/fill materials in selected samples at concentrations exceeding typical background concentrations and/or NYSDEC recommended cleanup levels (adjusted for 5.3% organic carbon). These constituents were detected primarily in shallow subsoils/fill (0-4 ft. bgs).

5. SUMMARY AND CONCLUSIONS

5.1 Introduction

BCC has performed a RFI at the facility located at 100 Lee Street in Buffalo, New York in response to the corrective action requirements of RCRA and the Hazardous and Solid Waste Amendments of 1984 (HSWA). The plant, currently owned and operated by BCC, has been in continuous operation as a dyestuffs and organic chemicals manufacturing facility for over 100 years. The RFI was performed to determine the nature and extent of releases of hazardous wastes and/or constituents from solid waste management units (SWMUs) and areas of concern (AOCs) at the facility. The requirement to perform the RFI for the SWMU Area A, B, C, and E (Area ABCE) is specified in Module III E(5)(a) of the Part 373 Post-Closure Permit NYSDEC Identification (ID) Number 9-1402-00076/00-112-0) issued to BCC on February 10, 1995.

The RFI was performed in accordance with the NYSDEC approved RFI Work Plan with modifications noted herein. The RFI was performed in two phases. The initial investigation (Phase I) activities focused on developing a thorough hydrogeologic characterization of the facility (Area ABCE) and emphasized evaluating groundwater quality and potential migration of hazardous constituents at the perimeter of Area ABCE. Also, this initial phase included a groundwater study relative to the closed former surface impoundments (Lagoons 1, 2, and 3) at the facility.

Fourteen (14) shallow aquifer wells, four (4) confined aquifer wells, and five (5) piezometers were installed under Phase I of the RFI with two (2) rounds of sample collection and analyses from the monitoring wells. During the installation of the monitoring wells and piezometers, fifty-four (54) soil samples were collected at various depths for chemical screening analyses and twenty-three (23) soil samples were collected at various depths for confirmatory chemical analyses. In addition, ten (10) soil samples were collected for geotechnical analyses.

The second phase (Phase II) of the project involved obtaining additional data from the interior of the facility to further characterize and evaluate potential release sources, migration pathways, and extent of release(s) through sampling of soil and groundwater for chemical constituents. Twenty-four (24) soil borings were completed which included collection and chemical screening analyses of twenty (20) near-surface soil samples and twelve (12) multiple depth soil samples. Confirmatory chemical analyses were performed on four (4) soil samples as well as four (4) groundwater samples collected from each of the multiple depth borings.

Review of the results of groundwater sampling analytical data and groundwater flow data from completion of the Phase I and Phase II investigation activities indicated that hazardous constituents were detected in groundwater samples collected from monitoring wells located at the perimeter of Area ABCE. Consequently, a supplemental investigation was performed to characterize and evaluate the potential migration and extent of hazardous constituents in groundwater from SWMU Area ABCE to off-site and apparently hydraulically downgradient areas bordering BCC, specifically, the PVS facility and areas along the eastern edge of the site including the BSA sewer and Orlando Street. This included the installation of ten (10) additional shallow aquifer wells. Samples were collected from these wells and also two (2) off-site piezometers. Six (6) additional surficial soil samples were also collected from unpaved areas in Area ABCE. The soil and groundwater samples were analyzed for VOCs, SVOCs, metals, and specific inorganic parameters.

The draft Final RFI Report (Golder Associates, November 1997) was submitted to the NYSDEC and USEPA by BCC in November 1997. Comments were received from the NYSDEC regarding the draft Final RFI Report on March 4, 1998.

This Addendum to the Final RFI Report presents the results of the second supplemental environmental investigation performed at locations off-site of the BCC property. These additional investigations were proposed to further address the NYSDEC's comments

regarding the BCC draft Final RFI Report and potential sources of hazardous constituents detected in samples collected from off-site shallow aquifer groundwater monitoring wells. These field investigations were performed during August 1998.

This second supplemental investigation included the installation of eight (8) additional shallow aquifer wells and seven (7) additional piezometers. Samples were collected from these additional wells and also one (1) off-site piezometer. The groundwater samples were analyzed for VOCs, SVOCs, metals, and specific inorganic parameters. Ten (10) archived soil samples from locations in Area ABCE were also analyzed for total organic carbon.

The data and information developed from these additional investigation activities has been utilized to:

- Further characterize the environmental setting for the study area;
- Determine the nature and extent of releases of hazardous waste and constituents from Area ABCE;
- Compare groundwater constituent concentrations to NYSDEC action levels; and
- Evaluate potential sources of hazardous constituents detected in samples collected from off-site shallow aquifer groundwater monitoring wells.

The significant findings and conclusions resulting from these additional investigations are discussed in the following sections.

5.2 Summary of Findings

The investigation of the nature and extent of releases of hazardous constituents from Area ABCE and in the vicinity of the former Lagoons 1, 2, and 3 has been performed as required under Module III(E) of the Permit. The following presents the findings of the second supplemental off-site investigation regarding likely sources of hazardous constituents detected in samples collected from off-site shallow aquifer groundwater monitoring wells, including specifically areas in the vicinity of RFI-38 and RFI-40 located on the PVS property. Table 7 provides a summary of constituents exceeding

NYSDEC Class GA groundwater standards/guidance values. As indicated in Section 4.1, BCC does not necessarily concur that the referenced guidance levels represent properly determined site specific action levels or clean-up levels.

Shallow Aquifer - Off-Site (Refer to Figure 7 and Figure 8)

General

- Analyses of groundwater samples obtained from off-site monitoring points RFI-34, RFI-35, RFI-36, RFI-37, RFI-39, RFI-45, RFI-47, RFI-48, RFI-49, RFI-50, and RFI-51 do not indicate the presence of organic hazardous constituents concentrations characteristic of groundwater samples from Area ABCE. These results indicate that hazardous constituents within groundwater from Area ABCE have not adversely impacted the shallow aquifer underlying the PVS property. The combination of soils of low hydraulic conductivity within Area ABCE and portions of the PVS property, the apparent groundwater mounding in the center of the PVS property, and the influence of the BSA sewer appears to have limited migration of hazardous constituents characteristic of Area ABCE to an approximate boundary along Lee Street to its intersection with Prenatt Street and extending east along Prenatt Street to a location beyond monitoring points RFI-36, RFI-51 and RFI-PZ-18.
- Considering the analyses of groundwater samples obtained from monitoring points RFI-17, RFI-41, RFI-42, RFI-43, and RFI-PZ-17, hazardous constituents characteristic of groundwater from Area E and the former lagoons have not migrated beyond the eastern perimeter of Area ABCE.
- The breach of the BSA sewer sheet piling within Area E does present a conduit for groundwater flow from Area E to the BSA sewer/backfill and the alluvium located downgradient from Area E. However, analysis of groundwater samples obtained from downgradient monitoring points RFI-PZ-18, RFI-PZ-19 and RFI-PZ-17, located within the BSA sewer backfill in the flow direction of the sewer, do not indicate the presence of hazardous constituents characteristic of Areas B, C and E.
- The sulfate concentration range of exceedances in samples from the shallow aquifer wells on the PVS property is generally higher than that observed in the shallow aquifer wells in Area ABCE.
- The Phase I and Phase II investigations related to the former surface impoundments located on the PVS property performed by other parties indicated that the facility produced acids (sulfuric, nitric, oxalic, muriatic), ammonium thiosulfate, metallic nitrates, and liquid Sulfan. Liquid wastes

containing nitric, sulfuric acid, sulfur drainings, metallic nitrate rinses (containing cadmium, copper, nickel, potassium or iron) and other waste streams were reported to have been conveyed to the surface impoundments. The results of these other investigations reported by other parties "indicated releases of metals (aluminum, cadmium, calcium, and vanadium) and pH values of 3.0 to 6.25 in the shallow aquifer potentially attributable to the PVS site".

RFI -38 Area (Refer to Figure 7 and Figure 8)

Class GA Groundwater Standard Exceedances in New Wells

- Groundwater samples from RFI-38 exceeded Class GA groundwater standards for chloroform, nitrophenol, naphthalene, ten metals, chloride, sulfate, nitrate/nitrite-nitrogen and pH.
- Groundwater samples from RFI-44 which is located to the west of RFI-38 exceeded Class GA groundwater standards for chloroform, acetone, benzene, m+p-xylene, toluene, 2-butanone, ethylbenzene, styrene, o-xylene, 2-methylnaphthalene and naphthalene, nine metals, sulfate, and pH.
- Groundwater samples from RFI-45 which is located to the northwest and upgradient of RFI-38 exceeded Class GA groundwater standards for four metals, sulfate, nitrate/nitrite-nitrogen and pH.
- Groundwater samples from RFI-46 which is located to the northeast of RFI-38 exceeded Class GA groundwater standards for toluene, naphthalene, five metals, sulfate, and pH.
- Groundwater samples from RFI-47 which is located to the northeast of RFI-38 exceeded Class GA groundwater standards for four metals, nitrate/nitrite-nitrogen, sulfate, and pH.

Organic Constituents

- No VOCs or SVOCs were detected in RFI-34, RFI-35, RFI-37 and RFI-45. These wells are located in areas downgradient of Area ABCE of the BCC property and upgradient of RFI-38.
- Chlorobenzene

Chlorobenzene was detected in samples from RFI-22 (0.2-0.26 l) mg/l in Area A of the BCC property, however, it was not detected in samples from off-site samples from RFI-34, RFI-38, RFI-44 or RFI-45.

- Chloroform

Chloroform was detected in RFI-38 (0.0999-0.1) mg/l, RFI-44 (0.12-0.16) mg/l and RFI-47 (0.0078-0.0082) mg/l. The detections in samples from RFI-47 may be suspect as chloroform was detected at a similar low concentration in the rinsate blanks.

However, chloroform was not detected in soil or in groundwater samples from Area ABCE collected during the RFI and was only detected in pre-RFI monitoring well R08 located in Area E. Chloroform was also not detected in samples from RFI 34, RFI -35, RFI 37, RFI-45 or RFI-46. This suggests a source of chloroform on the PVS property in the vicinity of wells RFI-38 and RFI-44.

- Acetone and 2-Butanone and Styrene

Acetone, 2-butanone and styrene were detected in the samples from RFI-44 but were not detected samples from RFI-22 or RFI-28 which are located on the BCC property or other wells in this area (RFI-34, RFI-38, RFI-45, RFI-46 and RFI-47).

- Benzene, Toluene, Ethylbenzene, Xylenes

The concentration of these compounds detected in samples from RFI-44 were compared to samples from RFI-22 located to the west in Area A :

RFI-22

Benzene (0.045 - 0.046) mg/l
Toluene (ND-0.0062) mg/l
Ethylbenzene (0.1-0.2) mg/l
m+p - Xylene (0.040 - 0.049) mg/l
o - Xylene (0.033 - 0.037) mg/l

RFI-44

Benzene (0.089 - 0.110) mg/l
Toluene (0.54 - 0.69) mg/l
Ethylbenzene (0.038-0.040) mg/l
m+p - Xylene (0.097 - 0.140) mg/l
o - Xylene (0.068 - 0.069) mg/l

With the exception of ethylbenzene, the concentrations of these compounds are higher in samples from RFI-44 than samples from RFI-22. Toluene was also detected in samples from RFI-46 (located to the northeast of RFI 38) and RFI- 44 at (0.005-0.0067) mg/l.

- Naphthalene and 2-Methyl Naphthalene

Naphthalene was detected in samples from RFI-38 at (1.1-1.2) mg/l, RFI-44 at (2.2-2.3) mg/l and RFI-46 at (0.024-0.028) mg/l compared to a concentration of (0.01-0.087) mg/l in RFI-22. As previously discussed with the NYSDEC, the concentrations observed are higher in RFI-38 and RFI-44 than in the nearby BCC property wells. This would not be expected if BCC property is the source. In addition, naphthalene was not detected in groundwater samples

from RFI-18, RFI-28, RFI-34, RFI-35, RFI-37, and RFI-45 and RFI-47 which are upgradient from RFI-38.

2-Methyl naphthalene was detected in samples from RFI-44 at (0.40-0.46) mg/l and RFI-38 at (0.63-0.74) mg/l. This compound was detected in only two soil samples in Area A, RFI24C5F (88 mg/kg) and PRB3MC2F (1.1 mg/kg) and was not detected in any RFI groundwater samples from Areas A, B or C.

Historic energy operations (coal/oil) in this area of the PVS property could be sources for these two constituents. Tanks labeled "GCC" which relate to the former General Chemical Company are shown in this area of the PVS property in early Sanborn Maps.

- 2-Nitrophenol

As previously stated in response to NYSDEC comments, this chemical is more likely associated with organic chemical production than acid production at PVS. However, this compound was only detected in samples from RFI-38 on the PVS property and not in any other RFI soil or groundwater samples in Area ABCE.

- N-nitrosodimethylamine

N-nitrosodimethylamine was detected only in the RFI-38 Round 2 sample at 0.0057 mg/l. This constituent was only detected in RFI-34, located between RFI-38 and the BCC property, in the Round 1 sample at 0.0056 mg/l (detection limit = 0.005) but was not detected in RFI-34 in the sample from Round 2. This constituent was not detected in the Area ABCE wells.

- Additionally, the following was also considered regarding the evaluation of the organic constituents detected at RFI-38:

- Aniline (detected at RFI-22, RFI-28)
- O+P-Toluidine (detected at RFI-28)
- Nitrobenzene (detected at RFI-18)

These compounds are highly water soluble and as indicated above, were detected in Area A and B wells located in close proximity to or upgradient of RFI-38. Considering these compounds are highly water soluble, and hence more mobile, if these compounds were migrating beyond Areas A and B towards RFI-38 they would be expected to be detected in wells positioned between RFI-38 and Areas A and B. However, these compounds were not detected in RFI-34, RFI-35, RFI-37, RFI-44, RFI-45, RFI-47, or RFI-38.

Inorganic Constituents

- Metals and Sulfate

The concentration of total metals and sulfate detected in samples from the PVS area are generally higher than concentrations of metals and sulfate in samples from upgradient areas on BCC Area ABCE.

- Nitrate/Nitrite-Nitrogen

This parameter was detected in RFI-34 at (91.7-124) mg/l, RFI-38 at (37.8-103) mg/l, RFI-45 at (49.7-59.3) mg/l, RFI-46 at (18.2-76.6) and RFI-47 at (10.3-12.7) mg/l. However, N/N-Nitrogen was not detected in RFI-18 and was only detected at substantially lower concentrations at RFI-28 at 0.12 mg/l (in the Round 1 sample only) and RFI-22 at 0.226 mg/l (in the Round 1 sample only). This indicates a source on the PVS property for this parameter such as nitric acid production which historically has occurred in this area.

- pH

The pH of the samples collected from the monitoring wells on the PVS property were slightly acidic:

- RFI-38 pH 3.8-4.2)
- RFI-44 (pH 2.5 - 4.2)
- RFI-45 (pH 6.3 -6.4)
- RFI-46 (pH 5.5-5.7)
- RFI-47 (pH 4.6-4.7)

Lower pH values observed in samples from these PVS wells are not characteristic of pH values observed in samples from Area ABCE. By comparison, samples from RFI-22 (9-9.3 pH), RFI-18 (6.8 pH), and RFI-28 (8.4-8.27 pH) on Area ABCE were neutral or alkaline. In addition, Sanborn Fire Insurance Maps and PVS facility drawings show the presence of former tanks and a nitric acid facility in the general area of RFI-38. This indicates that a source on the PVS property such as historic acid production, is affecting groundwater pH in this area. RFI-38, RFI-44, RFI-45, and RFI-46 are located in the vicinity of process waste sewers on the PVS property.

RFI-40 Area (Refer to Figure 7 and Figure 8)**Class GA Groundwater Standard Exceedances in New Wells**

- Groundwater samples from RFI-40 exceeded Class GA groundwater standards for chlorobenzene, 1,2 dichlorobenzene, 1,3 dichlorobenzene, 1, 4 dichlorobenzene, 1,2,4 trichlorobenzene, three metals (As, Fe, Mn) and sulfate.
- Groundwater samples from RFI-48 which is located to the northwest of RFI-40 exceeded Class GA groundwater standards for arsenic, cadmium, manganese three metals (As, Cd, Mn), chloride, sulfate and pH.
- Groundwater samples from RFI-49 which is located to the northwest and upgradient of RFI-40 exceeded Class GA groundwater standards for two metals (Fe, Mn), chloride, sulfate, and pH.
- Groundwater samples from RFI-50 which is located to the northeast of RFI-40 exceeded Class GA groundwater standards for two metals (Fe, Mn), chloride, sulfate, and pH.
- Groundwater samples from RFI-51 which is located to the northwest of RFI-40 exceeded Class GA groundwater standards for three metals (As, Fe, Mn) and sulfate.
- Groundwater samples from RFI-PZ-18 which is located to the north and upgradient of RFI-40 exceeded Class GA groundwater standards for two metals (Fe, Mn) and chloride.

Organic Constituents

- No VOCs or SVOCs were detected in RFI-48, RFI-49, RFI-50, RFI-51 or RFI-PZ-18.
- RFI-PZ-18 , RFI-PZ-19 and RFI-49

VOCs detected at concentrations exceeding the Class GA groundwater standards in the former lagoons area downgradient wells in Area E included acetone, BTEX (benzene, toluene, ethylbenzene, xylenes), methylene chloride, chloroform, 1,1 dichloroethane and 1,1,1, trichloroethane. No VOCs or SVOCs were detected in samples from RFI-PZ-18, RFI-PZ-19 (except only 1 detection of bis(2-Ethylhexylphthalate) at 0.023 mg/l, Round 2 only) and RFI-49.

Monitoring points RFI-PZ-18, RFI-PZ-19 and RFI-49 are positioned in reasonably close proximity to the breach in the BSA sewer sheetpiling at Area E and Outfall 011. Given the high hydraulic conductivity of the alluvium in which the outfall appears to be bedded and the low gradient of the water table within this portion of the study area, it would be expected that mobile contaminants such as those VOCs found within the former lagoons area of Area E, if discharging to the PVS property, along Outfall 011 would disperse within the alluvium and be detected at RFI-PZ -18, RFI-PZ-19, RFI-49 and RFI-40. The groundwater chemistry observed from samples collected at RFI-40 is different than the groundwater chemistry observed in samples collected from monitoring wells downgradient of the former lagoons area located in Area E. Additionally, RFI-40 is located in the general area of a former railroad spur on the PVS property.

- Chlorobenzene

The chlorobenzene concentration detected at RFI-40 (3.1-3.5 mg/l) was higher than the chlorobenzene concentration in BCC wells located downgradient of the former lagoons area in Area E (0.33 mg/l) (from Table 21 of RFI Report).

Chlorobenzene was detected in RFI-32 in the BCC Area E at elevated concentrations (7.3-10 mg/l) but not in groundwater samples from PRB4M (BCC Area E), RFI-36, RFI-51, RFI-48 or RFI-49 (PVS property). This would not be expected to be observed if the BCC property was the active source of this compound detected at RFI-40.

- Aniline

The aniline detection of 0.020 mg/l at RFI-40 in the Round 1 sample was not confirmed by the Round 2 sample. Aniline was not detected in any other groundwater samples from monitoring wells in this area.

- N,N-Diethylaniline

This compound was only detected at RFI-40 at concentrations of 0.010 and 0.019 mg/l. There is no reported groundwater standard or guidance value for this constituent.

- 1,2-Dichlorobenzene

1,2-dichlorobenzene was detected at RFI-40 at (1.4-8 mg/l) which is higher than the reported 1,2- dichlorobenzene concentration in BCC wells located downgradient of the former lagoons area in Area E (0.18 mg/l) (from Table 21 of RFI Report). This would not be expected to be observed if the BCC property was the active source. This compound was also not detected in

samples from wells located upgradient of RFI-40 (i.e. RFI-49, RFI-PZ-19 and RFI-PZ-18).

- Previous Investigations of PVS Property by Other Parties

Investigations on the PVS parcel by other parties regarding the environmental impact of former unlined and lined surface impoundments at the PVS facility did not indicate the presence of organic constituent contamination within the shallow aquifer. The absence of organic constituents in samples collected during these previous investigations is consistent with the absence of organic constituents within samples collected from RFI monitoring points located within the general area of the former impoundments. These former impoundments were located downgradient of Area E and are shown on Figure 2 of the RFI Report.

Inorganic Constituents

- Metals and Sulfate

The concentration of total metals and sulfate detected in samples from this area is generally higher than concentrations of metals in samples from upgradient areas on BCC Area ABCE.

5.3 Conclusions

As a result of completing the RFI activities and review of the second supplemental investigation data and assessment of these findings, the initial conclusions presented in the draft RFI Final Report (Golder Associates, November 1997) regarding off-site migration of hazardous constituents in groundwater from the BCC Area ABCE are supported. These conclusions are:

- Contaminated groundwater is migrating through the shallow aquifer in Area A and is discharging to the Buffalo River, which is a receptor. Hazardous constituents have been detected in the shallow aquifer beneath Area A at concentrations which exceed Class GA groundwater standards. However, neither the shallow aquifer nor the Buffalo River are used as sources of potable water;
- Hazardous constituents detected in the shallow aquifer in Areas B, C and E are not migrating to any significant extent beyond the southern and eastern boundaries of these Areas;

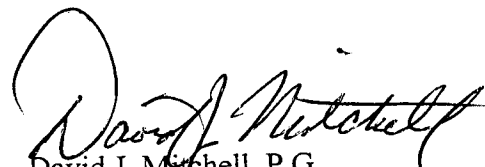
- Hazardous organic constituents have been detected in the shallow aquifer in the area of the riverfront wells RFI-38, RFI-44 and RFI-46 on the PVS property which exceed the Class GA groundwater standards. However, no such exceedances were detected in the monitoring wells located between BCC Area B and these PVS riverfront wells.

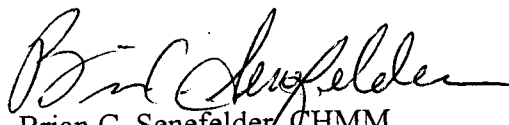
Hazardous organic constituents have also been detected in the shallow aquifer in the area of riverfront well RFI-40 on the PVS property which exceed the Class GA groundwater standards. However, no such exceedances were detected in the monitoring points located between BCC Areas C and E and riverfront well RFI-40.

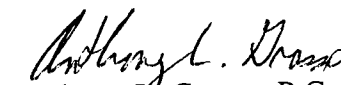
Based on differences in groundwater chemistry and considering over 100 years of continuous operations involving the production of dyestuffs, organic chemicals and inorganic acids and the generation of associated wastes within the study area, the constituents exceeding Class GA groundwater standards detected in the areas of RFI-38, RFI-44, RFI-46 and RFI-40 located on the PVS property cannot be attributed to migration of hazardous constituents in the shallow aquifer on Areas B, C, and E. The source of the hazardous constituents detected on the PVS property has not been determined.

GOLDER ASSOCIATES INC.


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F/N: RFIADDEN.DOC

REFERENCES

Golder Associates Inc., November 1997, "Final Report on RCRA Facility Investigation, Buffalo Color Corporation, Buffalo, New York".

Golder Associates Inc., June 30, 1998, "Buffalo Color Corporation RCRA Facility Investigation Report, Response to NYSDEC Comments, Post-Closure Permit (9-1402-00076/00112-0), EPA I.D. #NYD080335052".

New York State Department of Environmental Conservation, June 1998, "6NYCRR Part 703.5, Table 1".

TABLE 1
 BUFFALO COLOR CORPORATION
 RCRA FACILITY INVESTIGATION
 SUMMARY OF GROUNDWATER ELEVATIONS
 AUGUST 6-7, 1998 MONITORING EVENT

WELL NAME	TOP OF RISER ELEVATION (FT. MSL)	WATER LEVEL (FT. BTOR)	WATER LEVEL ELEVATION (FT. MSL)
BCC PRE-RFI MONITORING WELLS			
R-01	585.10	8.53	576.57
R-02	586.36	8.65	577.71
R-03	587.44	10.49	576.95
R-04	587.21	11.87	575.34
R-05	587.56	12.07	575.49
R-06	586.75	11.36	575.39
R-07	588.48	10.69	577.79
R-08	589.97	8.08	581.89
R-09	589.39	12.18	577.21
R-10	589.26	8.00	581.26
R-11	586.82	6.02	580.80
R-12	586.84	9.13	577.71
R-13	587.54	11.98	575.56
R-14	589.40	14.54	574.86
R-15	588.87	7.43	581.44
BCC PRE-RFI PIEZOMETERS			
PS-01-S	587.33	12.51	574.82
PS-01-N	585.92	11.78	574.14
PS-02-S	586.61	11.22	575.39
PS-02-N	587.38	13.22	574.16
PS-03-S	586.60	11.47	575.13
PS-03-N	586.93	12.42	574.51
PS-04	588.21	5.88	582.33
PS-05	587.86	5.15	582.71
PS-06	588.18	6.42	581.76
PS-07	587.47	5.61	581.86
PS-08	588.27	5.65	582.62
PS-09	588.33	6.37	581.96
PS-10	585.56	DRY	DRY
PS-11	586.17	4.36	581.81
PS-12	586.63	5.78	580.85
PS-13	586.39	4.45	581.94
PS-14	586.00	6.45	579.55
PS-15	587.76	7.64	580.12
W-6R-R	589.04	14.36	574.68

TABLE 1
 BUFFALO COLOR CORPORATION
 RCRA FACILITY INVESTIGATION
 SUMMARY OF GROUNDWATER ELEVATIONS
 AUGUST 6-7, 1998 MONITORING EVENT

WELL NAME	TOP OF RISER ELEVATION (FT. MSL)	WATER LEVEL (FT. BTOR)	WATER LEVEL ELEVATION (FT. MSL)
BCC RFI MONITORING WELLS			
RFI-16	586.34	12.19	574.15
RFI-17	586.24	9.08	577.16
RFI-18	588.64	8.33	580.31
RFI-19D	588.78	14.30	574.48
RFI-20	588.03	5.88	582.15
RFI-21D	588.34	14.25	574.09
RFI-22	590.62	17.17	573.45
RFI-23D	590.88	17.09	573.79
RFI-24	584.11	10.05	574.06
RFI-25	586.76	13.52	573.24
RFI-26	587.84	14.21	573.63
RFI-27	587.52	6.27	581.25
RFI-28	588.60	8.51	580.09
RFI-29	586.33	6.32	580.01
RFI-30	588.04	7.72	580.32
RFI-31	588.37	7.52	580.85
RFI-32	586.95	5.40	581.55
RFI-33	583.04	1.41	581.63
RFI-34	586.17	12.14	574.03
RFI-35	584.77	7.23	577.54
RFI-36	587.90	5.35	582.55
RFI-37	583.84	3.21	580.63
RFI-38	582.76	9.06	573.70
RFI-39	585.29	8.29	577.00
RFI-40	585.78	12.49	573.29
RFI-41	585.40	12.12	573.28
RFI-42	582.89	4.96	577.93
RFI-43	587.01	6.35	580.66
RFI-44	583.27	9.91	573.36
RFI-45	583.18	9.41	573.77
RFI-46	582.72	9.25	573.47
RFI-47	582.88	9.23	573.65
RFI-48	583.00	9.42	573.58
RFI-49	586.17	11.68	574.49
RFI-50	581.82	8.64	573.18
RFI-51	587.41	5.67	581.74

TABLE 1
 BUFFALO COLOR CORPORATION
 RCRA FACILITY INVESTIGATION
 SUMMARY OF GROUNDWATER ELEVATIONS
 AUGUST 6-7, 1998 MONITORING EVENT

WELL NAME	TOP OF RISER ELEVATION (FT. MSL)	WATER LEVEL (FT. BTOR)	WATER LEVEL ELEVATION (FT. MSL)
BCC RFI PIEZOMETERS			
RFI-PZ-16	587.22	6.68	580.54
RFI-PZ-17	586.48	12.32	574.16
RFI-PZ-18	587.83	9.58	578.25
RFI-PZ-19	586.30	12.06	574.24
RFI-PZ-20	586.14	12.00	574.14
RFI-PZ-21	587.01	10.94	576.07
RFI-PZ-22	587.36	6.89	580.47
RFI-PZ-23	587.29	6.57	580.72
RFI-PZ-24	584.85	3.19	581.66
RFI-PZ-25	583.86	3.62	580.24
RFI-PZ-26	585.24	3.81	581.43
RFI-PZ-27	585.29	10.95	574.34
BCC RFI BUFFALO RIVER STILLING WELL	584.04	10.39	573.65

NOTES:

BTOR = Below top of riser.

DRY = No water present in well at time of measurement.

MSL = Mean sea level.

TABLE 2
 BUFFALO COLOR CORPORATION
 RCRA FACILITY INVESTIGATION
 SUMMARY OF GROUNDWATER ELEVATIONS
 AUGUST 19-20, 1998 MONITORING EVENT

WELL NAME	TOP OF RISER ELEVATION (FT. MSL)	WATER LEVEL (FT. BTOR)	WATER LEVEL ELEVATION (FT. MSL)
BCC PRE-RFI MONITORING WELLS			
R-01	585.10	8.95	576.15
R-02	586.36	8.87	577.49
R-03	587.44	10.57	576.87
R-04	587.21	12.39	574.82
R-05	587.56	12.52	575.04
R-06	586.75	11.84	574.91
R-07	588.48	11.20	577.28
R-08	589.97	9.14	580.83
R-09	589.39	12.62	576.77
R-10	589.26	8.73	580.53
R-11	586.82	6.28	580.54
R-12	586.84	9.27	577.57
R-13	587.54	12.00	575.54
R-14	589.40	15.40	574.00
R-15	588.87	7.82	581.05
BCC PRE-RFI PIEZOMETERS			
PS-01-S	587.33	12.87	574.46
PS-01-N	585.92	12.11	573.81
PS-02-S	586.61	11.49	575.12
PS-02-N	587.38	13.55	573.83
PS-03-S	586.60	11.80	574.80
PS-03-N	586.93	12.76	574.17
PS-04	588.21	6.12	582.09
PS-05	587.86	5.23	582.63
PS-06	588.18	6.58	581.60
PS-07	587.47	5.85	581.62
PS-08	588.27	6.04	582.23
PS-09	588.33	6.71	581.62
PS-10	585.56	DRY	DRY
PS-11	586.17	4.99	581.18
PS-12	586.63	5.77	580.86
PS-13	586.39	4.07	582.32
PS-14	586.00	6.80	579.20
PS-15	587.76	7.65	580.11
W-6R-R	589.04	14.69	574.35

TABLE 2
 BUFFALO COLOR CORPORATION
 RCRA FACILITY INVESTIGATION
 SUMMARY OF GROUNDWATER ELEVATIONS
 AUGUST 19-20, 1998 MONITORING EVENT

WELL NAME	TOP OF RISER ELEVATION (FT. MSL)	WATER LEVEL (FT. BTOR)	WATER LEVEL ELEVATION (FT. MSL)
BCC RFI MONITORING WELLS			
RFI-16	586.34	12.24	574.10
RFI-17	586.24	10.03	576.21
RFI-18	588.64	8.72	579.92
RFI-19D	588.78	14.76	574.02
RFI-20	588.03	5.98	582.05
RFI-21D	588.34	14.46	573.88
RFI-22	590.62	17.29	573.33
RFI-23D	590.88	17.18	573.70
RFI-24	584.11	10.48	573.63
RFI-25	586.76	13.32	573.44
RFI-26	587.84	14.36	573.48
RFI-27	587.52	6.41	581.11
RFI-28	588.60	8.68	579.92
RFI-29	586.33	6.34	579.99
RFI-30	588.04	7.85	580.19
RFI-31	588.37	7.64	580.73
RFI-32	586.95	5.73	581.22
RFI-33	583.04	1.72	581.32
RFI-34	586.17	12.49	573.68
RFI-35	584.77	4.57	580.20
RFI-36	587.90	5.35	582.55
RFI-37	583.84	1.42	582.42
RFI-38	582.76	9.22	573.54
RFI-39	585.29	8.66	576.63
RFI-40	585.78	13.00	572.78
RFI-41	585.40	12.65	572.75
RFI-42	582.89	4.88	578.01
RFI-43	587.01	6.72	580.29
RFI-44	583.27	10.38	572.89
RFI-45	583.18	9.63	573.55
RFI-46	582.72	9.40	573.32
RFI-47	582.88	9.45	573.43
RFI-48	583.00	9.69	573.31
RFI-49	586.17	11.98	574.19
RFI-50	581.82	8.95	572.87
RFI-51	587.41	5.77	581.64

TABLE 2
 BUFFALO COLOR CORPORATION
 RCRA FACILITY INVESTIGATION
 SUMMARY OF GROUNDWATER ELEVATIONS
 AUGUST 19-20, 1998 MONITORING EVENT

WELL NAME	TOP OF RISER ELEVATION (FT. MSL)	WATER LEVEL (FT. BTOR)	WATER LEVEL ELEVATION (FT. MSL)
BCC RFI PIEZOMETERS			
RFI-PZ-16	587.22	6.99	580.23
RFI-PZ-17	586.48	12.64	573.84
RFI-PZ-18	587.83	11.04	576.79
RFI-PZ-19	586.30	12.69	573.61
RFI-PZ-20	586.14	12.64	573.50
RFI-PZ-21	587.01	11.35	575.66
RFI-PZ-22	587.36	8.07	579.29
RFI-PZ-23	587.29	7.02	580.27
RFI-PZ-24	584.85	3.49	581.36
RFI-PZ-25	583.86	3.05	580.81
RFI-PZ-26	585.24	3.97	581.27
RFI-PZ-27	585.29	11.60	573.69
BCC RFI BUFFALO RIVER			
STILLING WELL	584.04	10.85	573.19

NOTES:

BTOR = Below top of riser.

DRY = No water present in well at time of measurement.

MSL = Mean sea level.

TABLE 3
BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SUMMARY OF HYDRAULIC CONDUCTIVITY TESTING
SECOND SUPPLEMENTAL INVESTIGATION

WELL ID	HYDRAULIC CONDUCTIVITY (CM/SEC)	SCREENED UNIT
RFI-44	1.81×10^{-3}	ALLUVIUM
RFI-45	7.27×10^{-3}	ALLUVIUM
RFI-46	2.71×10^{-4}	ALLUVIUM
RFI-47	5.28×10^{-5}	ALLUVIUM
RFI-48	1.35×10^{-2}	FILL
RFI-49	1.31×10^{-4}	ALLUVIUM
RFI-50	8.22×10^{-3}	ALLUVIUM
RFI-51	2.26×10^{-5}	FILL/UPPER TILLS

TABLE 4

BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SECOND SUPPLEMENTAL INVESTIGATION
GROUNDWATER ANALYTICAL RESULTS
(ROUND 1 - AUGUST 5-6, 1998)
SHALLOW AQUIFER
(DETECTIONS ONLY)

Analytes (1)	Sample Identification and Concentration (mg/l) (2)										Range		Groundwater Standards (mg/D)(3)
	RFI-44	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RFI-50	RFI-51	RFI-PZ-18	MIN.	MAX.		
Volatile Organic Compounds													
BENZENE	0.11		0.0062							ND	0.11	0.001	
CHLOROBENZENE										ND	ND	0.005	
ETHYLBENZENE	0.04									ND	0.04	0.005	
TETRACHLOROETHENE										ND	ND	0.005	
TOLUENE	0.069		0.0067							ND	0.069	0.005	
M+P-XYLENE	0.14		0.0056							ND	0.14	0.005 each isomer	
O-XYLENE	0.069									ND	0.069	0.005	
ACETONE	0.46									ND	0.46	0.005	
BROMOMETHANE										ND	ND	0.005 *	
CHLOROMETHANE										ND	ND	-	
CHLOROFORM	0.16			0.008 (5)						ND	0.16	0.007	
2-BUTANONE (MEK)	0.056									ND	0.056	0.05 *	
STYRENE	0.01									ND	0.01	0.005	
TOTAL CONCENTRATION	1.114	0	0.0185	0.008	0	0	0	0	0				
Semi-Volatile Organic Compounds													
ACENAPHTHENE										ND	ND	0.02	
ANILINE										ND	ND	0.005	
ANTHRACENE										ND	ND	0.05 *	
BUTYL BENZYL PHTHALATE										ND	ND	0.05 *	
CARBAZOLE										ND	ND	0.005 (4)	
4-CHLOROANILINE										ND	ND	0.005 (4)	
2-CHLOROPHENOL										ND	ND	0.001	
CHRYSENE										ND	ND	0.000002 * / 0.0002 (4)	
DIBENZOFURAN										ND	ND	0.05 (4)	
1,2-DICHLOROBENZENE										ND	ND	0.003	
1,3-DICHLOROBENZENE										ND	ND	0.003	
1,4-DICHLOROBENZENE										ND	ND	0.003	
N,N-DIETHYLANILINE										ND	ND	-	
DIETHYLPHTHALATE										ND	ND	0.05 *	
N,N-DIMETHYLANILINE										ND	ND	0.001	
BIS(2-ETHYLHEXYL)PHTHALATE						0.0051			0.0062	ND	0.0062	0.005	
FLUORANTHENE										ND	ND	0.05 *	
N-METHYLANILINE										ND	ND	0.005	
NAPHTHALENE	2.3		0.024							ND	2.3	0.01 *	

TABLE 4

BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SECOND SUPPLEMENTAL INVESTIGATION
GROUNDWATER ANALYTICAL RESULTS
(ROUND 1 - AUGUST 5-6, 1998)
SHALLOW AQUIFER
(DETECTIONS ONLY)

Analytes (1)	Sample Identification and Concentration (mg/l) (2)										Range		Groundwater Standards (mg/l)(3)
	RFI-44	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RFI-50	RFI-51	RFI-PZ-18	MIN.	MAX.		
1-NAPHTHYLAMINE										ND	ND	0.005 (4)	
2-NAPHTHYLAMINE										ND	ND	0.005 (4)	
NITROBENZENE										ND	ND	0.0004	
N-NITROSODIMETHYLAMINE										ND	ND	0.05 (4)	
N-NITROSODIPHENYLAMINE										ND	ND	0.05 *	
PHENANTHRENE										ND	ND	0.05 *	
PYRENE										ND	ND	0.05 *	
O+P-TOLUIDINE										ND	ND	0.005 each isomer	
1,2,4-TRICHLOROBENZENE										ND	ND	0.005	
HEXACHLOROETHANE										ND	ND	0.005	
2-METHYLNAPHTHALENE	0.46									ND	0.46	0.05 (4)	
2-NITROPHENOL										ND	ND	0.001	
TOTAL CONCENTRATION	2.76	0	0.024	0	0	0.0051	0	0	0.0062				
Metals													
ALUMINUM	1620	12.1	13.8	31.4	42.2	14.5	16.5	1.09	8.28	1.09	1620	-	
ARSENIC					1.17			0.0314		ND	1.17	0.025	
BARIUM	0.388	0.0611	0.0622	0.056	0.268	0.179	0.1	0.0341	0.343	0.0341	0.388	1	
CADMIUM	2.49	0.0324	0.00957	7.77	0.0186					ND	7.77	0.005	
CHROMIUM	0.362	0.0161	0.0138	0.029	0.0878	0.0296	0.0191		0.0244	ND	0.362	0.05	
COBALT	1.81	0.0518	0.122	0.086						ND	1.81	-	
COPPER	1.13	0.088	0.123	0.21	0.254	0.131	0.028		0.22	ND	1.13	0.2	
IRON	4040	18.3	304	22.7	60.8	83.7	164	4.18	19.4	4.18	4040	0.3	
LEAD	0.359	0.0359	0.0188	0.023	0.439	0.188	0.02		0.0367	ND	0.439	0.025	
MANGANESE	42.7	10.9	15.9	4.99	1.98	8.38	5.04	0.564	1.1	0.564	42.7	0.3	
MERCURY	0.00148					0.00031				ND	0.00148	0.0007	
NICKEL	9.1	0.059	0.166	3.79	0.0773					ND	9.1	0.1	
VANADIUM					0.0834					ND	0.0834	0.25 (4)	
ZINC	38.1	1.02	2.57	1.04	5.59	2.97	0.124	0.033	0.312	0.033	38.1	2	
SELENIUM	0.0189									ND	0.0189	0.01	
SILVER		0.0109								ND	0.0109	0.05	
TOTAL CONCENTRATION	5756.46	42.6752	336.785	72.09	112.968	110.078	185.831	5.9325	29.7161				

TABLE 4
BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SECOND SUPPLEMENTAL INVESTIGATION
GROUNDWATER ANALYTICAL RESULTS
(ROUND 1 - AUGUST 5-6, 1998)
SHALLOW AQUIFER
(DETECTIONS ONLY)

Analytes (1)	Sample Identification and Concentration (mg/l) (2)										Range		Groundwater Standards (mg/l)(3)
	RFI-44	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RFI-50	RFI-51	RFI-PZ-18	MIN.	MAX.		
Inorganics													
CHLORIDE	381	159	208	167	466	319	439	30.5	257	30.5	466	250	
TOTAL CYANIDE	0.0238		0.0188							ND	0.0238	0.2	
TOTAL DISSOLVED SOLIDS	33000	3700	8070	3120	3100	3380	8160	3080	984	984	33000	-	
TOTAL HARDNESS	4720	2340	2600	1740	1590	2060	2740	1510	576	576	4720	-	
HEXA VALENT CHROMIUM				0.012						ND	0.0115	0.05	
NITRATE NITROGEN		59.3	76.6	12.7						ND	76.6	10	
NITRATE/NITRITE NITROGEN	0.515	59.3	76.7	12.7						ND	76.7	10	
NITRITE NITROGEN	0.168	0.0191	0.0723		0.0154		0.0555	0.0232		ND	0.168	1	
pH	2.5	6.4	5.6	4.6	6.4	6.8	6.7	7.2	7.0	2.5	7.2	6.5 to 8.5 SU	
TOTAL PHOSPHORUS	14.1	0.259	0.123	0.527	2.09	0.947	1.24	0.134	0.257	0.123	14.1	-	
SULFATE	23800	1700	5520	1970	1400	2000	4960	1890	65.6	65.6	23800	250	
TOTAL SULFIDE										ND	ND	0.05 *	
PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00009	
Alcohols	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-	

Notes:

- (1) Analysis performed in accordance with USEPA Methods identified in Quality Assurance Project Plan (Golder Associates, Inc. 1995).
- (2) Detections only reported. Refer to laboratory results for detection limits.
- (3) Groundwater standards from the NYSDEC's 6NYCRR Part 703 "Ambient Water Quality Standards and Guidance Values", for Class GA groundwaters as amended, June 1998.
NYSDEC Action Levels, Table 1 Groundwater and Soils; Correspondence to Buffalo Color Corporation from NYSDEC, September 10, 1993.
- (4) NYSDEC Contained-In Action Levels, Technical and Administrative Guidance Memorandum No. 3028 (8/26/97).
- (5) Also detected in rinsate blank at similar concentration.

* = Guidance Value

(-) = No standard

pH determined by field measurement.

NA = Not Analyzed

ND = Not Detected

TABLE 5

BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SECOND SUPPLEMENTAL INVESTIGATION
GROUNDWATER ANALYTICAL RESULTS
(ROUND 2 - AUGUST 20, 1998)
SHALLOW AQUIFER
(DETECTIONS ONLY)

Analytes (1)	Sample Identification and Concentration (mg/l) (2)										Range		Groundwater Standards (mg/l)(3)
	RFL-44	RFL-45	RFL-46	RFL-47	RFL-48	RFL-49	RFL-50	RFL-51	RFL-PZ-18	MIN.	MAX.		
Volatile Organic Compounds													
BENZENE	0.089									ND	0.089	ND	0.001
CHLOROBENZENE										ND	ND	ND	0.005
ETHYLBENZENE										ND	ND	ND	0.005
TETRACHLOROETHENE										ND	ND	ND	0.005
TOLUENE			0.005							ND	0.005	ND	0.005
M+P-XYLENE	0.097									ND	0.097	ND	0.005 each isomer
O-XYLENE										ND	ND	ND	0.005
ACETONE	0.26									ND	0.26	ND	0.005
BROMOMETHANE										ND	ND	ND	0.005 *
CHLOROMETHANE										ND	ND	ND	-
CHLOROFORM	0.12			0.008 (5)						ND	0.12	ND	0.007
2-BUTANONE (MEK)										ND	ND	ND	0.05 *
STYRENE										ND	ND	ND	0.005
TOTAL CONCENTRATION	0.566	0	0.005	0.008	0	0	0	0	0				
Semi-Volatile Organic Compounds													
ACENAPHTHENE										ND	ND	ND	0.02
ANILINE										ND	ND	ND	0.005
ANTHRACENE										ND	ND	ND	0.05 *
BUTYL BENZYL PHTHALATE										ND	ND	ND	0.05 *
CARBAZOLE										ND	ND	ND	0.005 (4)
4-CHLOROANILINE										ND	ND	ND	0.005 (4)
2-CHLOROPHENOL										ND	ND	ND	0.001
CHRYSENE										ND	ND	ND	0.000002 * / 0.0002 (4)
DIBENZOFURAN										ND	ND	ND	0.05 (4)
1,2-DICHLOROBENZENE										ND	ND	ND	0.003
1,3-DICHLOROBENZENE										ND	ND	ND	0.003
1,4-DICHLOROBENZENE										ND	ND	ND	0.003
N,N-DIETHYLANILINE										ND	ND	ND	-
DIETHYLPHTHALATE										ND	ND	ND	0.05 *
N,N-DIMETHYLANILINE										ND	ND	ND	0.001
BIS(2-ETHYLHEXYL)PHTHALATE										ND	0	ND	0.005
FLUORANTHENE										ND	ND	ND	0.05 *
N-METHYLANILINE										ND	ND	ND	0.005
NAPHTHALENE	2.2		0.028							ND	2.2	ND	0.01 *

TABLE 5
 BUFFALO COLOR CORPORATION
 RCRA FACILITY INVESTIGATION
 SECOND SUPPLEMENTAL INVESTIGATION
 GROUNDWATER ANALYTICAL RESULTS
 (ROUND 2 - AUGUST 20, 1998)
 SHALLOW AQUIFER
 (DETECTIONS ONLY)

Analytes (1)	Sample Identification and Concentration (mg/l) (2)										Range		Groundwater Standards (mg/l)(3)
	RFI-44	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RFI-50	RFI-51	RFI-PZ-18	MIN.	MAX.		
1-NAPHTHYLAMINE										ND	ND	0.005 (4)	
2-NAPHTHYLAMINE										ND	ND	0.005 (4)	
NITROBENZENE										ND	ND	0.0004	
N-NITROSODIMETHYLAMINE										ND	ND	0.05 (4)	
N-NITROSODIPHENYLAMINE										ND	ND	0.05 *	
PHENANTHRENE										ND	ND	0.05 *	
PYRENE										ND	ND	0.05 *	
O-P-TOLUIDINE										ND	ND	0.005 each isomer	
1,2,4-TRICHLOROBENZENE										ND	ND	0.005	
HEXACHLOROETHANE										ND	ND	0.005	
2-METHYLNAPHTHALENE	0.4									ND	0.4	0.05 (4)	
2-NITROPHENOL										ND	ND	0.001	
TOTAL CONCENTRATION	2.6	0	0.028	0	0	0	0	0	0				
Metals													
ALUMINUM	1490	8.77	6.56	31.4	7.94	0.902	10	1.41	6.12	0.902	1490	-	
ARSENIC		0.0543	0.0583	0.029	0.168		0.0953	0.16	0.0177	ND	0.168	0.025	
BARIUM	0.206	0.0578	0.0411	0.084	0.091	0.0486	0.0746	0.0395	0.344	0.0395	0.344	1	
CADMIUM	2.77	0.0301	0.00879	7.23	0.0143		0.02			ND	7.23	0.005	
CHROMIUM	0.167	0.0119	0.029	0.029	0.0158		0.0119		0.0168	ND	0.167	0.05	
COBALT	0.682		0.0945	0.07						ND	0.682	-	
COPPER	1.08	0.0571	0.0597	0.17	0.0455				0.105	ND	1.08	0.2	
IRON	3590	15.8	275	24.7	24	46.3	142	6.38	14.5	6.38	3590	0.3	
LEAD	0.35	0.0311	0.00913	0.031	0.0901	0.0168	0.0176	0.00721	0.0263	0.00721	0.35	0.025	
MANGANESE	38.3	9.54	14.5	3.75	1.47	8.17	4.56	1.03	0.938	0.938	38.3	0.3	
MERCURY										ND	ND	0.0007	
NICKEL	3.61	0.0476	0.108	3.14						ND	3.61	0.1	
VANADIUM	0.259									ND	0.259	0.25 (4)	
ZINC	34.2	0.865	2	0.834	0.789	2.53	0.0629	0.0247	0.242	0.0247	34.2	2	
SELENIUM	0.093									ND	0.093	0.01	
SILVER	0.0567	0.0109					0.0186			ND	0.0567	0.05	
TOTAL CONCENTRATION	5161.77	35.2758	298.44	71.47	34.6237	57.9674	156.861	9.05141	22.3098				

TABLE 5
BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SECOND SUPPLEMENTAL INVESTIGATION
GROUNDWATER ANALYTICAL RESULTS
(ROUND 2 - AUGUST 20, 1998)
SHALLOW AQUIFER
(DETECTIONS ONLY)

Analytes (1)	Sample Identification and Concentration (mg/l) (2)										Range		Groundwater Standards (mg/l)(3)
	RFI-44	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RFI-50	RFI-51	RFI-PZ-18		MIN.	MAX.	
Inorganics													
CHLORIDE	166	346	200	156	476	349	424	33.8	261		33.8	476	250
TOTAL CYANIDE	0.0263		0.0126								ND	0.0263	0.2
TOTAL DISSOLVED SOLIDS	29400	3540	8380	3040	3120	3670	8000	3640	1010		1010	29400	-
TOTAL HARDNESS	3800	2240	2560	1740	1640	2190	2740	2130	604		604	3800	-
HEXAVALENT CHROMIUM			0.233								ND	0.233	0.05
NITRATE NITROGEN		49.7	18.2	10.3							ND	49.7	10
NITRATE/NITRITE NITROGEN		49.7	18.2	10.3							ND	49.7	10
NITRITE NITROGEN	0.552										ND	0.552	1
pH	4.2	6.3	5.7	4.7	6.4	6.4	6.4	7.1	6.8		4.2	7.1	6.5 to 8.5 SU
TOTAL PHOSPHORUS	12.3	0.21	0.568	0.568	0.646		0.874	0.116	0.5		ND	12.3	-
SULFATE	22100	1500	5400	1920	1300	1310	5000	2420	21.3		21.3	22100	250
TOTAL SULFIDE											ND	ND	0.05 *
PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	0.00009
Alcohols	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	-

Notes:

- (1) Analysis performed in accordance with USEPA Methods identified in Quality Assurance Project Plan (Golder Associates, Inc. 1995).
- (2) Detections only reported. Refer to laboratory results for detection limits.
- (3) Groundwater standards from the NYSDEC's 6NYCRR Part 703 "Ambient Water Quality Standards and Guidance Values", for Class GA groundwaters as amended, June 1998.
NYSDEC Action Levels, Table 1 Groundwater and Soils; Correspondence to Buffalo Color Corporation from NYSDEC, September 10, 1993.
- (4) NYSDEC Contained-In Action Levels, Technical and Administrative Guidance Memorandum No. 3028 (8/26/97).
- (5) Also detected in rinseate blank at similar concentration.

* = Guidance Value

(-) = No standard

pH determined by field measurement.

NA = Not Analyzed

ND = Not Detected

TABLE 6
BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SHALLOW AQUIFER
OFF SITE EXCEEDANCES

Shallow Aquifer Off Site Wells and Piezometers												
Analytes (1)	RFI-34	RFI-35	RFI-36	RFI-37	RFI-38	RFI-39	RFI-40	RFI-41	RFI-42	RFI-43	RFI-44	
Volatile Organic Compounds												
ACETONE											X	
BENZENE											X	
2-BUTANONE											X	
CHLOROBENZENE							X					
CHLOROFORM					X						X	
ETHYLBENZENE												
STYRENE											X	
TOLUENE											X	
M+P XYLENE											X	
O-XYLENE											X	
Semi-Volatile Organic Compounds												
BIS(2-ETHYLHEXYL)PHTHALATE								X	X			
1,2-DICHLOROBENZENE							X					
1,3-DICHLOROBENZENE							X					
1,4-DICHLOROBENZENE							X				X	
2-METHYL NAPHTHALENE											X	
NAPHTHALENE					X						X	
NITROPHENOL					X							
1,2,4-TRICHLOROBENZENE							X					
Metals												
ARSENIC	X			X	X	X	X	X				
CADMIUM					X	X		X			X	
CHROMIUM					X						X	
COPPER					X	X					X	
IRON	X	X	X	X	X	X	X	X	X	X	X	
LEAD					X	X					X	
MANGANESE	X	X	X	X	X	X	X	X		X	X	
MERCURY					X							
NICKEL					X						X	
SELENIUM											X	
ZINC	X				X						X	

TABLE 6
 BUFFALO COLOR CORPORATION
 RCRA FACILITY INVESTIGATION
 SHALLOW AQUIFER
 OFF SITE EXCEEDANCES

Shallow Aquifer Off Site Wells and Piezometers											
Analytes (1)	RFI-34	RFI-35	RFI-36	RFI-37	RFI-38	RFI-39	RFI-40	RFI-41	RFI-42	RFI-43	RFI-44
Inorganics											
CHLORIDE					X			X			
NITRATE/NITRITE NITROGEN	X				X						
pH					X	X		X			X
SULFATE	X	X	X	X	X	X	X	X		X	X
TOTAL SULFIDE						X					

X = Exceedance of groundwater standards from the NYSDEC's part 703 "Ambient Water Quality Standards and Guidance Values", for Class GA groundwaters as amended, June 1998 or NYSDEC Contained-In- Action Levels, Technical and Administrative Guidance Memorandum No. 3028 (8/26/97).

TABLE 6
BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SHALLOW AQUIFER
OFF SITE EXCEEDANCES

Analytes (1)		Shallow Aquifer Off Site Wells and Piezometers									
Volatile Organic Compounds		RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RFI-50	RFI-51	PZ-17	PZ-18	PZ-19
ACETONE											
BENZENE											
2-BUTANONE											
CHLOROBENZENE											
CHLOROFORM											
ETHYLBENZENE											
STYRENE											
TOLUENE			X								
M+P XYLENE											
O-XYLENE											
Semi-Volatile Organic Compounds											
BIS(2-ETHYLBENZYL)PHTHALATE									X		
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
2-METHYLNAPHTHALENE											
NAPHTHALENE			X								
NITROPHENOL											
1,2,4-TRICHLOROBENZENE											
Metals											
ARSENIC					X			X			
CADMIUM	X		X	X	X						X
CHROMIUM											
COPPER											
IRON	X		X	X	X	X	X	X	X	X	X
LEAD	X				X					X	
MANGANESE	X		X	X	X	X	X	X	X	X	X
MERCURY											
NICKEL			X	X							
SELENIUM											
ZINC			X			X					

TABLE 6
BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
SHALLOW AQUIFER
OFF SITE EXCEEDANCES

Analytes (1)	Shallow Aquifer Off Site Wells and Piezometers									
	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RFI-50	RFI-51	PZ-17	PZ-18	PZ-19
Inorganics										
CHLORIDE				X	X	X			X	
NITRATE/NITRITE NITROGEN	X	X	X							
pH	X	X	X	X						X
SULFATE	X	X	X	X	X	X	X			X
TOTAL SULFIDE										

X = Exceedance of groundwater standards from the NYSDEC's part 703 "Ambient Water Quality Standards and Guidance Values", for Class GA groundwaters as amended, June 1998 or NYSDEC Contained-In- Action Levels, Technical and Administrative Guidance Memorandum No. 3028 (8/26/97).

TABLE 7
BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
AREA ABCE
SUMMARY OF CONSTITUENTS
EXCEEDING ACTION LEVELS

Analytes	Media				
	Area ABCE	Area ABCE	Area ABCE (1)	Off-Site	Area ABCE (1)
Volatile Organic Compounds	Soil	Shallow Aquifer Perimeter Wells	Shallow Aquifer Interior Monitoring Wells	Shallow Aquifer	Confined Aquifer
ACETONE			X	X	
BENZENE			X	X	X
2-BUTANONE				X	
CHLOROBENZENE	X	X	X	X	X
CHLOROFORM			X	X	
1,1-DICHLOROETHANE			X		
1,1-DICHLOROETHENE			X		
ETHYLBENZENE			X	X	X
METHYLENE CHLORIDE			X		
STYRENE				X	
TETRACHLOROETHENE		X			
1,1,1-TRICHLOROETHANE			X		
TOLUENE			X	X	X
M+P-XYLENE			X	X	X
O-XYLENE			X	X	X
Semi-Volatile Organic Compounds					
ANILINE	X		X		X
BENZO(A)ANTHRACENE	X				
BENZO(A)PYRENE	X				
BENZO(B)FLUORANTHENE	X				
BENZO(K)FLUORANTHENE	X				
CARBAZOLE	X		X		
4-CHLOROANILINE			X		
2-CHLOROPHENOL			X		
CHRYSENE	X				
DIBENZOFURAN	X				
1,2-DICHLOROBENZENE			X	X	
1,3-DICHLOROBENZENE			X	X	
1,4-DICHLOROBENZENE			X	X	
N,N-DIMETHYLANILINE			X		
2,4-DINITROTOLUENE			X		
2,6-DINITROTOLUENE			X		
3-NITROANILINE			X		
BIS(2-ETHYLHEXYL)PHTHALATE			X	X	
INDENO(1,2,3-CD)PYRENE	X				
N-METHYLANILINE			X		
2-METHYL NAPHTHALENE				X	
1-NAPHTHYLAMINE			X		
2-NAPHTHYLAMINE			X		
NAPHTHALENE	X		X	X	
NITROBENZENE	X		X		
NITROPHENOL				X	
N-NITROSODIPHENYLAMINE			X		
O+P-TOLUIDINE			X		
1,2,4-TRICHLOROBENZENE	X	X	X	X	

TABLE 7
BUFFALO COLOR CORPORATION
RCRA FACILITY INVESTIGATION
AREA ABCE
SUMMARY OF CONSTITUENTS
EXCEEDING ACTION LEVELS

Analytes	Media				
	Area ABCE	Area ABCE	Area ABCE (1)	Off-Site	Area ABCE (1)
Metals					
ARSENIC	X		X	X	
BARIUM			X		
CADMIUM	X		X	X	
CHROMIUM	X	X	X	X	
COPPER	X		X	X	
IRON	X	X	X	X	X
LEAD		X	X	X	
MANGANESE	X	X	X	X	
MERCURY	X		X	X	
NICKEL	X		X	X	
SELENIUM	X		X	X	
VANADIUM			X		
ZINC		X	X	X	
Inorganics	Soil	Shallow Aquifer Perimeter Wells	Shallow Aquifer Interior Monitoring Wells	Shallow Aquifer	Confined Aquifer
CHLORIDE	NA	X	X	X	X
TOTAL CYANIDE	X		X		
NITRATE/NITRITE NITROGEN	NA			X	
pH	NA	X	X	X	X
SULFATE	NA	X	X	X	X
TOTAL SULFIDE	NA		X	X	X
PCBs				NA	
Alcohols	NA			NA	

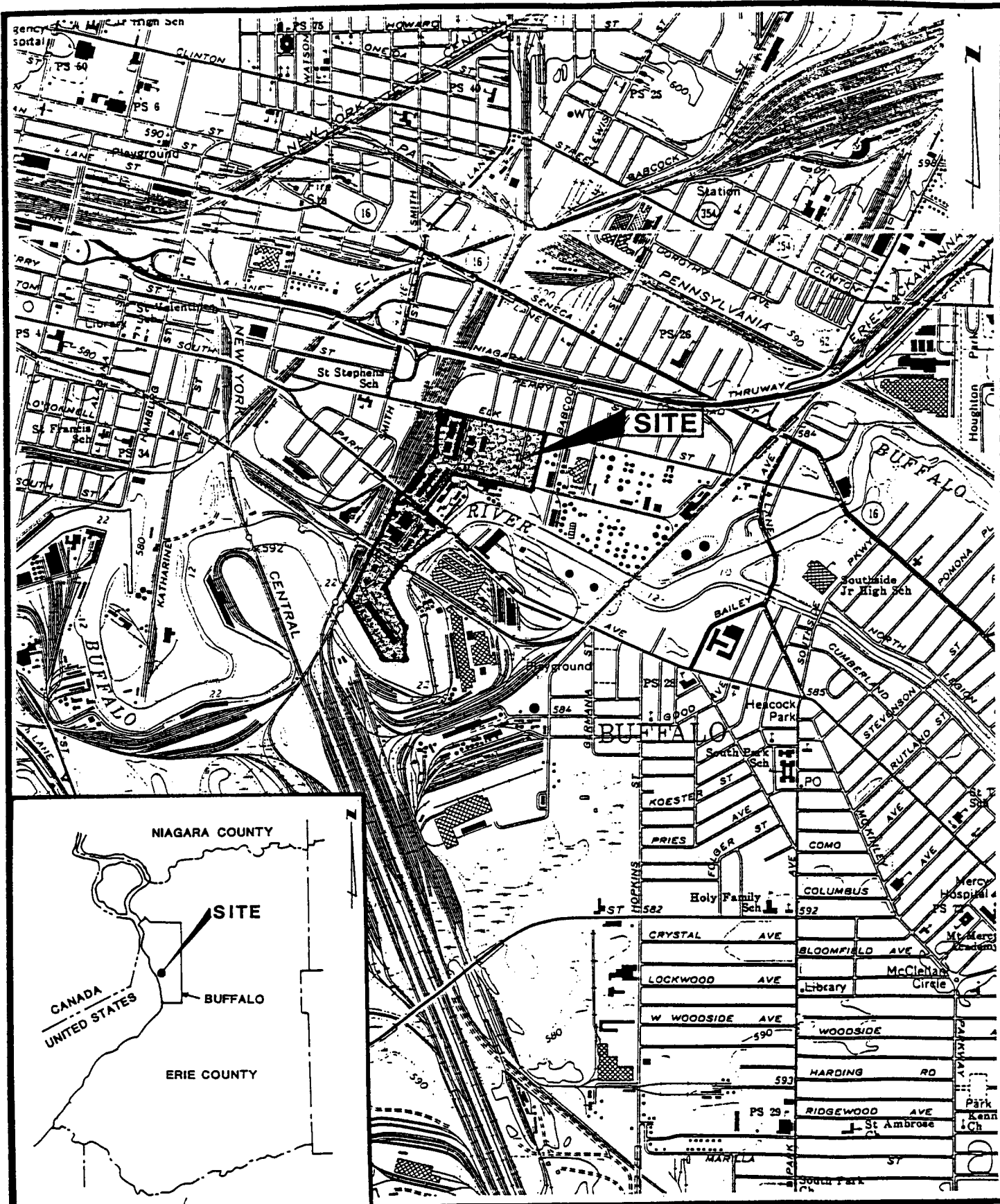
X = Exceedance of groundwater standards from the NYSDEC's Part 703 "Ambient Water Quality Standards and Guidance Values", for Class GA groundwaters as amended, June 1998 or NYSDEC Contained-In Action Levels, Technical and Administrative Guidance Memorandum No. 3028 (8/26/97). Soil sample exceedances were also compared to reported typical background soil concentrations (NYSDOH Seneca-Babcock Neighborhood Soil Sampling Program, Draft Technical Report, October 1996) and NYSDEC Soil Clean-up Objectives (NYSDEC TAGM HWR-94-4046, 1/24/94) adjusted for 5.3% soil organic carbon content.

- (1) Includes data from Table 21 from Buffalo Color Corporation monitoring of former Lagoons 1, 2, and 3 wells, interior Area ABCE RFI wells and groundwater multiple-depth borings.

Note: NA = Not analyzed.

Soil samples were not analyzed for alcohols. Off site shallow aquifer samples were not analyzed for PCBs or alcohols.

Perimeter wells are wells on perimeter of Area ABCE along Conrail Railroad and Elk Street.



**Golder
Associates**

Buffalo, New York

CLIENT/PROJECT



buffalo
COLOR CORPORATION

TITLE

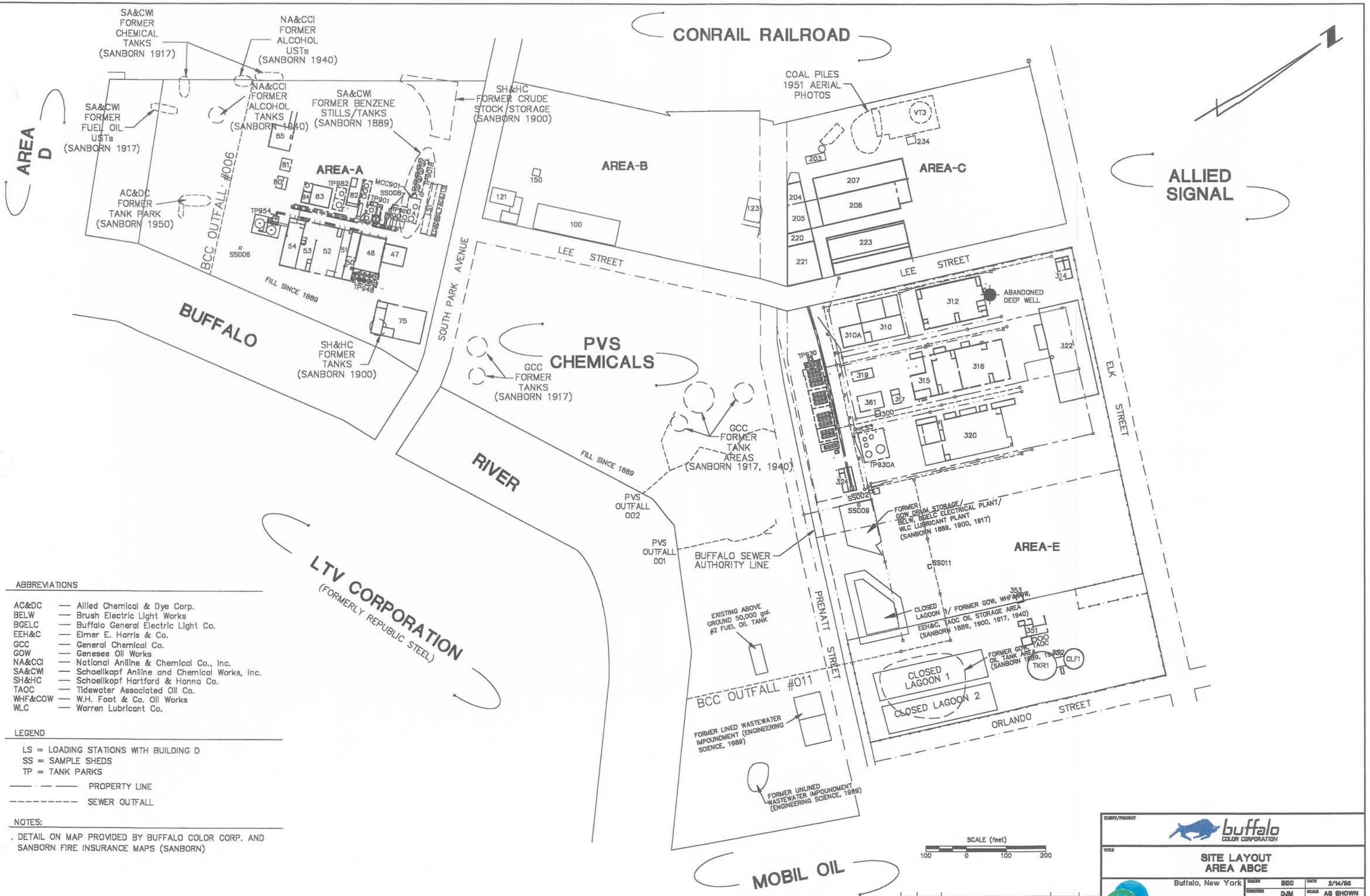
SITE LOCATION MAP

DRAWN	BEC	DATE	2/7/85	JOB NO.	963-9117
CHECKED	CPP	SCALE	N.T.S.	DWD NO./REV. NO.	6
REVIEWED	CPP	FILE NO.	933-9058	FIGURE NO.	1

AREA D

CONRAIL RAILROAD

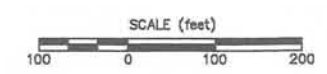
ALLIED SIGNAL



- ABBREVIATIONS
- AC&DC — Allied Chemical & Dye Corp.
 - BELW — Brush Electric Light Works
 - BGELC — Buffalo General Electric Light Co.
 - EEH&C — Elmer E. Harris & Co.
 - GCC — General Chemical Co.
 - GOW — Genesee Oil Works
 - NA&CCI — National Aniline & Chemical Co., Inc.
 - SA&CW — Schoellkopf Aniline and Chemical Works, Inc.
 - SH&HC — Schoellkopf Hartford & Hanna Co.
 - TAOC — Tidewater Associated Oil Co.
 - WHF&COW — W.H. Foot & Co. Oil Works
 - WLC — Warren Lubricant Co.

- LEGEND
- LS = LOADING STATIONS WITH BUILDING D
 - SS = SAMPLE SHEDS
 - TP = TANK PARKS
 - PROPERTY LINE
 - SEWER OUTFALL

NOTES:
1. DETAIL ON MAP PROVIDED BY BUFFALO COLOR CORP. AND SANBORN FIRE INSURANCE MAPS (SANBORN)



CLIENT/PROJECT		buffalo COLOR CORPORATION	
TITLE		SITE LAYOUT AREA ABCE	
Buffalo, New York		DATE	2/14/88
DESIGNED	BEC	SCALE	AS SHOWN
DRAWN	DJM	JOB NO.	888-0117
APPROVED	BCS	DATE	8
FILE NO.	888-0088	PROJECT	2




APPENDIX A
FIELD BORING LOGS

Buffalo Color Corporation Supplemental Investigation Monitoring Well and Boring Logs Generalized Stratigraphic Unit Description key

<u>UNIT</u>	<u>GENERALIZED DESCRIPTION</u>
FILL	Variable proportions of gravel and foundry sand, sand, silt, brick and re-worked clay and silt till.
UPPER TILLS	Soft to firm, light brown to brown-gray, Silty Clay to Sandy Clay.
ALLUVIUM	Very loose to compact, gray to brown, fine to coarse SAND, less commonly Clayey Silt to Clayey Sand, occasionally interbedded with gravel and thin seams of leaves and/or wood bits.
GLACIOLACUSTRINE CLAY	Soft to very soft, brown-gray, Silty Clay to Clay with reddish brown to brown varving and occasional interbedded fine sand seams.

NOTES

1. The stratigraphic descriptions presented above are summarized from individual samples obtained at each boring. Consequently, minor deviations from these "type" descriptions may be observed within individual sample descriptions.

 Golder Associates Buffalo, New York		STRATIGRAPHIC UNIT DESCRIPTION KEY					
		DRAWN	BEC	DATE	11/19/98	JOB NO.	963-9117
CLIENT/PROJECT BUFFALO COLOR CORPORATION RCRA FACILITY INVESTIGATION (RFI)		CHECKED	DJM	SCALE	N/A	DWG NO.	BCC-020
		REVIEWED		FILE NO.	963-9117	FIGURE NO.	KEY

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>40 FT</u>	JOB NO. <u>913-9117</u>	PROJECT <u>BCC / RFI / NY</u>	BORING NO. <u>RFI-44</u>
DEPTH SOIL DRILL <u>40 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>1</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>583.8</u>
NO. DIST. SA. <u>0</u> UO. SA. <u>18</u>	TEMP <u>85°F</u>	DRILL RIG <u>CME-75</u>	DATUM <u>MSL</u>
DEPTH WL. <u>N/A</u>	HRS. PROG. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	DROP <u>30 INCH</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	DROP <u>N/A</u>
			STARTED <u>12:05 / 7/20/98</u>
			COMPLETED <u>14:30 / 7/20/98</u>

SAMPLE TYPES	ABBREVIATIONS	SOIL DESCRIPTION - RANGE OF PROPORTION
AS AUGER SAMPLE CS CHURN SAMPLE OS DRIVE OPEN QS DEPTH SAMPLE PS PITCHER SAMPLE RC ROCK CORE ST SLOTTED TUBE TO THINWALLED, OPEN TP THINWALLED, PISTON WS WASH SAMPLE	BL BLACK BR BROWN C COARSE CL CLAY CLZ CLAYEY F FINE FRAG FRAGMENTS GL GRAVEL LTO LAYERED U LITTLE M MEDIUM MC MICACEOUS MCT MOTTLED NP NON-PLASTIC OG ORANGE ORG ORGANIC PH PRESSURE-HYDRAULIC PM PRESSURE-MANUAL R RED RES RESIDUAL RO ROCK SA SAMPLE SAT SATURATED SD SAND SI SILT SILT SILTY SM SOME TR TRACE WL WATER LEVEL WH WEIGHT OF HAMMER Y YELLOW	"TRACE" 0 - 1% LITTLE 1 - 10% SOME 10 - 30% MUCH 30 - 50% ALL FIVE DENSITY BLOWS VERY LOOSE 1-5 U-1 LOOSE 5-10 U-10 COMPACT 10-30 U-30 DENSE 30-50 U-50 VERY DENSE 50-100 U-100 CONSISTENCY VERY SOFT VS SOFT S FIRM F STIFF ST VERY STIFF VS HARD H JELLY J PLASTIC PL NON-PLASTIC NP LIQUID L SOLID S RIGID R VERY RIGID VR HARD H JELLY J PLASTIC PL NON-PLASTIC NP LIQUID L SOLID S RIGID R VERY RIGID VR HARD H

ELEV. DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES			DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	REMARKS (PER 6 IN. FORCE)		
	<u>FILL</u>						0-4 FT Augered without Sampling.
2							
4							
6		1	SS	1, 1	1.0 / 2.0		4-6 FT Loose, black to purple to brown, SAND with some gravel.
8		2	SS	WH, WH	1.4 / 2.0		6-8 FT V. loose, brown, SILT with some clay.
10							8-10 FT As above with trace iron-oxide colored fissure infillings.
12							10-12 FT As above
14							12-14 FT Loose, brown-gray, SILT with little clay, trace of 1/8" thick sand seams.
14.2	<u>ALLUVIUM</u>						14-16 FT As above to 14.2 FT then loose, reddish-brown, SAND and GRAVEL with trace clay.
16		6	SS	8, 8	1.4 / 2.0		16-18 FT As above but brown.
18		7	SS	WH, 2	1.0 / 2.0		18-20 FT As above.
20		8	SS	1, 2	0.9 / 2.0		20-22 FT As above
22		9	SS	2, 1	0.8 / 2.0		

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>40 FT</u>	JOB NO. <u>963-9117</u>	PROJECT <u>BCC / AFE / NY</u>	BORING NO. <u>RFE-44</u>
DEPTH SOIL DRILL <u>40 FT</u>	QA INSP. <u>D. W. EHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>2</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>583.8</u>
NO. DIST. SA. <u>0</u> UG. SA. <u>18</u>	TEMP. <u>85°F</u>	DRILL RIG <u>CME-75</u>	DRILLER <u>D. BUTZER</u>
DEPTH WL. <u>N/A</u>	MRS. PROG. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	GRAP <u>30 INCH</u>
TIME WL. <u>N/A</u>	MRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	GRAP <u>N/A</u>
			STARTED <u>12:05, 7/20/88</u>
			COMPLETED <u>17:30, 7/20/88</u>

SAMPLE TYPES			ABBREVIATIONS			SOIL DESCRIPTION - RANGE OF PROPORTION		
A.S. AUGER SAMPLE	BL BLACK	W MEDIUM	SA SATURATED	TRACE 0-1%	11-20% 21-40% 41-60% 61-80% 81-100%	RELATIVE DENSITY	BLOWS	CONSISTENCY
C.L. CHURN SAMPLE	BR BROWN	WIC WICKACIOUS	SD SAND	1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100
O.O. DRIVE OPEN	CO COARSE	WOT WOTTLED	SH SILT	1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100
O.S. OENISON SAMPLE	CL CLAY	OG ORANGE	SM SOME	1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100
P.S. PITCHER SAMPLE	CLY CLAYEY	ORG ORGANIC	TR TRACE	1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100
R.C. ROCK CORE	FIN FINE	PH PRESSURE-HYDRAULIC	WL WATER LEVEL	1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100
S.T. SLOTTED TUBE	FRAG FRAGMENTS	PM PRESSURE-MANUAL	WT WEIGHT OF HAMMER	1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100
T.O. THIN-WALLED, OPEN	GL GRAVEL	R RESIDUAL	Y YELLOW	1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100
T.P. THIN-WALLED, PISTON	LTO LATERED	RES ROCK		1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100
W.S. WASH SAMPLE	U LITTLE			1-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% 41-45% 46-50% 51-55% 56-60% 61-65% 66-70% 71-75% 76-80% 81-85% 86-90% 91-95% 96-100%	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100	VERY LOOSE VS LOOSE CP 10-30 HARD ST 31-50 VERY ST 51-100

ELEV DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES				DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	WATER, BLOWS PER 6 IN (POUNCE)	REC. ATT		
24	ALLOUVIUM		10	SS	WH, WH 1, 1	1.2 2.0		22-24 FT Loose, brown-gray, SAND and GRAVEL with some silt and clay
26			11	SS	1, 2 2, 3	0.9 2.0		24-26 FT Loose brown, SILT with some clay, 2-inch thick sand lens, little silt.
28			12	SS	1, 2 2, 3	1.4 2.0		26-28 FT Loose, brown-gray SILT and SAND with little clay.
30			13	SS	WH, WH WH, 2	1.6 2.0		28-30 FT As above
32			14	SS	1, 2 4, 5	1.6 2.0		30-32 FT As above to 31.2 FT then loose brown to gray-brown, SAND with little silt, trace clay.
34			15	SS	WH, 2 15, 17	1.7 2.0		32-34 FT Loose gray-brown SAND with trace silt clay to 31 FT then compact, red-orange, SAND and GRAVEL with trace wood, clay, and silt.
36			16	SS	49, 4 3, 4	0.6 2.0		34-36 FT Loose, brown SAND and GRAVEL with trace silt, clay.
36.5	GLACIOLACUSTRINE CLAY		17	SS	2, 1 WH, 1	1.2 2.0		36-38 FT V. soft, red-brown CLAY with little silt, trace varving.
38	END OF AUGER BOREHOLE		18	SS	1, 1 1, 1	1.9 2.0		38-40 FT As above.
40	END OF SAMPLING							No detections on OVM
42								No detections on Dräger acid gas tubes.
44								

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>36 FT</u>	JOB NO. <u>963-9117</u>	PROJECT <u>BCC / AFE / NY</u>	BORING NO. <u>AFE-45</u>
DEPTH SOIL DRILL <u>36 FT</u>	QA INSP. <u>D. W. EHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>1</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>583.5</u>
NO. DIST. SA. <u>0</u> UO. SA. <u>1</u>	TEMP. <u>86°F</u>	DRILL RIG <u>CME-75</u>	DRILLER <u>D. BUTZER</u>
DEPTH WL. <u>N/A</u>	HRS. PROD. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	DROP <u>30 INCH</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	DROP <u>N/A</u>
			STARTED <u>14:40, 7/16/98</u>
			COMPLETED <u>9:00, 7/17/98</u>

SAMPLE TYPES		ABBREVIATIONS										SOIL DESCRIPTION - RANGE OF PROPORTION									
1. S.	AUGER SAMPLE	BL	BLACK	W	MEDIUM	SA	SAMPLE	TRACE	0.1%	SOME	1% - 10%	RELATIVE DENSITY	VS	VERY LOOSE	VS	0	VS	VERY SOFT	VS	1/2 HOURS	
2. S.	CHURN SAMPLE	BR	BROWN	WIC	WICKED	SAT	SATURATED	LITTLE	5 - 10%	AND	30% - 50%	LOOSE	LS	1 - 10	SOFT	1	SOFT	1	SOFT	1	
3. S.	CHURN SAMPLE	C	COARSE	WOT	WOTTED	SD	SAND					COMPACT	CP	10 - 30	AND	100	WOLLY	100	WOLLY	100	
4. S.	DRIVE OPEN	CA	CLAYING	NP	NON-PLASTIC	SI	SILT					DN	DENSE	30 - 50	ST	ST	ST	ST	ST	ST	
5. S.	DENISON SAMPLE	CL	CLAY	OG	ORANGE	SIT	SILT					VS	VERY LOOSE	VS	0	VS	VERY SOFT	VS	1/2 HOURS	1/2 HOURS	
6. S.	PITCHER SAMPLE	CLT	CLAYEY	ORG	ORGANIC	SOM	SOME					LOOSE	LS	1 - 10	SOFT	1	SOFT	1	SOFT	1	
7. S.	ROCK CORE	F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE					COMPACT	CP	10 - 30	AND	100	WOLLY	100	WOLLY	100	
8. S.	SLOTTED TUBE	FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL					DN	DENSE	30 - 50	ST	ST	ST	ST	ST	ST	
9. S.	THUMBALLED, OPEN	GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER					VERY DENSE	VON	50	AND	100	WOLLY	100	WOLLY	100	
10. S.	THUMBALLED, PISTON	LTO	LAYERED	RES	RESIDUAL	Y	YELLOW														
11. S.	WASH SAMPLE	U	LITTLE	RO	ROCK																

ELEV. DEPTH	DESCRIPTION	BLOWS FT	SAMPLES				DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	HAMMER BLOWS PER 6 IN. (FORCE)	REC. ATT.		
	<u>FILL</u>							0-2 FT Augered through approx. 8 inches of concrete then crushed stone.
2			1	SS	3, 1 2, 3	0.1 2.0		2-4 FT Crushed limestone fragment blocked spoon.
4			2	SS	1, 1 2, 2	1.3 2.0		4-6 FT Soft, brown, SILTY CLAY.
6			3	SS	1, 2 3, 2	1.5 2.0		6-8 FT Loose, brown, SILT and SAND with several one to two-inch thick sand layers, little clay.
8			4	SS	1, 1 3, 3	1.6 2.0		8-10 FT Soft, gray to mottled brown, SILTY CLAY with several one to two-inch thick sand layers.
10			5	SS	1, 2 3, 3	1.6 2.0		10-12 FT As above with one one-inch thick sand layer.
12	<u>ALLUVIUM</u>		6	SS	WH, WH WH, WH	2.0 2.0		12-14 FT V. loose, brown-gray, CLAYEY SILT grading to SAND with little silt and clay.
14			7	SS	WH, WH WH, WH	1.7 2.0		14-16 FT V. loose, brown-gray SILT and SAND with some clay.
16			8	SS	WH, WH WH, 2	2.0 2.0		16-18 FT As above with trace leaves, 2-inch plug of wood in spoon tip.
18			9	SS	1, 1 1, 2	1.8 2.0		18-20 FT V. loose, brown-gray SAND with trace gravel, silt, leaves.
20			10	SS	2, 2 3, 4	1.6 2.0		20-22 FT As above with trace wood.
22								

Golder Associates Field Boring Log

DEPTH HOLE <u>36 FT</u>	JOB NO. <u>913-9117</u>	PROJECT <u>BCC / RFI / NY</u>	BORING NO. <u>RFI-46</u>
DEPTH SOIL DRILL <u>36 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>1</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>583.4</u>
NO. DIST. SA. <u>0</u>	UO. SA. <u>17</u>	DRILL RIG <u>CME-75</u>	DATUM <u>MSL</u>
TEMP. <u>80°F</u>	HRS. PROG. <u>N/A</u>	DRILLER <u>D. BUTZER</u>	STARTED <u>12:30 7/13/98</u>
DEPTH WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	COMPLETED <u>16:30 7/13/98</u>
TIME WL. <u>N/A</u>		WT. CASING HAMMER <u>N/A</u>	
		DROP <u>30 INCH</u>	
		DROP <u>N/A</u>	

SAMPLE TYPES		ABBREVIATIONS		SOIL DESCRIPTION - RANGE OF PROPORTION	
AS AUGER SAMPLE	BL BLACK	MC MEDIUM	SA SATURATED	TRACE 0.1%	VERY DENSE 100%
CS CHISEL SAMPLE	BR BROWN	MC MUCOUS	SD SAND	LITTLE 1.1%	VERY DENSE 100%
OS DRIVE OPEN	CA COARSE	WT WOTLED	SI SILT		
OS DENISON SAMPLE	CS CASING	NP NONPLASTIC	SM SILT		
PS PITCHER SAMPLE	CL CLAY	OG ORANGE	SM SOME		
RC ROCK CORE	CLY CLAY	OG ORANGE	SM SOME		
ST SLOTTED TUBE	CLY CLAY	OG ORANGE	SM SOME		
TQ THINWALLED, OPEN	CLY CLAY	OG ORANGE	SM SOME		
TP THINWALLED, PISTON	CLY CLAY	OG ORANGE	SM SOME		
WS WASH SAMPLE	CLY CLAY	OG ORANGE	SM SOME		

ELEV. DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES			SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	REC. ATT.	
	<u>FILL</u>					0-2 FT Augered through driveway - no sample.
2			1	SS	30, 23 15, 9 0.9 2.0	2-4 FT Loose, almost black, SILT and SAND (slag) with some clay, angular gravel.
4			2	SS	4, 1 1, 1 0.8 2.0	4-6 FT As above to 5.6 FT then V. loose brown-gray, SILT with little clay.
6			3	SS	WH, WH 2, 2 1.8 2.0	6-8 FT As above grading to stiff brown-gray SILT and CLAY with trace iron-oxide colored mottling.
8			4	SS	1, 1 2, 4 1.7 2.0	8-10 FT Stiff to firm, brown-gray, SILTY CLAY with trace iron-oxide colored mottling.
10			5	SS	1, 4 5, 8 1.7 2.0	10-12 FT As above
12			6	SS	1, 1 1, 2 1.8 2.0	12-14 FT As above with approx. 4 one-inch thick SILT seams.
14			7	SS	1, 1 1, 2 1.7 2.0	14-16 FT As from 8-10 FT above to 14.4 FT, then loose dark brown-gray, SILT with little clay, little fine to coarse sand seams approx. 1-inch thick, trace leaves and wood.
14.4	<u>ALLUVIUM</u>		8	SS	3, 5 6, 8 1.8 2.0	16-8 FT loose, dark brown-gray SILT and SAND with little clay, one coarse sand seam 3-inches thick, trace leaves.
16			9	SS	1, 2 1, 2 2.0 2.0	18-20 FT As above with several small sand seams.
18			10	SS	WH, WH 1, 2 2.0 2.0	20-22 FT Loose, dark brown-gray, SILT to SAND and SILT with little to some clay, trace leaves.
20						
22						

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>36 FT</u>	JOB NO. <u>913-9117</u>	PROJECT <u>BCC / RFI / NY</u>	BORING NO. <u>RFI - 46</u>
DEPTH SOIL DRILL <u>36 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>2</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>683.4</u>
NO. DIST. SA. <u>0</u>	UG. SA. <u>17</u>	TEMP. <u>80°F</u>	DRILL RIG <u>CME-75</u>
DEPTH WL. <u>N/A</u>	HRS. PROD. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	DRILLER <u>D. BUTZER</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	DATE <u>MSL</u>
		OROP <u>30 INCH</u>	STARTED <u>12:30 7/13/98</u>
		OROP <u>N/A</u>	COMPLETED <u>16:30 7/13/98</u>

SAMPLE TYPES		ABBREVIATIONS		SOIL DESCRIPTION - RANGE OF PROPORTION	
AS AUGER SAMPLE	AL BLACK	MC MEDIUM	SA SATURATED	TRACE 0.1%	VERY DENSE 100%
CS CHINA SAMPLE	BR BROWN	MC MUCOUS	SD SAND	LITTLE 1.1%	VERY DENSE 100%
OS DRIVE OPEN	CA COARSE	MC MOTTLED	SI SILT	VERY LOOSE 1.5	VERY DENSE 100%
OS DEHSION SAMPLE	CS CASING	MC NON-PLASTIC	SM SILT	LOOSE 1.5	VERY DENSE 100%
OS INTERFER SAMPLE	CL CLAY	MC ORANGE	SM SILT	COMPACT 1.5	VERY DENSE 100%
OS ROCK CORE	CL CLAYEY	MC ORANGE	SM SILT	COMPACT 1.5	VERY DENSE 100%
OS SLOTTED TUBE	F FINE	MC PRESSURE-HYDRAULIC	SM SILT	COMPACT 1.5	VERY DENSE 100%
OS THINWALLED, OPEN	FR FRAGMENTS	MC PRESSURE-MANUAL	SM SILT	COMPACT 1.5	VERY DENSE 100%
OS THINWALLED, PISTON	GL GRAVEL	MC RESIDUAL	SM SILT	COMPACT 1.5	VERY DENSE 100%
OS WASH SAMPLE	LI LAYERED	MC RESIDUAL	SM SILT	COMPACT 1.5	VERY DENSE 100%
	LI LITTLE	MC RESIDUAL	SM SILT	COMPACT 1.5	VERY DENSE 100%

ELEV. DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES			DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	REMARKS		
24	ALLOUVIUM		11	SS	WH, WH 1, 1 1.9 2.0	22-24 FT	As above
			12	SS	WH, WH WH, 2 2.0 2.0	24-26 FT	As above with med. to coarse sand seam from 25.6 FT to 26.0 FT.
26			13	SS	WH, WH 2, 24 1.9 2.0	26-28 FT	Loose, dark brown-gray, med. to coarse SAND to 27.6 FT, then wood.
28			14	SS	100/0.5 0.8/5	28-28.5 FT	Loose, dark brown, SILT, SAND and GRAVEL with little clay.
30			15	SS	4, 1 1, 1 1.8 2.0	30-32 FT	As above. Soft CLAY stuck to outside lower half of spoon. Granular material may not be representative of formation.
31.0	GLACIOLACUSTRINE		16	SS	WH, WH WH, WH 0.4 2.0	32-34 FT	Loose, dark brown, coarse SAND, soft CLAY stuck to outside of spoon, sand probably not representative of formation.
32	CLAY		17	SS	1, 1 WH, WH 1.8 2.0	34-36 FT	1/2 soft, brown-gray CLAY with some silt, very faint reddish varving.
34	END OF AUGER BOREHOLE						
36	END OF SAMPLING						
38							
40							No detections on OVM.
42							No detections on Dräger acid gas tubes.
44							

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>32 FT</u>	JOB NO. <u>963-9117</u>	PROJECT <u>BCE / RFE / NY</u>	BORING NO. <u>RFE-47</u>
DEPTH SOIL DRILL <u>32 FT</u>	QA INSP. <u>D. W. EHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>1</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>583.6</u>
NO. DIST. SA. <u>0</u> NO. SA. <u>16</u>	TEMP. <u>85°F</u>	DRILL RIG <u>CME-75</u>	DRILLER <u>D. BUTZER</u>
DEPTH WL. <u>N/A</u>	HRS. PROD. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	DROP <u>30 INCH</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	DROP <u>N/A</u>
			DATUM <u>MSL</u>
			STARTED <u>8:00 7/15/98</u>
			COMPLETED <u>12:20 7/15/98</u>

SAMPLE TYPES				ABBREVIATIONS				SOIL DESCRIPTION - RANGE OF PROPORTION																																																																																											
1. S. MUGER SAMPLE	2. S. CHINA SAMPLE	3. S. DRIVE OPEN	4. S. DENISON SAMPLE	5. S. PITCHER SAMPLE	6. S. ROCK CORE	7. S. SLOTTED TUBE	8. S. THINWALLED, OPEN	9. S. THINWALLED, PISTON	10. S. WASH SAMPLE	11. M. BLACK	12. M. BROWN	13. M. COARSE	14. M. CLAY	15. M. CLAYEY	16. M. FINE	17. M. FRAGMENTS	18. M. GRAVEL	19. M. LAYERED	20. M. LITTLE	21. M. MEDIUM	22. M. HEAVY	23. M. VERY HEAVY	24. M. SATURATED	25. M. SAND	26. M. SILT	27. M. SILTY	28. M. SILTY	29. M. SILTY	30. M. SILTY	31. M. SILTY	32. M. SILTY	33. M. SILTY	34. M. SILTY	35. M. SILTY	36. M. SILTY	37. M. SILTY	38. M. SILTY	39. M. SILTY	40. M. SILTY	41. M. SILTY	42. M. SILTY	43. M. SILTY	44. M. SILTY	45. M. SILTY	46. M. SILTY	47. M. SILTY	48. M. SILTY	49. M. SILTY	50. M. SILTY	51. M. SILTY	52. M. SILTY	53. M. SILTY	54. M. SILTY	55. M. SILTY	56. M. SILTY	57. M. SILTY	58. M. SILTY	59. M. SILTY	60. M. SILTY	61. M. SILTY	62. M. SILTY	63. M. SILTY	64. M. SILTY	65. M. SILTY	66. M. SILTY	67. M. SILTY	68. M. SILTY	69. M. SILTY	70. M. SILTY	71. M. SILTY	72. M. SILTY	73. M. SILTY	74. M. SILTY	75. M. SILTY	76. M. SILTY	77. M. SILTY	78. M. SILTY	79. M. SILTY	80. M. SILTY	81. M. SILTY	82. M. SILTY	83. M. SILTY	84. M. SILTY	85. M. SILTY	86. M. SILTY	87. M. SILTY	88. M. SILTY	89. M. SILTY	90. M. SILTY	91. M. SILTY	92. M. SILTY	93. M. SILTY	94. M. SILTY	95. M. SILTY	96. M. SILTY	97. M. SILTY	98. M. SILTY	99. M. SILTY	100. M. SILTY
11. M. BLACK	12. M. BROWN	13. M. COARSE	14. M. CLAY	15. M. CLAYEY	16. M. FINE	17. M. FRAGMENTS	18. M. GRAVEL	19. M. LAYERED	20. M. LITTLE	21. M. MEDIUM	22. M. HEAVY	23. M. VERY HEAVY	24. M. SATURATED	25. M. SAND	26. M. SILT	27. M. SILTY	28. M. SILTY	29. M. SILTY	30. M. SILTY	31. M. SILTY	32. M. SILTY	33. M. SILTY	34. M. SILTY	35. M. SILTY	36. M. SILTY	37. M. SILTY	38. M. SILTY	39. M. SILTY	40. M. SILTY	41. M. SILTY	42. M. SILTY	43. M. SILTY	44. M. SILTY	45. M. SILTY	46. M. SILTY	47. M. SILTY	48. M. SILTY	49. M. SILTY	50. M. SILTY	51. M. SILTY	52. M. SILTY	53. M. SILTY	54. M. SILTY	55. M. SILTY	56. M. SILTY	57. M. SILTY	58. M. SILTY	59. M. SILTY	60. M. SILTY	61. M. SILTY	62. M. SILTY	63. M. SILTY	64. M. SILTY	65. M. SILTY	66. M. SILTY	67. M. SILTY	68. M. SILTY	69. M. SILTY	70. M. SILTY	71. M. SILTY	72. M. SILTY	73. M. SILTY	74. M. SILTY	75. M. SILTY	76. M. SILTY	77. M. SILTY	78. M. SILTY	79. M. SILTY	80. M. SILTY	81. M. SILTY	82. M. SILTY	83. M. SILTY	84. M. SILTY	85. M. SILTY	86. M. SILTY	87. M. SILTY	88. M. SILTY	89. M. SILTY	90. M. SILTY	91. M. SILTY	92. M. SILTY	93. M. SILTY	94. M. SILTY	95. M. SILTY	96. M. SILTY	97. M. SILTY	98. M. SILTY	99. M. SILTY	100. M. SILTY										
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11. M. BLACK	12. M. BROWN	13. M. COARSE	14. M. CLAY	15. M. CLAYEY	16. M. FINE	17. M. FRAGMENTS	18. M. GRAVEL	19. M. LAYERED	20. M. LITTLE	21. M. MEDIUM	22. M. HEAVY	23. M. VERY HEAVY	24. M. SATURATED	25. M. SAND	26. M. SILT	27. M. SILTY	28. M. SILTY	29. M. SILTY	30. M. SILTY	31. M. SILTY	32. M. SILTY	33. M. SILTY	34. M. SILTY	35. M. SILTY	36. M. SILTY	37. M. SILTY	38. M. SILTY	39. M. SILTY	40. M. SILTY	41. M. SILTY	42. M. SILTY	43. M. SILTY	44. M. SILTY	45. M. SILTY	46. M. SILTY	47. M. SILTY	48. M. SILTY	49. M. SILTY	50. M. SILTY	51. M. SILTY	52. M. SILTY	53. M. SILTY	54. M. SILTY	55. M. SILTY	56. M. SILTY	57. M. SILTY	58. M. SILTY	59. M. SILTY	60. M. SILTY	61. M. SILTY	62. M. SILTY	63. M. SILTY	64. M. SILTY	65. M. SILTY	66. M. SILTY	67. M. SILTY	68. M. SILTY	69. M. SILTY	70. M. SILTY	71. M. SILTY	72. M. SILTY	73. M. SILTY	74. M. SILTY	75. M. SILTY	76. M. SILTY	77. M. SILTY	78. M. SILTY	79. M. SILTY	80. M. SILTY	81. M. SILTY	82. M. SILTY	83. M. SILTY	84. M. SILTY	85. M. SILTY	86. M. SILTY	87. M. SILTY	88. M. SILTY	89. M. SILTY	90. M. SILTY	91. M. SILTY	92. M. SILTY	93. M. SILTY	94. M. SILTY	95. M. SILTY	96. M. SILTY	97. M. SILTY	98. M. SILTY	99. M. SILTY	100. M. SILTY										
11. M. BLACK	12. M. BROWN	13. M. COARSE	14. M. CLAY	15. M. CLAYEY	16. M. FINE	17. M. FRAGMENTS	18. M. GRAVEL	19. M. LAYERED	20. M. LITTLE	21. M. MEDIUM	22. M. HEAVY	23. M. VERY HEAVY	24. M. SATURATED	25. M. SAND	26. M. SILT	27. M. SILTY	28. M. SILTY	29. M. SILTY	30. M. SILTY	31. M. SILTY	32. M. SILTY	33. M. SILTY	34. M. SILTY	35. M. SILTY	36. M. SILTY	37. M. SILTY	38. M. SILTY	39. M. SILTY	40. M. SILTY	41. M. SILTY	42. M. SILTY	43. M. SILTY	44. M. SILTY	45. M. SILTY	46. M. SILTY	47. M. SILTY	48. M. SILTY	49. M. SILTY	50. M. SILTY	51. M. SILTY	52. M. SILTY	53. M. SILTY	54. M. SILTY	55. M. SILTY	56. M. SILTY	57. M. SILTY	58. M. SILTY	59. M. SILTY	60. M. SILTY	61. M. SILTY	62. M. SILTY	63. M. SILTY	64. M. SILTY	65. M. SILTY	66. M. SILTY	67. M. SILTY	68. M. SILTY	69. M. SILTY	70. M. SILTY	71. M. SILTY	72. M. SILTY	73. M. SILTY	74. M. SILTY	75. M. SILTY	76. M. SILTY	77. M. SILTY	78. M. SILTY	79. M. SILTY	80. M. SILTY	81. M. SILTY	82. M. SILTY	83. M. SILTY	84. M. SILTY	85. M. SILTY	86. M. SILTY	87. M. SILTY	88. M. SILTY	89. M. SILTY	90. M. SILTY	91. M. SILTY	92. M. SILTY	93. M. SILTY	94. M. SILTY	95. M. SILTY	96. M. SILTY	97. M. SILTY	98. M. SILTY	99. M. SILTY	100. M. SILTY										
11. M. BLACK	12. M. BROWN	13. M. COARSE	14. M. CLAY	15. M. CLAYEY	16. M. FINE	17. M. FRAGMENTS	18. M. GRAVEL	19. M. LAYERED	20. M. LITTLE	21. M. MEDIUM	22. M. HEAVY	23. M. VERY HEAVY	24. M. SATURATED	25. M. SAND	26. M. SILT	27. M. SILTY	28. M. SILTY	29. M. SILTY	30. M. SILTY	31. M. SILTY	32. M. SILTY	33. M. SILTY	34. M. SILTY	35. M. SILTY	36. M. SILTY	37. M. SILTY	38. M. SILTY	39. M. SILTY	40. M. SILTY	41. M. SILTY	42. M. SILTY	43. M. SILTY	44. M. SILTY	45. M. SILTY	46. M. SILTY	47. M. SILTY	48. M. SILTY	49. M. SILTY	50. M. SILTY	51. M. SILTY	52. M. SILTY	53. M. SILTY	54. M. SILTY	55. M. SILTY	56. M. SILTY	57. M. SILTY	58. M. SILTY	59. M. SILTY	60. M. SILTY	61. M. SILTY	62. M. SILTY	63. M. SILTY	64. M. SILTY	65. M. SILTY	66. M. SILTY	67. M. SILTY	68. M. SILTY	69. M. SILTY	70. M. SILTY	71. M. SILTY	72. M. SILTY	73. M. SILTY	74. M. SILTY	75. M. SILTY	76. M. SILTY	77. M. SILTY	78. M. SILTY	79. M. SILTY	80. M. SILTY	81. M. SILTY	82. M. SILTY	83. M. SILTY	84. M. SILTY	85. M. SILTY	86. M. SILTY	87. M. SILTY	88. M. SILTY	89. M. SILTY	90. M. SILTY	91. M. SILTY	92. M. SILTY	93. M. SILTY	94. M. SILTY	95. M. SILTY	96. M. SILTY	97. M. SILTY	98. M. SILTY	99. M. SILTY	100. M. SILTY										
11. M. BLACK	12. M. BROWN	13. M. COARSE	14. M. CLAY	15. M. CLAYEY	16. M. FINE	17. M. FRAGMENTS	18. M. GRAVEL	19. M. LAYERED	20. M. LITTLE	21. M. MEDIUM	22. M. HEAVY	23. M. VERY HEAVY	24. M. SATURATED	25. M. SAND	26. M. SILT	27. M. SILTY	28. M. SILTY	29. M. SILTY	30. M. SILTY	31. M. SILTY	32. M. SILTY	33. M. SILTY	34. M. SILTY	35. M. SILTY	36. M. SILTY	37. M. SILTY	38. M. SILTY	39. M. SILTY	40. M. SILTY	41. M. SILTY	42. M. SILTY	43. M. SILTY	44. M. SILTY	45. M. SILTY	46. M. SILTY	47. M. SILTY	48. M. SILTY	49. M. SILTY	50. M. SILTY	51. M. SILTY	52. M. SILTY	53. M. SILTY	54. M. SILTY	55. M. SILTY	56. M. SILTY	57. M. SILTY	58. M. SILTY	59. M. SILTY	60. M. SILTY	61. M. SILTY	62. M. SILTY	63. M. SILTY	64. M. SILTY	65. M. SILTY	66. M. SILTY	67. M. SILTY	68. M. SILTY	69. M. SILTY	70. M. SILTY	71. M. SILTY	72. M. SILTY	73. M. SILTY	74. M. SILTY	75. M. SILTY	76. M. SILTY	77. M. SILTY	78. M. SILTY	79. M. SILTY	80. M. SILTY	81. M. SILTY	82. M. SILTY	83. M. SILTY	84. M. SILTY	85. M. SILTY	86. M. SILTY	87. M. SILTY	88. M. SILTY	89. M. SILTY	90. M. SILTY	91. M. SILTY	92. M. SILTY	93. M. SILTY	94. M. SILTY	95. M. SILTY	96. M. SILTY	97. M. SILTY	98. M. SILTY	99. M. SILTY	100. M. SILTY										
11. M. BLACK	12. M. BROWN	13. M. COARSE	14. M. CLAY	15. M. CLAYEY	16. M. FINE	17. M. FRAGMENTS	18. M. GRAVEL	19. M. LAYERED	20. M. LITTLE	21. M. MEDIUM	22. M. HEAVY	23. M. VERY HEAVY	24. M. SATURATED	25. M. SAND	26. M. SILT	27. M																																																																																			

ELEV. DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES				DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	HAMMER BLOWS PER 6 IN (FORCE)	REC. ATT		
2 4 6 8 10	<u>FILL</u>		1	SS	2, 5 8, 9	0.8 2.0		0-2 FT Loose gray, crushed limestone GRAVEL with some sand and silt. RR ballast.
			2	SS	6, 4 2, 2	0.6 2.0		2-4 FT As above
			3	SS	100 / 0.4	0 / 0.4		4-4.4 FT Concrete (trace recovery) Borehole moved 5 feet west and averaged to 6 FT.
			4	SS	1, 1 2, 2	1.8 2.0		6-8 FT Loose, dark yellowish-brown, SILT with some clay, several one to two-inch thick silt lenses, little black mottling.
			5	SS	2, 2 3, 5	1.8 2.0		8-10 FT As above.
			6	SS	2, 2 2, 2	1.9 2.0		10-12 FT As above with fine sand seam two inches thick near spear bottom.
12 11.8 14 16 18 20 22	<u>ALLUVIUM</u>		7	SS	1, 1 1, 1	1.8 2.0		12-14 FT Loose brown-gray, fine to med. SAND with some silt, trace clay, trace 1/2 inch thick tan sand seams.
			8	SS	WH, WH WH, 2	1.9 2.0		14-16 FT As above to 15.2 FT then loose, brown-gray, CLAYEY SILT with trace sand seams approx. 1/2 inch thick.
			9	SS	WH, 1 1, 2	1.9 2.0		16-18 FT As from 14-16 FT above to 17.2 FT, then as from 12-14 FT.
			10	SS	WH, WH 1, 2	1.0 2.0		18-20 FT Loose, brown, med. to coarse SAND with little silt, clay.
			11	SS	1, 1 1, 2	1.3 2.0		20-22 FT Loose, brown-gray SAND with little silt, clay.

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>32 FT</u>	JOB NO. <u>963-9117</u>	PROJECT <u>BCC / RFI / NY</u>	BORING NO. <u>RFI-47</u>
DEPTH SOIL DRILL <u>32 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>2</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>583.6</u>
NO. DIST. SA. <u>0</u>	UQ. SA. <u>16</u>	TEMP. <u>85°F</u>	DRILL RIG <u>CME-75</u>
DRILLER <u>D. BUTZER</u>	DATUM <u>MSL</u>	STARTED <u>8:00, 7/15/98</u>	COMPLETED <u>12:20, 7/15/98</u>
DEPTH WL. <u>N/A</u>	HRS. PROG. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	DROP <u>30 INCH</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	DROP <u>N/A</u>

SAMPLE TYPES			ABBREVIATIONS			SOIL DESCRIPTION - RANGE OF PROPORTION		
A.S.	AUGER SAMPLE	BL	BLACK	W	MEDIUM	SA	SAMPLE	"TRACE" 0.1% AND
C.S.	CHINA SAMPLE	BR	BROWN	WC	WICACIOUS	SAT	SATURATED	LITTLE 0.1% AND
O.O.	DRIVE OPEN	C	COARSE	WGT	WOTULS	SD	SAND	
O.S.	DEBRIS SAMPLE	CS	CASING	NP	NON-PLASTIC	SI	SILT	RELATIVE DENSITY
P.S.	PITCHER SAMPLE	CL	CLAY	OG	ORGANIC	SEV	SILT	VERY LOOSE VLS 0.4
R.C.	ROCK CORE	CLT	CLAYEY	ORG	ORGANIC	SM	SOME	LOOSE LS 4.10
S.T.	SLOTTED TUBE	F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE	COMPACT CP 10.10
T.O.	THIN-WALLED, OPEN	FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL	DENSE DN 30.10
T.P.	THIN-WALLED, PISTON	GL	GRAVEL	REO	RESIDUAL	WH	WEIGHT OF HAMMER	VERY DENSE VDM 30
W.S.	WASH SAMPLE	LTO	LAYERED	RES	RESIDUAL	Y	YELLOW	
		U	LITTLE	RE	ROCK			

ELEV. DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES				DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	HAMMER BLOWS PER 6 IN (FORCE)	REC. ATT		
24	ALLUVIUM		12	SS	1, 2 2, 5	1.0 2.0		22-24 FT As above with loose, reddish-brown pebble layer in bottom two inches.
			13	SS	2, 3 7, 7	0.9 2.0		24-26 FT Loose, dark yellow-red-brown, GRAVEL with some sand and silt, trace clay.
26			14	SS	1, 2 8, 7	2.0 2.0		26-28 FT Loose, brown, coarse SAND with trace clay and gravel.
			15	SS	WH, 1 1, 1	0.2 2.0		28-30 FT 1/2" Soft, brown-gray CLAY with some silt.
30	END OF AUGER BOREHOLE		16	SS	WH, WH 1, 1	1.2 2.0		30-32 FT As above.
32	END OF SAMPLING							
34								
36								No detections with OVM
38								No detections with Dräger acid-gas tubes.
40								

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>30 FT</u>	JOB NO. <u>913-9117</u>	PROJECT <u>BCC / RFE / NY</u>	BORING NO. <u>RFE-48</u>
DEPTH SOIL DRILL <u>30 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>1</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>583.5</u>
NO. DIST. SA. <u>0</u>	UG. SA. <u>4</u>	DRILL RIG <u>CME-75</u>	DATUM <u>MSL</u>
TEMP. <u>80°F</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	GRILLER <u>D. BUTZER</u>	STARTED <u>8:30 7/16/98</u>
DEPTH WL. <u>N/A</u>	HRS. PROG. <u>N/A</u>	GRIP <u>30 INCH</u>	COMPLETED <u>5:30 7/16/98</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	GRIP <u>N/A</u>

SAMPLE TYPES		ABBREVIATIONS		SOIL DESCRIPTION - RANGE OF PROPORTION	
AS AUGER SAMPLE	BL BLACK	W MEDIUM	SA SAMPLE	TRACE 0.1%	SCHE 1% 10%
CS CHINA SAMPLE	BR BROWN	WC WICACIOUS	SAT SATURATED	LITTLE 1 1/2%	NO 30 50%
OO DRIVE OPEN	CO COARSE	WOT WOTTLED	SQ SAND		
OS OSMON SAMPLE	CS CASING	NP NON-PLASTIC	SI SILT		
PS PITCHER SAMPLE	CL CLAY	OG ORANGE	ST SILTY		
RC ROCK CORE	CLT CLAYEY	ORG ORGANIC	SM SOME		
ST SLOTTED TUBE	F FINE	PH PRESSURE-HYDRAULIC	TR TRACE		
TP THINWALLED, OPEN	FRAG FRAGMENTS	PM PRESSURE MANUAL	WL WATER LEVEL		
WS WASH SAMPLE	GL GRAVEL	REG REGIONAL	WH WEIGHT OF HAMMER		
	LTD LAYERED	RS ROCK	Y YELLOW		
	U LITTLE				

ELEV. DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES			DEP	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	HAMMER BLOWS PER 6 IN (FORCE)		
	<u>FILL</u>						<u>0-2 FT Augered through crushed stone. RR ballast.</u>
2			1	SS	1, 2 2, 1	0.8 2.0	<u>2-4 FT Loose, brown - gray with purple flecks, CLAYEY SILT with little gravel, trace brick</u>
4			2	SS	2, 2 5, 4	1.3 2.0	<u>4-6 FT As above.</u>
6			3	SS	1, 2 1, 1	0.3 2.0	<u>6-8 FT Loose, white - gray to black - brown, coarse SAND and GRAVEL.</u>
8			4	SS	1, 1 1, 1	1.0 2.0	<u>8-10 FT Loose, white - gray to black, crushed, GRAVEL with little sand and clay, trace glass.</u>
10			5	SS	2, 1 1, 1	0.8 2.0	<u>10-12 FT As above with no glass, trace weed. Water noted at approx. 11 FT.</u>
12			6	SS	1, 1 2, 2	0.5 2.0	<u>12-14 FT WOOD with little silt and clay. Petroliferous odor.</u>
14			7	SS	1, 1 1, WH	1.3 2.0	<u>14-16 FT Loose, dark gray, SAND to SILT, with trace brick, clay. Petroliferous odor.</u>
16			8	SS	WH, WH 1, 1	0.9 2.0	<u>16-18 FT As above.</u>
18			9	SS	2, 2 4, 5	0.8 2.0	<u>18-20 FT As above grading to sub-rounded, loose, GRAVEL and U. coarse SAND. Petroliferous odor.</u>
20			10	SS	6, 4 2, 2	1.1 2.0	<u>20-22 FT As above.</u>
22							

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>30 FT</u>	JOB NO. <u>913-9117</u>	PROJECT <u>BCC / AFE / NY</u>	BORING NO. <u>RFT-48</u>
DEPTH SOIL DRILL <u>30 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>2</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>583.5</u>
NO. DIST. SA. <u>0</u>	TEMP. <u>80 °F</u>	DRILL RIG <u>CME-75</u>	DATUM <u>MSL</u>
DEPTH WL. <u>N/A</u>	HRS. PROD. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	DROP <u>30 INCH</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	DROP <u>N/A</u>
			STARTED <u>8:30</u> <u>7/16/98</u>
			COMPLETED <u>10:30</u> <u>7/16/98</u>

SAMPLE TYPES		ABBREVIATIONS		SOIL DESCRIPTION - RANGE OF PROPORTION	
1. AUGER SAMPLE	2L BLACK	W MEDIUM	SA SAMPLE	FRAC 0 1/4	WUM 1 1/4
2. CHURN SAMPLE	BR BROWN	WIC MICACEOUS	SAT SATURATED	1/4 1/2	1/2 3/4
3. DRIVE OPEN	C COARSE	WOT WOTTLED	SD SAND		
4. DEVIATION SAMPLE	CA CASING	NP NON-PLASTIC	SH SILT	RELATIVE DENSITY	BLOWS
5. PITCHER SAMPLE	CL CLAY	OG ORANGE	SHV SILTY	VERY LOOSE VS 4	VERY DENSE VS 30
6. ROCK CORE	CLT CLAYEY	ORG ORGANEIC	SM SOME	LOOSE LS 10	VERY DENSE VS 30
7. SLOTTED TUBE	F FINE	PH PRESSURE-HYDRAULIC	TR TRACE	COMPACT CP 10 30	VERY DENSE VS 30
8. THINWALLED, OPEN	FRAG FRAGMENTS	PM PRESSURE-MANUAL	WL WATER LEVEL	DENSE DN 30 10	VERY DENSE VS 30
9. THINWALLED, PISTON	GL GRAVEL	R RED	WM WEIGHT OF HAMMER	VERY DENSE DN 30	VERY DENSE VS 30
10. WASH SAMPLE	LUT LUTITE	RES RESIDUAL	Y YELLOW		
	U LITTLE	RS ROCK			

ELEV. DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES				DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	HAMMER BLOWS PER 6 IN (FORCE)	REC / ATT		
24	FILL		11	SS	2, 2 2, 1 2.0	0.6 2.0	22-24 FT	Loose dark gray to black, GRAVEL, SAND and SILT with trace brick, little yellow sulfur. Petroliferous and sulfurous odor.
			12	SS	3, 3 3, 1 2.0	0.8 2.0	24-26 FT	As above.
26	GLACIOLACUSTRINE CLAY		13	SS	WH, 1 WH, 1 2.0	1.8 2.0	26-28 FT	V. soft, purple-gray, CLAY with some silt. Faint mottling and varving.
28	END OF AUGER BOREHOLE		14	SS	WH, WH WH, WH 2.0	1.4 2.0	28-30 FT	As above
30	END OF SAMPLING							
32								
34								No detections on CUM No detection on Dräger acid-gas tubes.

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>28 FT</u>	JOB NO. <u>913-9117</u>	PROJECT <u>BCC / AFE / NY</u>	BORING NO. <u>REF-50</u>
DEPTH SOIL GRILL <u>28 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>1</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>582.7</u>
NO. DIST. SA. <u>0</u>	UG. SA. <u>13</u>	TEMP. <u>85°F</u>	DRILL RIG <u>CME-75</u>
DRILLER <u>D. BUTZER</u>	DATE <u>15:00, 7/17/98</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	STARTED <u>15:00, 7/17/98</u>
DEPTH WL. <u>N/A</u>	HRS. PROG. <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	COMPLETED <u>16:30, 7/17/98</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	DROP <u>N/A</u>	

SAMPLE TYPES	ABBREVIATIONS	SOIL DESCRIPTION - RANGE OF PROPORTION
A.S. AUGER SAMPLE C.S. CHURN SAMPLE O.G. DRIVE OPEN O.S. DENISON SAMPLE P.S. PITCHER SAMPLE R.G. ROCK CORE S.T. SLOTTED TUBE T.O. THINWALLED, OPEN T.P. THINWALLED, PISTON W.S. WASH SAMPLE	BL BLACK BR BROWN C COARSE CA CASING CL CLAY CLT CLAYEY F FINE FRAG FRAGMENTS G GRAVEL L LAYERED LIT LITTLE M MEDIUM MC MUCOUS MGT MOTTLED NP NON-PLASTIC OR ORANGE ORG ORGANIC PH PRESSURE-HYDRAULIC PM PRESSURE-MANUAL R RESIDUAL RES RESIDUAL S SATURATED SD SAND SI SILT SILT SILTY SQ SQUARE TR TRACE WL WATER LEVEL WH WEIGHT OF HAMMER Y YELLOW	"TRACE" 0.1% LITTLE 1.1% 1% 1.1% 10% 10% 100% 100% RELATIVE DENSITY VERY LOOSE 15 LOOSE 15-30 COMPACT 30-40 DENSE 40-50 VERY DENSE 50-60 MOHS 4-6 6-10 10-15 15-20 20-30 30-40 40-50 50-60 CONSISTENCY VERY SOFT SOFT FIRM STIFF VERY STIFF HARD VERY HARD UNCL. PRESSURE 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380 385 390 395 400 405 410 415 420 425 430 435 440 445 450 455 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 535 540 545 550 555 560 565 570 575 580 585 590 595 600 605 610 615 620 625 630 635 640 645 650 655 660 665 670 675 680 685 690 695 700 705 710 715 720 725 730 735 740 745 750 755 760 765 770 775 780 785 790 795 800 805 810 815 820 825 830 835 840 845 850 855 860 865 870 875 880 885 890 895 900 905 910 915 920 925 930 935 940 945 950 955 960 965 970 975 980 985 990 995 1000 1005 1010 1015 1020 1025 1030 1035 1040 1045 1050 1055 1060 1065 1070 1075 1080 1085 1090 1095 1100 1105 1110 1115 1120 1125 1130 1135 1140 1145 1150 1155 1160 1165 1170 1175 1180 1185 1190 1195 1200 1205 1210 1215 1220 1225 1230 1235 1240 1245 1250 1255 1260 1265 1270 1275 1280 1285 1290 1295 1300 1305 1310 1315 1320 1325 1330 1335 1340 1345 1350 1355 1360 1365 1370 1375 1380 1385 1390 1395 1400 1405 1410 1415 1420 1425 1430 1435 1440 1445 1450 1455 1460 1465 1470 1475 1480 1485 1490 1495 1500 1505 1510 1515 1520 1525 1530 1535 1540 1545 1550 1555 1560 1565 1570 1575 1580 1585 1590 1595 1600 1605 1610 1615 1620 1625 1630 1635 1640 1645 1650 1655 1660 1665 1670 1675 1680 1685 1690 1695 1700 1705 1710 1715 1720 1725 1730 1735 1740 1745 1750 1755 1760 1765 1770 1775 1780 1785 1790 1795 1800 1805 1810 1815 1820 1825 1830 1835 1840 1845 1850 1855 1860 1865 1870 1875 1880 1885 1890 1895 1900 1905 1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080 2085 2090 2095 2100 2105 2110 2115 2120 2125 2130 2135 2140 2145 2150 2155 2160 2165 2170 2175 2180 2185 2190 2195 2200 2205 2210 2215 2220 2225 2230 2235 2240 2245 2250 2255 2260 2265 2270 2275 2280 2285 2290 2295 2300 2305 2310 2315 2320 2325 2330 2335 2340 2345 2350 2355 2360 2365 2370 2375 2380 2385 2390 2395 2400 2405 2410 2415 2420 2425 2430 2435 2440 2445 2450 2455 2460 2465 2470 2475 2480 2485 2490 2495 2500 2505 2510 2515 2520 2525 2530 2535 2540 2545 2550 2555 2560 2565 2570 2575 2580 2585 2590 2595 2600 2605 2610 2615 2620 2625 2630 2635 2640 2645 2650 2655 2660 2665 2670 2675 2680 2685 2690 2695 2700 2705 2710 2715 2720 2725 2730 2735 2740 2745 2750 2755 2760 2765 2770 2775 2780 2785 2790 2795 2800 2805 2810 2815 2820 2825 2830 2835 2840 2845 2850 2855 2860 2865 2870 2875 2880 2885 2890 2895 2900 2905 2910 2915 2920 2925 2930 2935 2940 2945 2950 2955 2960 2965 2970 2975 2980 2985 2990 2995 3000 3005 3010 3015 3020 3025 3030 3035 3040 3045 3050 3055 3060 3065 3070 3075 3080 3085 3090 3095 3100 3105 3110 3115 3120 3125 3130 3135 3140 3145 3150 3155 3160 3165 3170 3175 3180 3185 3190 3195 3200 3205 3210 3215 3220 3225 3230 3235 3240 3245 3250 3255 3260 3265 3270 3275 3280 3285 3290 3295 3300 3305 3310 3315 3320 3325 3330 3335 3340 3345 3350 3355 3360 3365 3370 3375 3380 3385 3390 3395 3400 3405 3410 3415 3420 3425 3430 3435 3440 3445 3450 3455 3460 3465 3470 3475 3480 3485 3490 3495 3500 3505 3510 3515 3520 3525 3530 3535 3540 3545 3550 3555 3560 3565 3570 3575 3580 3585 3590 3595 3600 3605 3610 3615 3620 3625 3630 3635 3640 3645 3650 3655 3660 3665 3670 3675 3680 3685 3690 3695 3700 3705 3710 3715 3720 3725 3730 3735 3740 3745 3750 3755 3760 3765 3770 3775 3780 3785 3790 3795 3800 3805 3810 3815 3820 3825 3830 3835 3840 3845 3850 3855 3860 3865 3870 3875 3880 3885 3890 3895 3900 3905 3910 3915 3920 3925 3930 3935 3940 3945 3950 3955 3960 3965 3970 3975 3980 3985 3990 3995 4000 4005 4010 4015 4020 4025 4030 4035 4040 4045 4050 4055 4060 4065 4070 4075 4080 4085 4090 4095 4100 4105 4110 4115 4120 4125 4130 4135 4140 4145 4150 4155 4160 4165 4170 4175 4180 4185 4190 4195 4200 4205 4210 4215 4220 4225 4230 4235 4240 4245 4250 4255 4260 4265 4270 4275 4280 4285 4290 4295 4300 4305 4310 4315 4320 4325 4330 4335 4340 4345 4350 4355 4360 4365 4370 4375 4380 4385 4390 4395 4400 4405 4410 4415 4420 4425 4430 4435 4440 4445 4450 4455 4460 4465 4470 4475 4480 4485 4490 4495 4500 4505 4510 4515 4520 4525 4530 4535 4540 4545 4550 4555 4560 4565 4570 4575 4580 4585 4590 4595 4600 4605 4610 4615 4620 4625 4630 4635 4640 4645 4650 4655 4660 4665 4670 4675 4680 4685 4690 4695 4700 4705 4710 4715 4720 4725 4730 4735 4740 4745 4750 4755 4760 4765 4770 4775 4780 4785 4790 4795 4800 4805 4810 4815 4820 4825 4830 4835 4840 4845 4850 4855 4860 4865 4870 4875 4880 4885 4890 4895 4900 4905 4910 4915 4920 4925 4930 4935 4940 4945 4950 4955 4960 4965 4970 4975 4980 4985 4990 4995 5000 5005 5010 5015 5020 5025 5030 5035 5040 5045 5050 5055 5060 5065 5070 5075 5080 5085 5090 5095 5100 5105 5110 5115 5120 5125 5130 5135 5140 5145 5150 5155 5160 5165 5170 5175 5180 5185 5190 5195 5200 5205 5210 5215 5220 5225 5230 5235 5240 5245 5250 5255 5260 5265 5270 5275 5280 5285 5290 5295 5300 5305 5310 5315 5320 5325 5330 5335 5340 5345 5350 5355 5360 5365 5370 5375 5380 5385 5390 5395 5400 5405 5410 5415 5420 5425 5430 5435 5440 5445 5450 5455 5460 5465 5470 5475 5480 5485 5490 5495 5500 5505 5510 5515 5520 5525 5530 5535 5540 5545 5550 5555 5560 5565 5570 5575 5580 5585 5590 5595 5600 5605 5610 5615 5620 5625 5630 5635 5640 5645 5650 5655 5660 5665 5670 5675 5680 5685 5690 5695 5700 5705 5710 5715 5720 5725 5730 5735 5740 5745 5750 5755 5760 5765 5770 5775 5780 5785 5790 5795 5800 5805 5810 5815 5820 5825 5830 5835 5840 5845 5850 5855 5860 5865 5870 5875 5880 5885 5890 5895 5900 5905 5910 5915 5920 5925 5930 5935 5940 5945 5950 5955 5960 5965 5970 5975 5980 5985 5990 5995 6000 6005 6010 6015 6020 6025 6030 6035 6040 6045 6050 6055 6060 6065 6070 6075 6080 6085 6090 6095 6100 6105 6110 6115 6120 6125 6130 6135 6140 6145 6150 6155 6160 6165 6170 6175 6180 6185 6190 6195 6200 6205 6210 6215

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>28 FT</u>	JOB NO. <u>913-917</u>	PROJECT <u>BCC / RFI / NY</u>	BORING NO. <u>RFL-50</u>
DEPTH SOIL DRILL <u>28 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>2</u> OF <u>2</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>582.7</u>
NO. DIST. SA. <u>0</u>	UQ. SA. <u>13</u>	TEMP. <u>85°F</u>	DRILL RIG <u>CME-75</u>
DEPTH WL. <u>N/A</u>	HRS. PROD. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	ORILLER <u>D. BUTZER</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	DROP <u>30 INCH</u>
			DATUM <u>MSL</u>
			STARTED <u>15:00, 7/17/98</u>
			COMPLETED <u>16:30, 7/17/98</u>

SAMPLE TYPES		ABBREVIATIONS		SOIL DESCRIPTION - RANGE OF PROPORTION	
A.S. AUGER SAMPLE	AL BLACK	M MEDIUM	SA SAMPLE	TRACE 0 - 1%	NUM 11 10%
C.S. CHURN SAMPLE	BR BROWN	WC WACCEOUS	SAT SATURATED	UTILE 1 - 10%	UND 30 10%
O.O. DRIVE OPEN	CA COARSE	WOT WOTTLED	SD SAND		
O.S. OVEN DRY SAMPLE	CL CASING	NP NON-PLASTIC	SI SILT	RELATIVE DENSITY	BLOWS
P.S. PITCHER SAMPLE	CL CLAY	OG ORANGE	SH SILT	VERY LOOSE VLS 0-4	VERY SOFT VS 5-10
R.C. ROCK CORE	CLT CLAYEY	ORG ORGANIC	SH SILT	LOOSE LS 10-15	SOFT S 11-20
S.T. SLOTTED TUBE	F FINE	PH PRESSURE-HYDRAULIC	SH SILT	COMPACT CP 15-30	FIRM F 31-50
T.O. THIN-WALLED, OPEN	FRAG FRAGMENTS	PM PRESSURE-MANUAL	TR TRACE	VERY DENSE VDN 30-50	VERY STIFF VS 51-100
T.P. THIN-WALLED, PISTON	GL GRAVEL	R RED	WL WATER LEVEL		
W.S. WASH SAMPLE	LTO LAYERED	RES RESIDUAL	WH WEIGHT OF HAMMER		
	U UTILE	ROX ROCK	Y YELLOW		

ELEV. DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES				DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	HAMMER BLOWS PER 6 IN (FOOT)	REC. ATT.		
	<u>ALLOUVIUM</u>		11	SS	WH, 1 2, 3	0.8 2.0		<u>22-24 FT As above</u>
24	<u>GLACIOLACUSTRINE CLAY</u>		12	SS	WH, WH WH, WH	0.6 2.0		<u>24-26 FT V. soft, purple-gray, CLAY with trace silt. Faint varving.</u>
26	<u>END OF AUGER BORE HOLE</u>		13	SS	WH, WH WH, WH	2.0 2.0		<u>26-28 FT As above.</u>
28	<u>END OF SAMPLING</u>							
30								
32								
34								<u>No detections on OVM</u> <u>No detections on Dräger acid-gas tubes.</u>

**Golder Associates
Field Boring Log**

DEPTH HOLE <u>16 FT</u>	JOB NO. <u>963-9117</u>	PROJECT <u>BCE / AFE / NY</u>	BORING NO. <u>AFE-51</u>
DEPTH SOIL DRILL <u>16 FT</u>	QA INSP. <u>D. WEHN</u>	DRILLING METHOD <u>4 1/4 INCH ID HSA</u>	SHEET <u>1</u> OF <u>1</u>
DEPTH ROCK CORE <u>N/A</u>	WEATHER <u>SUN</u>	DRILLING COMPANY <u>SJB SERVICES INC.</u>	SURFACE ELEV. <u>585.0</u>
NO. DIST. SA. <u>1</u> UO. SA. <u>3</u>	TEMP <u>85°F</u>	DRILL RIG <u>CME-75</u>	GRILLER <u>D. BUTZER</u>
DEPTH WL. <u>N/A</u>	HRS. PROD. <u>N/A</u>	WT. SAMPLER HAMMER <u>140 LBS</u>	GROUP <u>30 INCH</u>
TIME WL. <u>N/A</u>	HRS. DELAYED <u>N/A</u>	WT. CASING HAMMER <u>N/A</u>	GROUP <u>N/A</u>
			DATUM <u>MSL</u>
			STARTED <u>14:15, 7/2/98</u>
			COMPLETED <u>16:10, 7/2/98</u>

SAMPLE TYPES		ABBREVIATIONS				SOIL DESCRIPTION - RANGE OF PROPORTION			
AS	AUGER SAMPLE	AL	BLACK	U	MEDIUM	SA	SAMPLE	TRACE	0.1%
CS	CHUNK SAMPLE	BR	BROWN	WC	WACCEOUS	SAT	SATURATED	UTILE	1.1%
CO	DRIVE OPEN	C	COARSE	WOT	WOTTLED	SD	SAND		1.1%
OS	OPENHOLE SAMPLE	CL	CLAY	NP	NON-PLASTIC	SI	SILT		1.1%
PL	PITCHER SAMPLE	CL	CLAY	OG	ORGANIC	ST	SILT		1.1%
RC	ROCK CORE	CLY	CLAYEY	ORG	ORGANIC	SM	SOME		1.1%
ST	SLOTTED TUBE	F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE		1.1%
TQ	THIN-WALLED, OPEN	FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL		1.1%
TP	THIN-WALLED, PISTON	GL	GRAVEL	RED	RED	WH	WEIGHT OF HAMMER		1.1%
WS	WASH SAMPLE	LTD	LAYERED	RES	RESIDUAL	Y	YELLOW		1.1%
		U	UTILE	RE	ROCK				1.1%

ELEV DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES				DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
			NO.	TYPE	HAMMER BLOWS PER 6 IN (FORCE)	REC. ATT		
2	<u>FILL</u>							0-10 FT Augered without sampling. Jan moved borehole several times, due to sub surface concrete. Collected auger cuttings sample.
4		1	AS	N/A	N/A	Loose, putty white to brown, SILT and SAND with some clay to approx. 7 FT. Then brown CLAYEY SILT.		
6								
7.0	<u>UPPER TILLS</u>							
8								
10	<u>GLACIO-LACUSTRINE CLAY</u>		2	SS	5, 4 5, 5	1.8 2.0	10-12 FT Soft, brown, SILTY CLAY with several 1/8 - inch thick fine sand partings, faint varving.	
12		3	SS	2, 2 1, 2	1.9 2.0	10-14 FT As above		
14	<u>END OF AUGER BOREHOLE</u>		4	SS	WH, WH 1, 2	1.9 2.0	14-16 FT As above	
16								
18	<u>END OF SAMPLING</u>						No detections on OUM	
20							No detections on Dräger acid-gas tubes.	
22								

APPENDIX B

MONITORING WELL INSTALLATION LOGS

MONITORING WELL INSTALLATION LOG

Job No. <u>963-9117</u>	Project <u>BCC / RFI / NY</u>	Well No. <u>RFI - 44</u>	Sheet <u>1</u> of <u>1</u>
GA Insp. <u>D. WEHN</u>	Drilling Method <u>4 1/4 INCH ID HSA</u>	Ground Elev. <u>583.8</u>	Water Depth <u>N/A</u>
Weather <u>SUN</u>	Drilling Company <u>SJB SERVICES INC.</u>	Collar Elev. <u>583.27</u>	Date/Time <u>N/A</u>
Temp. <u>85°F</u>	Drill Rig <u>CME-75</u>	Driller <u>D. BUTZER</u>	Started <u>14:30 7/20/98</u> Completed <u>16:30 7/20/98</u>

MATERIALS INVENTORY

Well Casing <u>2</u> in. dia. <u>15.8</u> l.f.	Well Screen <u>2</u> in. dia. <u>20</u> l.f.	Bentonite Seal <u>MED. PURE GOLD CHIPS</u>
Casing Type <u>SCH 40 PVC</u>	Screen Type <u>SLOTTED SCH 40 PVC</u>	Installation Method <u>GRAVITY</u>
Joint Type <u>FLUSH THREAD</u>	Slot Size <u>0.010 INCH</u>	Filter Pack Qty. <u>550 LBS.</u>
Grout Quantity <u>25 GAL.</u>	Centralizers <u>NONE</u>	Filter Pack Type <u>UNIMIX 2040</u>
Grout Type <u>95% CEMENT / 5% BENT.</u>	Drilling Mud Type <u>N/A</u>	Installation Method <u>GRAVITY</u>

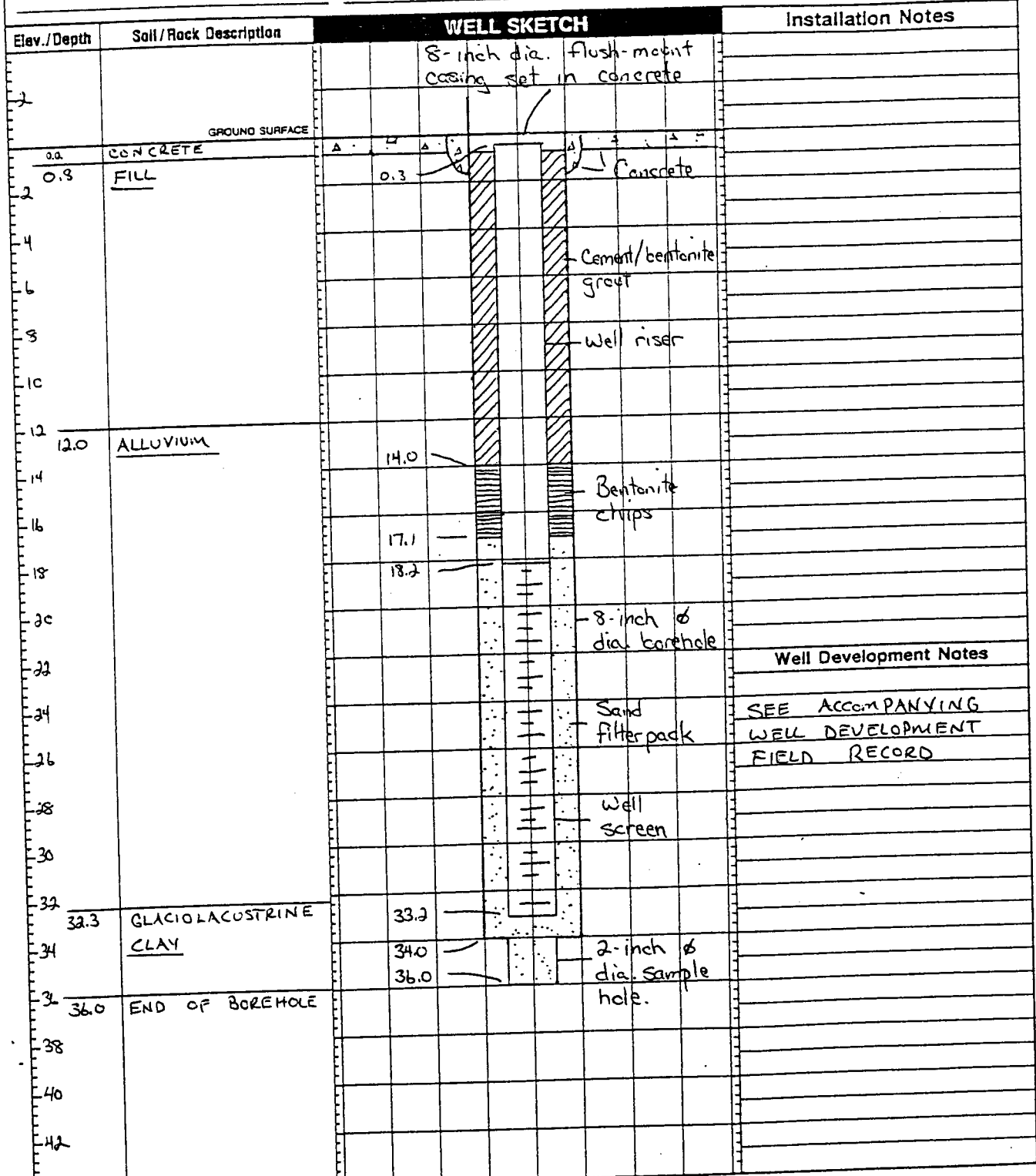
Elev./Depth	Soil/Rock Description	WELL SKETCH	Installation Notes
2		8-inch dia flush-mount casing set in concrete	
0.0	FILL	0.5' Concrete	
2		Cement/bentonite grout	
4		Well riser	
6			
8			
10			
12		12.5' Bentonite chips	
14	14.2' ALLUVIUM	15.5'	
16		16.3'	
18		8-inch dia. borehole	
20			
22		Sand filterpack	Well Development Notes
24			SEE ACCOMPANYING
26		Well screen	WELL DEVELOPMENT
28			FIELD RECORDS
30			
32			
34			
36			
38	36.5' GLACIO-LACUSTRINE CLAY	38.0'	
40	40.0' END OF BOREHOLE	40.0'	2-inch dia sample hole.
42			

MONITORING WELL INSTALLATION LOG

Job No. <u>963-9117</u>	Project <u>BCC / RFI / NY</u>	Well No. <u>RFI-45</u>	Sheet <u>1</u> of <u>1</u>
GA Insp. <u>D. WEHN</u>	Drilling Method <u>4 1/4 INCH ID HSA</u>	Ground Elev. <u>583.5</u>	Water Depth <u>N/A</u>
Weather <u>SUN</u>	Drilling Company <u>SJB SERVICES INC.</u>	Collar Elev. <u>583.18</u>	Date/Time <u>N/A</u>
Temp. <u>85°F</u>	Drill Rig <u>CME-75</u>	Driller <u>D. BUTZER</u>	Started <u>9:00</u> <u>7/17/98</u> Completed <u>12:00</u> <u>7/17/98</u>

MATERIALS INVENTORY

Well Casing <u>2</u> in. dia. <u>17.9</u> l.f.	Well Screen <u>2</u> in. dia. <u>15</u> l.f.	Bentonite Seal <u>MED. PUREGOLD CHIPS</u>
Casing Type <u>SCH 40 PVC</u>	Screen Type <u>SLOTTED SCH 40 PVC</u>	Installation Method <u>GRAVITY</u>
Joint Type <u>FLUSH THREAD</u>	Slot Size <u>0.010 INCH</u>	Filter Pack Qty. <u>400 LBS.</u>
Grout Quantity <u>25 GAL.</u>	Centralizers <u>NONE</u>	Filter Pack Type <u>UNIMIN 2040</u>
Grout Type <u>95% CEMENT / 5% BENT.</u>	Drilling Mud Type <u>N/A</u>	Installation Method <u>GRAVITY</u>

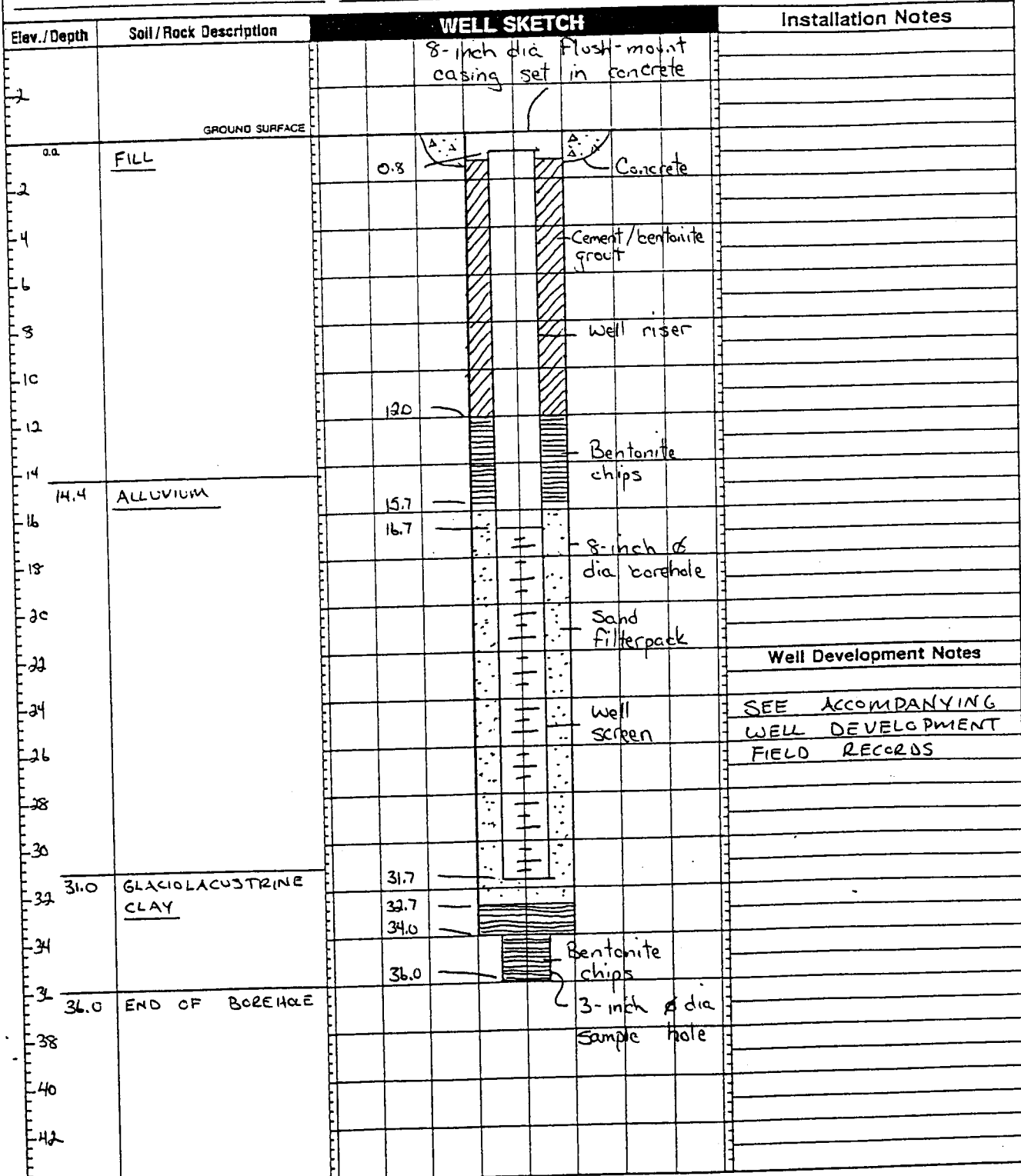


MONITORING WELL INSTALLATION LOG

Job No. 963-9117 Project BCC / RFI / NY Well No. RFI-46 Sheet 1 of 1
 GA Insp. D. WEHN Drilling Method 4 1/4 INCH ID HSA Ground Elev. 583.4 Water Depth N/A
 Weather SUN Drilling Company SJB SERVICES INC. Collar Elev. 582.72 Date/Time N/A
 Temp. 80°F Drill Rig CME-75 Driller D. BUTZER Started 8:00 7/14/98 Completed 11:00 7/14/98
TIME / DATE TIME / DATE

MATERIALS INVENTORY

Well Casing 2 in. dia. 15.9 l.f. Well Screen 2 in. dia. 15 l.f. Bentonite Seal MED. PUREGOLD CHIPS
 Casing Type SCH 40 PVC Screen Type SLOTTED SCH 40 PVC Installation Method GRAVITY
 Joint Type FLUSH THREAD Slot Size 0.010 INCH Filter Pack Qty. 400 LBS.
 Grout Quantity 25 GAL. Centralizers NONE Filter Pack Type UNIMIX 2040
 Grout Type 95% CEMENT / 5% BENT. Drilling Mud Type N/A Installation Method GRAVITY

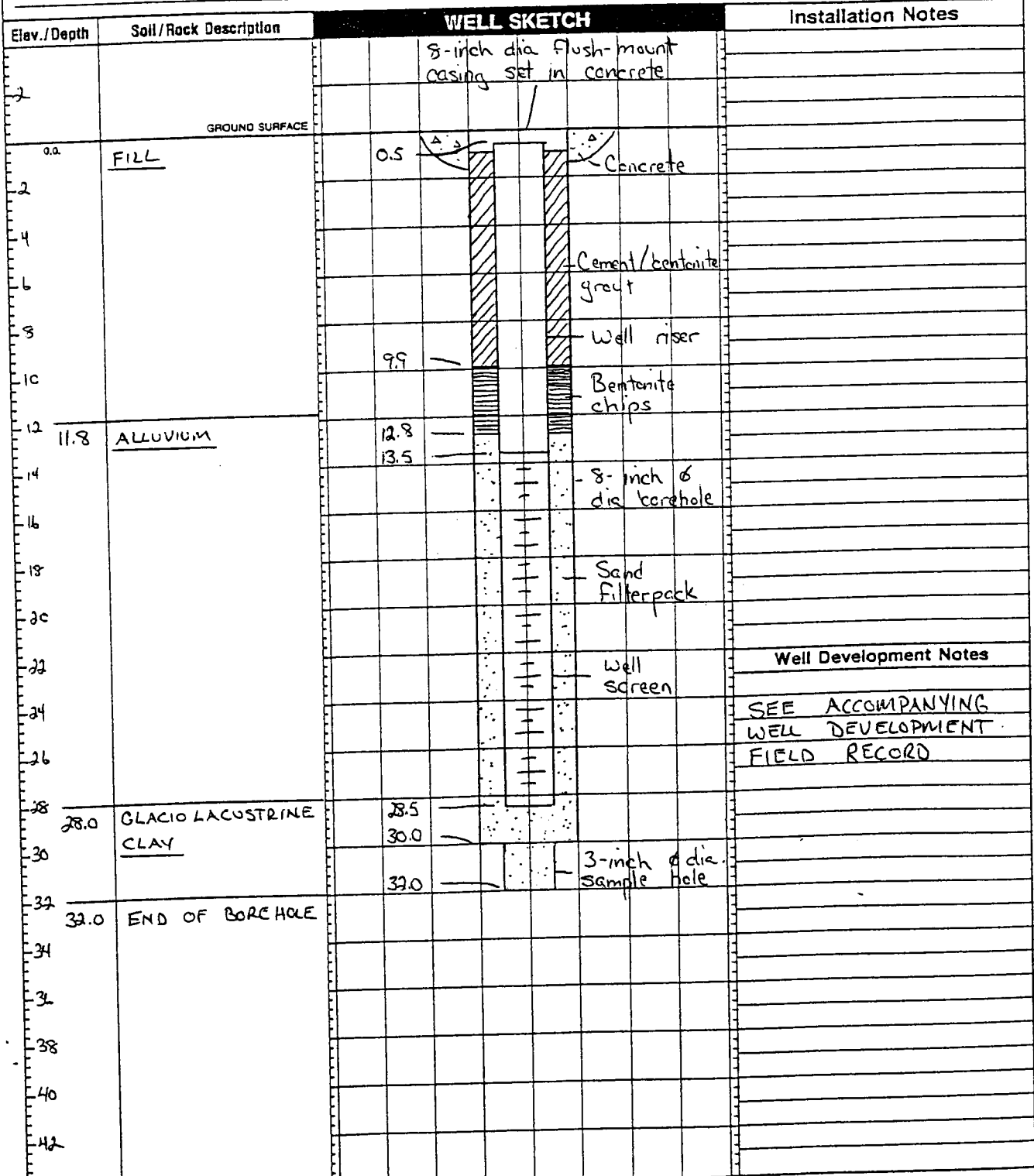


MONITORING WELL INSTALLATION LOG

Job No. <u>963-9117</u>	Project <u>BCC / RFI / NY</u>	Well No. <u>RFI-47</u>	Sheet <u>1</u> of <u>1</u>
GA Insp. <u>D. WEHN</u>	Drilling Method <u>4 1/4 INCH ID HSA</u>	Ground Elev. <u>583.6</u>	Water Depth <u>N/A</u>
Weather <u>SUN</u>	Drilling Company <u>SJB SERVICES INC.</u>	Collar Elev. <u>582.88</u>	Date/Time <u>N/A</u>
Temp. <u>85°F</u>	Drill Rig <u>CME-75</u>	Driller <u>D. BUTZER</u>	Started <u>13:00</u> <u>7/15/98</u> Completed <u>15:00</u> <u>7/15/98</u>

MATERIALS INVENTORY

Well Casing <u>2</u> in. dia. <u>13</u> l.f.	Well Screen <u>2</u> in. dia. <u>15</u> l.f.	Bentonite Seal <u>MED. PURE GOLD CHIPS</u>
Casing Type <u>SCH 40 PVC</u>	Screen Type <u>SLOTTED SCH 40 PVC</u>	Installation Method <u>GRAVITY</u>
Joint Type <u>FLUSH THREAD</u>	Slot Size <u>0.010 INCH</u>	Filter Pack Qty. <u>400 LBS.</u>
Grout Quantity <u>25 GAL.</u>	Centralizers <u>NONE</u>	Filter Pack Type <u>UNIMIN 2040</u>
Grout Type <u>95% CEMENT / 5% BENT.</u>	Drilling Mud Type <u>N/A</u>	Installation Method <u>GRAVITY</u>



Well Development Notes

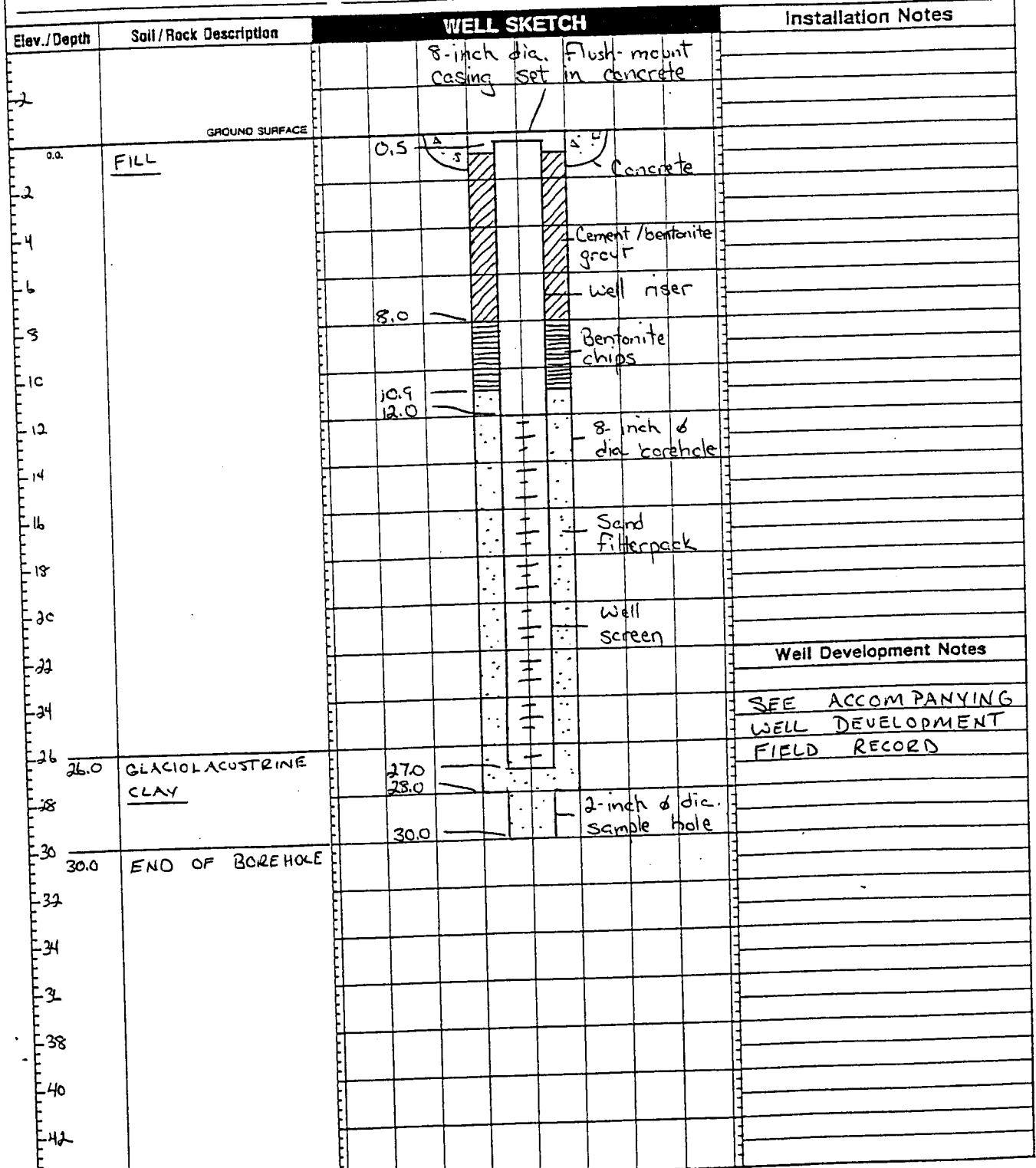
SEE ACCOMPANYING
WELL DEVELOPMENT
FIELD RECORD

MONITORING WELL INSTALLATION LOG

Job No. <u>963-9117</u>	Project <u>BCC / RFI / NY</u>	Well No. <u>RFI-48</u>	Sheet <u>1</u> of <u>1</u>
GA Insp. <u>D. WEHN</u>	Drilling Method <u>4 1/4 INCH ID HSA</u>	Ground Elev. <u>583.5</u>	Water Depth <u>N/A</u>
Weather <u>SUN</u>	Drilling Company <u>SJB SERVICES INC.</u>	Collar Elev. <u>583.00</u>	Date/Time <u>N/A</u>
Temp. <u>80°F</u>	Drill Rig <u>CME-75</u>	Driller <u>D. BUTZER</u>	Started <u>10:30</u> <u>7/16/98</u> Completed <u>12:30</u> <u>7/16/98</u>

MATERIALS INVENTORY

Well Casing <u>2</u> in. dia. <u>11.5</u> l.f.	Well Screen <u>2</u> in. dia. <u>15</u> l.f.	Bentonite Seal <u>MED. PUREGOLD CHIPS</u>
Casing Type <u>SCH 40 PVC</u>	Screen Type <u>SLOTTED SCH 40 PVC</u>	Installation Method <u>GRAVITY</u>
Joint Type <u>FLUSH THREAD</u>	Slot Size <u>0.010 INCH</u>	Filter Pack Qty. <u>380 LBS.</u>
Grout Quantity <u>20 GAL.</u>	Centralizers <u>NONE</u>	Filter Pack Type <u>UNIMIX 2040</u>
Grout Type <u>95% CEMENT / 5% BENT.</u>	Drilling Mud Type <u>N/A</u>	Installation Method <u>GRAVITY</u>



Well Development Notes

SEE ACCOMPANYING
WELL DEVELOPMENT
FIELD RECORD

MONITORING WELL INSTALLATION LOG

Job No. <u>963-9117</u>	Project <u>BCC / RFI / NY</u>	Well No. <u>RFI-49</u>	Sheet <u>1</u> of <u>1</u>
GA Insp. <u>D. WEHN</u>	Drilling Method <u>4 1/4 INCH ID HSA</u>	Ground Elev. <u>583.6</u>	Water Depth <u>N/A</u>
Weather <u>SUN</u>	Drilling Company <u>SJB SERVICES INC.</u>	Collar Elev. <u>586.17</u>	Date/Time <u>N/A</u>
Temp. <u>85°F</u>	Drill Rig <u>CME-75</u>	Driller <u>D. BUTZER</u>	Started <u>11:20</u> <u>7/21/98</u> Completed <u>13:00</u> <u>7/21/98</u>

MATERIALS INVENTORY

Well Casing <u>2</u> in. dia. <u>16.7</u> l.f.	Well Screen <u>2</u> in. dia. <u>10</u> l.f.	Bentonite Seal <u>MED. PUREGOLD CHIPS</u>
Casing Type <u>SCH 40 PVC</u>	Screen Type <u>SLOTTED SCH 40 PVC</u>	Installation Method <u>GRAVITY</u>
Joint Type <u>FLUSH THREAD</u>	Slot Size <u>0.010 INCH</u>	Filter Pack Qty. <u>275 LBS.</u>
Grout Quantity <u>28 GAL.</u>	Centralizers <u>NONE</u>	Filter Pack Type <u>UNIMIX 2040</u>
Grout Type <u>95% CEMENT / 5% BENT.</u>	Drilling Mud Type <u>N/A</u>	Installation Method <u>GRAVITY</u>

Elev./Depth	Soil/Rock Description	WELL SKETCH	Installation Notes
2		2.5	Locking 4-inch Square Steel protective casing
0.0	FILL		Concrete
2			Cement/bentonite grout
4			Well riser
6			
8			
10		10.5	Bentonite chips
12		13.5	
14	ALLUVIUM	14.2	8-inch dia borehole
16			Sand filterpack
18			Well screen
20			
22			
24		24.2	
24.5	GLACIOLACUSTRINE CLAY	26.0	
26			2-inch dia sample hole
28		28.0	
28.0	END OF BOREHOLE		
30			
32			
34			
36			
38			
40			
42			

Well Development Notes

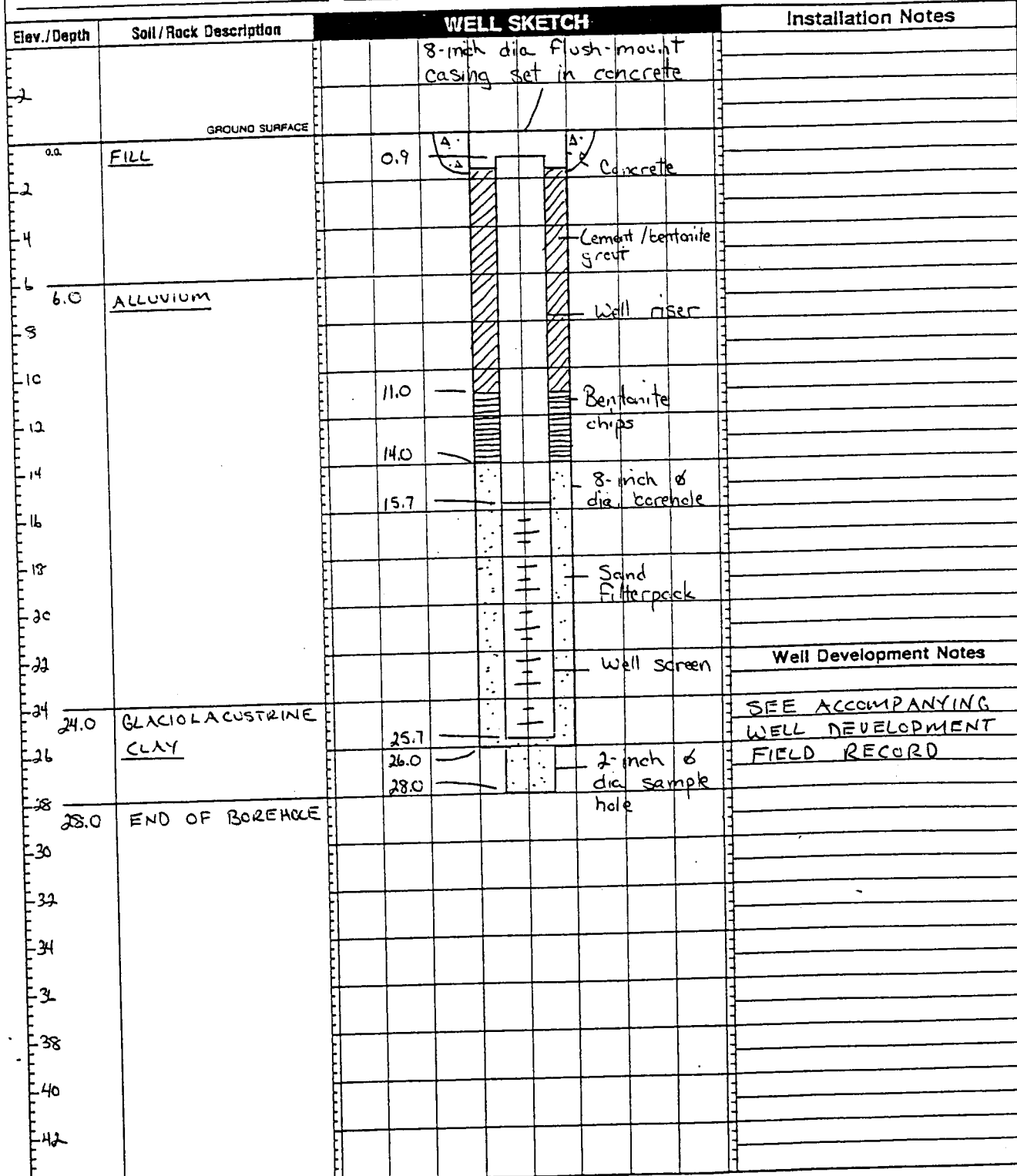
SEE ACCOMPANYING
WELL DEVELOPMENT
FIELD RECORD

MONITORING WELL INSTALLATION LOG

Job No. <u>963-9117</u>	Project <u>BCC / RFI / NY</u>	Well No. <u>RFI-50</u>	Sheet <u>1</u> of <u>1</u>
GA Insp. <u>D. WEHN</u>	Drilling Method <u>4 1/4 INCH ID HSA</u>	Ground Elev. <u>582.7</u>	Water Depth <u>N/A</u>
Weather <u>SUN</u>	Drilling Company <u>SJB SERVICES INC.</u>	Collar Elev. <u>581.82</u>	Date/Time <u>N/A</u>
Temp. <u>80°F</u>	Drill Rig <u>CME-75</u>	Driller <u>D. BUTZER</u>	Started <u>8:05</u> <u>7/30/98</u> Completed <u>11:00</u> <u>7/30/98</u>

MATERIALS INVENTORY

Well Casing <u>2</u> in. dia. <u>14.8</u> l.f.	Well Screen <u>2</u> in. dia. <u>10</u> l.f.	Bentonite Seal <u>MED. PUREGOLD CHIPS</u>
Casing Type <u>SCH 40 PVC</u>	Screen Type <u>SLOTTED SCH 40 PVC</u>	Installation Method <u>GRAVITY</u>
Joint Type <u>FLUSH THREAD</u>	Slot Size <u>0.010 INCH</u>	Filter Pack Qty. <u>290 LBS.</u>
Grout Quantity <u>20 GAL.</u>	Centralizers <u>NONE</u>	Filter Pack Type <u>UNIMIN 2040</u>
Grout Type <u>95% CEMENT / 5% BENT.</u>	Drilling Mud Type <u>N/A</u>	Installation Method <u>GRAVITY</u>



MONITORING WELL INSTALLATION LOG

Job No. 963-9117 Project BCC / RFI / NY Well No. RFI - 51 Sheet 1 of 1
 GA Insp. D. WEHN Drilling Method 4 1/4 INCH ID HSA Ground Elev. 585.0 Water Depth N/A
 Weather CLEAR Drilling Company SJB SERVICES INC. Collar Elev. 587.41 Date/Time N/A
 Temp. 85°F Drill Rig CME-75 Driller D. BUTZER Started 16:15 7/21/98 Completed 16:50 7/21/98

MATERIALS INVENTORY

Well Casing 2 in. dia. 10.7 l.f. Well Screen 2 in. dia. 5 l.f. Bentonite Seal MED. PUREGOLD CHIPS
 Casing Type SCH 40 PVC Screen Type SLOTTED SCH 40 PVC Installation Method GRAVITY
 Joint Type FLUSH THREAD Slot Size 0.010 INCH Filter Pack Qty. 200 LBS.
 Grout Quantity 15 GAL. Centralizers NONE Filter Pack Type UNIWIN 2040
 Grout Type 95% CEMENT / 5% BENT. Drilling Mud Type N/A Installation Method GRAVITY

Elev./Depth	Soil/Rock Description	WELL SKETCH	Installation Notes
2		2.4	Locking 6 inch square steel protective casing
0.0	FILL	3.0	Concrete
2			Cement/bentonite grout
4		6.0	Bentonite chips
6			Well riser
8	7.0 UPPER TILLS	8.3	8-inch dia borehole
10	10.0 GLACIO LACUSTRINE CLAY		Sand Filterpack
12		13.3	Well screen
14		14.0	2-inch dia. sample hole
16	16.0 END OF BOREHOLE	16.0	
18			
20			
22			
24			
26			
28			
30			
32			
34			
36			
38			
40			
42			

Well Development Notes

SEE ACCOMPANYING WELL DEVELOPMENT FIELD RECORD

APPENDIX C

FIELD RECORDS OF MONITORING WELL DEVELOPMENT

WELL DEVELOPMENT FIELD RECORD

JOB NAME BCC / RFI / NY
 DEVELOPED BY D. WEHN
 STARTED DEVEL 7/22/98 / 1 12:40
DATE TIME
 W.L. BEFORE DEVEL 8.52 17/22/98 12:40
DEPTH DATE TIME
 WELL DEPTH: BEFORE DEVEL 30.61 8102
 STANDING WATER COLUMN (FT.) 22.1 FT
 SCREEN LENGTH 15 FT

JOB NO. 963-9117 WELL NO. RFI-46
 DATE OF INSTALL 7/14/98 SHEET 1 OF 1
 COMPLETED DEVEL 7/22/98 / 1 13:40
DATE TIME
 AFTER DEVEL 8.52 17/22/98 13:40
DEPTH DATE TIME
 AFTER DEVEL 30.60 WELL DIA. (In) 2
 STANDING WELL VOLUME 3.6 gal.
 DRILLING WATER LOSS N/A gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS				REMARKS
		SPEC. COND. (umhos/cm)	TEMP. (C)	pH (s.u.)	OTHER	
7/22/98 12:40	0	6100	13.9	6.0		Very turbid ↓
	3.6	5800	14.2	5.9		
	7.2	5900	14.2	5.8		
	10.8	5500	14.0	5.4		
	14.4	5600	14.0	5.4		
7/22/98 13:40	18	5500	14.1	5.3		
	18	= TOTAL VOLUME REMOVED (gal.)				

DEVELOPMENT METHOD: Stainless steel bailer, nylon rope

NOTES: Gray brown turbidity, most of which settles out after 20 min.
Could not depress water level



WELL DEVELOPMENT FIELD RECORD

JOB NAME BCC / RFI / NY
DEVELOPED BY D. LOEHN
STARTED DEVEL 7/22/98 / 13:55
DATE TIME
W.L. BEFORE DEVEL 8.53 7/22/98 / 13:55
DEPTH DATE TIME
WELL DEPTH: BEFORE DEVEL 28.19 BTOL
STANDING WATER COLUMN (FT.) 19.7 FT
SCREEN LENGTH 15 FT

JOB NO. 963-9117 WELL NO. RFI-47
DATE OF INSTALL 7/15/98 SHEET 1 OF 1
COMPLETED DEVEL 7/22/98 / 15:15
DATE TIME
AFTER DEVEL 8.53 7/22/98 / 15:15
DEPTH DATE TIME
AFTER DEVEL 28.19 WELL DIA. (In) 2
STANDING WELL VOLUME 3.2 gal.
DRILLING WATER LOSS N/A gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS				REMARKS
		SPEC. COND. (umhos/cm µS)	TEMP. (C)	pH (s.u.)	OTHER	
7/22/98 13:55	0	2300	14.0	5.1		Very turbid ↓
	3.2	2400	14.2	5.0		
	6.4	2300	14.2	4.9		
	9.6	2300	14.9	4.9		
	12.8	2300	14.6	5.0		
7/22/98 15:15	16.0	2200	14.2	4.9		

DEVELOPMENT METHOD: Stainless steel bailer, nylon rope

NOTES: Brown turbidity, most of which settles out after 30 min.
Could not depress water table.

WELL DEVELOPMENT FIELD RECORD

JOB NAME <u>BCC / RFI / NY</u> DEVELOPED BY <u>D. WEHN</u> STARTED DEVEL <u>7/23/98</u> / <u>10:30</u> DATE TIME W.L. BEFORE DEVEL <u>8.00</u> <u>7/23/98</u> / <u>10:30</u> DEPTH DATE TIME WELL DEPTH: BEFORE DEVEL <u>24.80</u> FT BTOB STANDING WATER COLUMN (FT.) <u>16.8</u> SCREEN LENGTH <u>10</u> FT	JOB NO. <u>963-9117</u> WELL NO. <u>RFI-50</u> DATE OF INSTALL <u>7/20/98</u> SHEET <u>1</u> OF <u>1</u> COMPLETED DEVEL <u>7/23/98</u> / <u>11:33</u> DATE TIME AFTER DEVEL <u>8.00</u> <u>7/23/98</u> / <u>11:33</u> DEPTH DATE TIME AFTER DEVEL <u>24.80</u> WELL DIA. (In) <u>2</u> STANDING WELL VOLUME <u>2.7</u> gal. DRILLING WATER LOSS <u>N/A</u> gal.
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS				REMARKS
		SPEC. COND. (umhos/cm)	TEMP. (C)	pH (s.u.)	OTHER	
7/23/98 10:40	0	6100	14.6	5.9		Very turbid ↓
	2.7	5800	14.3	5.9		
	5.4	5900	14.2	6.0		
	8.1	5800	14.1	6.0		
	10.8	5800	13.5	6.0		
7/23/98 11:33	13.5	6000	13.4	5.9		
	13.5	= TOTAL VOLUME REMOVED (gal.)				

DEVELOPMENT METHOD: Stainless steel bailer, nylon rope

NOTES: Petroliferous odor
Could not depress water table.

WELL DEVELOPMENT FIELD RECORD

JOB NAME BCC / RFI / NY
 DEVELOPED BY D. WEHN
 STARTED LEVEL 7/23/98 / 14:30
 DATE TIME
 W.L. BEFORE DEVEL 5.10 / 7/23/98 / 14:30
 DEPTH DATE TIME
 WELL DEPTH: BEFORE DEVEL 15.69 FT BTOR
 STANDING WATER COLUMN (FT.) 10.6
 SCREEN LENGTH 5 FT

JOB NO. 963-9117 WELL NO. RFI-51
 DATE OF INSTALL 7/21/98 SHEET 1 OF 1
 COMPLETED LEVEL 7/23/98 / 15:30
 DATE TIME
 AFTER DEVEL 12.20 / 7/23/98 / 15:30
 DEPTH DATE TIME
 AFTER DEVEL 15.69 WELL DIA. (In) 2
 STANDING WELL VOLUME 1.7 gal.
 DRILLING WATER LOSS N/A gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS				REMARKS
		SPEC. COND. (umhos/cm)	TEMP. (C)	pH (s.u.)	OTHER	
7/23/98 14:40	0	1900	18.5	9.7		Moderate turbidity ↓
	1.7	2100	16.4	8.2		
	3.4	2200	15.3	8.2		
	5.1	2100	15.4	8.2		
	6.8	2100	15.4	8.4		
7/23/98 15:30	8.5	2000	15.8	8.4		
	8.5	= TOTAL VOLUME REMOVED (gal.)				

DEVELOPMENT METHOD: Stainless steel bailer, nylon rope.

NOTES: Brown turbidity. Well can be bailed dry.

APPENDIX D
HYDRAULIC TESTING RESULTS

RISING HEAD TEST

WELL RFI-44
DATE OF TEST: 7/24/98

STATIC WATER DEPTH = 9.37 FEET BELOW TOC
STANDPIPE DIAMETER = 2.00 INCHES
SANDPACK DIAMETER = 8.00 INCHES
TOP OF SATURATED SAND = 15.00 FEET BELOW TOC
BOTTOM OF SANDPACK = 37.50 FEET BELOW TOC

24 HOUR CLOCK HR	MIN	SEC	ELAPSED TIME (MIN)	DEPTH TO WATER (FT TOC)	HEAD (FEET)	HEAD RATIO (H/Ho)	LOG HEAD RATIO
5	243	11	0.00	7.83	1.54	1.000	0.0000
5	243	12	0.02	8.515	0.85	0.555 *	-0.2556
5	243	13	0.03	8.679	0.69	0.449	-0.3480
5	243	14	0.05	8.657	0.71	0.463	-0.3344
5	243	15	0.07	8.727	0.64	0.418	-0.3793
5	243	16	0.08	8.873	0.50	0.323	-0.4912
5	243	17	0.10	8.901	0.47	0.305	-0.5163
5	243	18	0.12	8.946	0.42	0.275	-0.5602
5	243	19	0.13	8.975	0.40	0.256	-0.5909
5	243	20	0.15	9.005	0.36	0.237	-0.6252
5	243	21	0.17	9.03	0.34	0.221	-0.6560
5	243	22	0.18	9.049	0.32	0.208	-0.6810
5	243	23	0.20	9.076	0.29	0.191	-0.7192
5	243	24	0.22	9.095	0.27	0.179	-0.7482
5	243	25	0.23	9.117	0.25	0.164	-0.7844
5	243	26	0.25	9.138	0.23	0.151	-0.8220
5	243	27	0.27	9.156	0.21	0.139	-0.8571
5	243	28	0.28	9.17	0.20	0.130	-0.8865
5	243	29	0.30	9.181	0.19	0.123	-0.9111
5	243	30	0.32	9.194	0.18	0.114	-0.9420
5	243	31	0.33	9.208	0.16	0.105	-0.9780
5	243	32	0.35	9.225	0.15	0.094	-1.0262
5	243	33	0.37	9.237	0.13	0.086	-1.0637
5	243	34	0.38	9.236	0.13	0.087	-1.0604
5	243	35	0.40	9.251	0.12	0.077	-1.1120
5	243	36	0.42	9.271	0.10	0.064	-1.1919
5	243	37	0.43	9.28	0.09	0.058	-1.2333
5	243	38	0.45	9.282	0.09	0.057	-1.2430
5	243	39	0.47	9.295	0.07	0.049	-1.3125

5	243	40	0.48	9.301	0.07	0.045	-1.3487
5	243	41	0.50	9.309	0.06	0.040 *	-1.4022

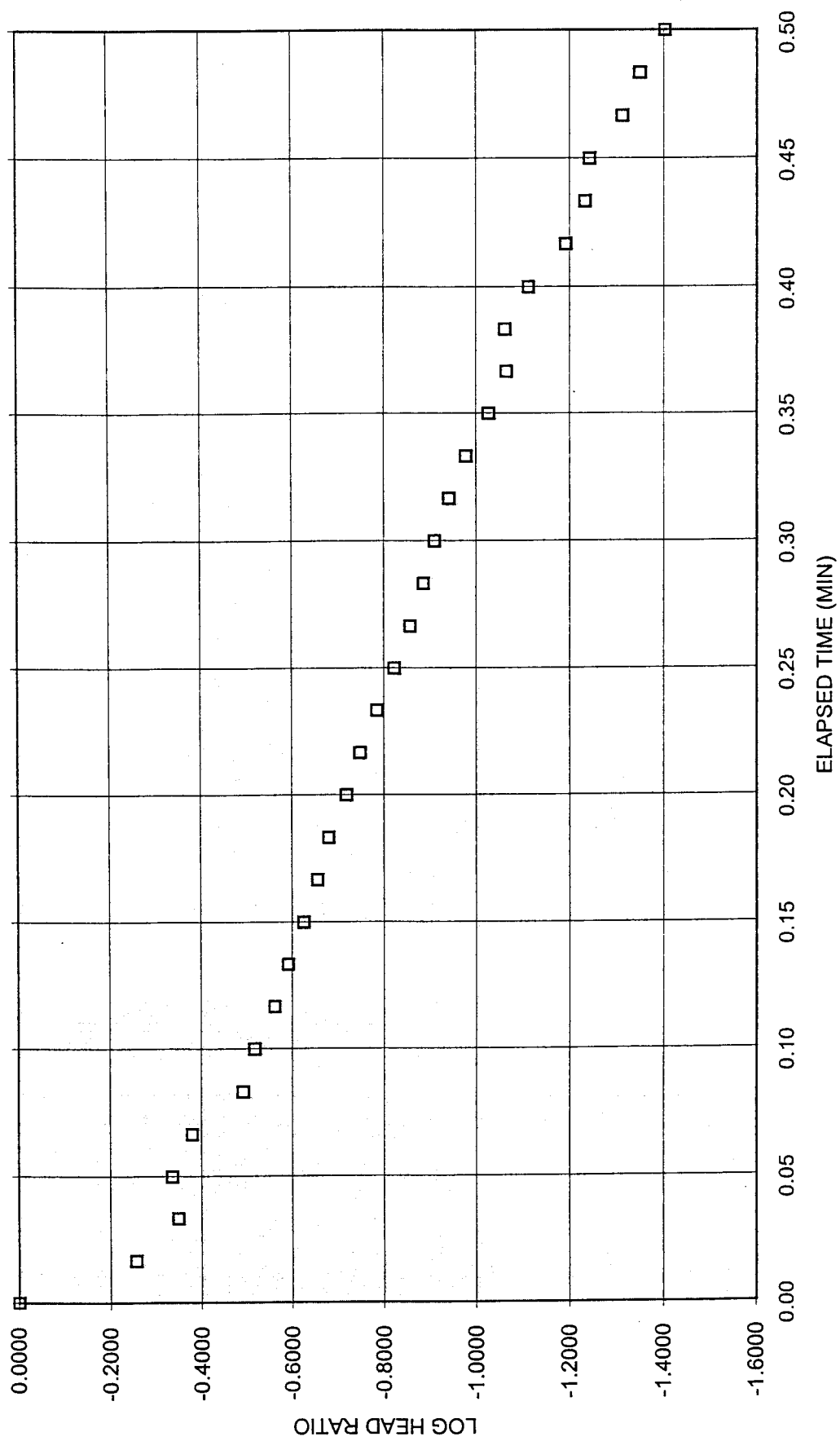
NOTES:

- 1) * INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS
WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 1.81E-03 CM/SEC

	ELAPSED TIME	HEAD RATIO
POINT 1	0.020	0.555
POINT 2	0.500	0.040

RIISING HEAD TEST
WELL RFI-44



RISING HEAD TEST

WELL RFI-45
DATE OF TEST: 7/24/98

STATIC WATER DEPTH = 8.70 FEET BELOW TOC
STANDPIPE DIAMETER = 2.00 INCHES
SANDPACK DIAMETER = 8.00 INCHES
TOP OF SATURATED SAND = 16.80 FEET BELOW TOC
BOTTOM OF SANDPACK = 33.70 FEET BELOW TOC

24 HOUR CLOCK HR	MIN	SEC	ELAPSED TIME (MIN)	DEPTH TO WATER (FT TOC)	HEAD (FEET)	HEAD RATIO (H/Ho)	LOG HEAD RATIO
5	415	27	0.00	6.58	2.12	1.000	0.0000
5	415	28	0.02	7.697	1.00	0.473 *	-0.3250
5	415	29	0.03	7.987	0.71	0.336	-0.4732
5	415	30	0.05	8.169	0.53	0.250	-0.6012
5	415	31	0.07	8.3	0.40	0.189	-0.7243
5	415	32	0.08	8.386	0.31	0.148	-0.8294
5	415	33	0.10	8.472	0.23	0.108	-0.9684
5	415	34	0.12	8.524	0.18	0.083	-1.0808
5	415	35	0.13	8.578	0.12	0.058	-1.2400
5	415	36	0.15	8.609	0.09	0.043	-1.3673
5	415	37	0.17	8.638	0.06	0.029	-1.5339
5	415	38	0.18	8.647	0.05	0.025	-1.6021
5	415	39	0.20	8.66	0.04	0.019	-1.7243
5	415	40	0.22	8.673	0.03	0.013	-1.8950
5	415	41	0.23	8.68	0.02	0.009	-2.0253
5	415	42	0.25	8.684	0.02	0.008 *	-2.1222

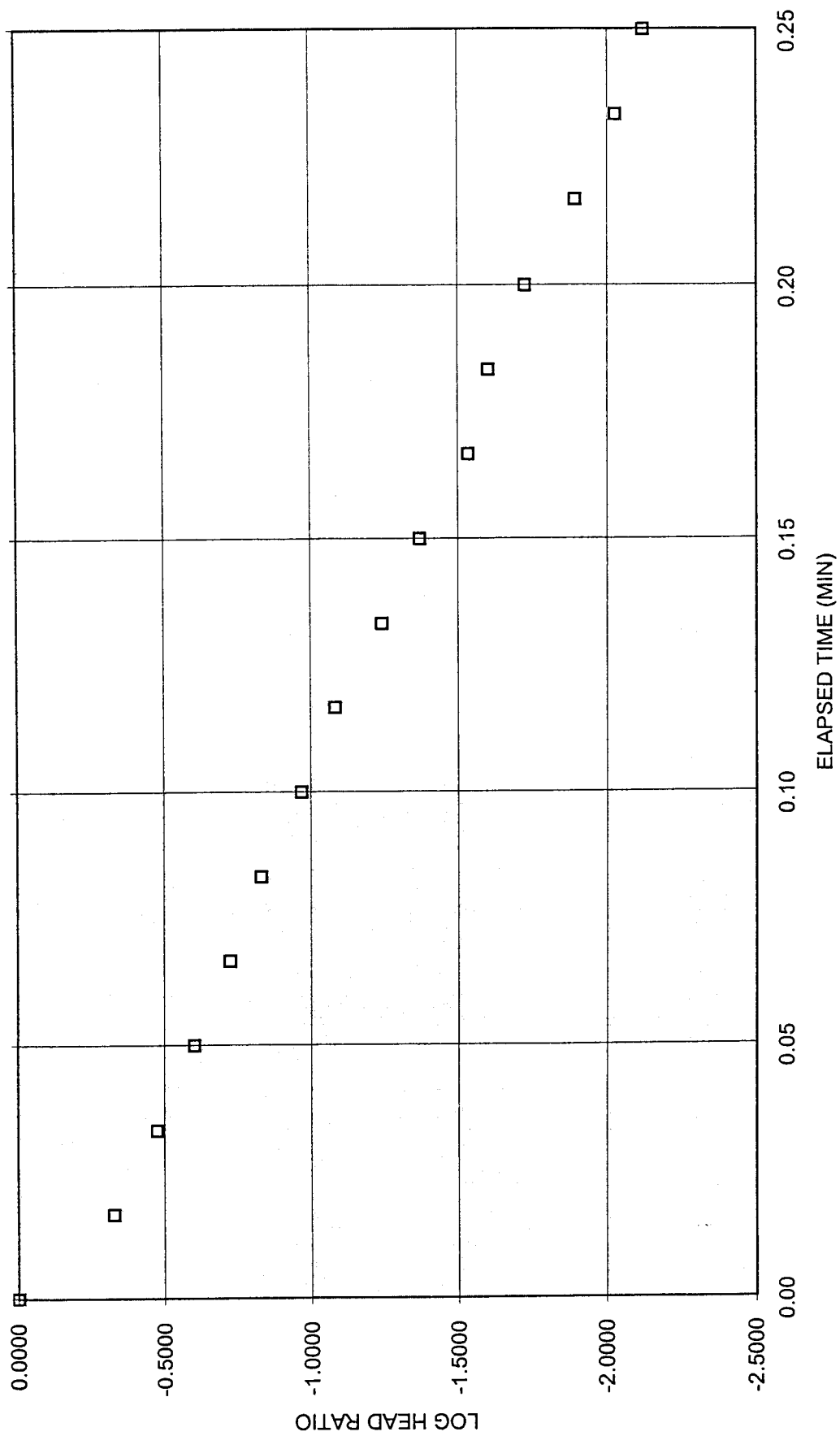
NOTES:

- 1) * INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS
WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 7.27E-03 CM/SEC

	ELAPSED TIME	HEAD RATIO
POINT 1	0.020	0.473
POINT 2	0.250	0.008

RIISING HEAD TEST
WELL RFI-45



FALLING HEAD TEST

WELL RFI-46
DATE OF TEST: 7/24/98

STATIC WATER DEPTH = 8.52 FEET BELOW TOC
STANDPIPE DIAMETER = 2.00 INCHES
SANDPACK DIAMETER = 8.00 INCHES
TOP OF SATURATED SAND = 14.90 FEET BELOW TOC
BOTTOM OF SANDPACK = 31.90 FEET BELOW TOC

24 HOUR CLOCK	ELAPSED			DEPTH TO	HEAD	HEAD	LOG
HR	MIN	SEC	TIME	WATER	(FEET)	RATIO	HEAD
			(MIN)	(FT TOC)		(H/Ho)	RATIO
5	325	21	0	11.438	-2.92	1.000	0.0000
5	325	22	0.02	8.91	-0.39	0.134	-0.8740
5	325	23	0.03	10.073	-1.55	0.532	-0.2739
5	325	24	0.05	9.667	-1.15	0.393 *	-0.4055
5	325	25	0.07	9.714	-1.19	0.409	-0.3881
5	325	26	0.08	9.673	-1.15	0.395	-0.4033
5	325	27	0.10	9.601	-1.08	0.370	-0.4313
5	325	28	0.12	9.603	-1.08	0.371	-0.4305
5	325	29	0.13	9.567	-1.05	0.359	-0.4451
5	325	30	0.15	9.545	-1.03	0.351	-0.4544
5	325	31	0.17	9.523	-1.00	0.344	-0.4638
5	325	41	0.33	9.347	-0.83	0.283	-0.5476
5	325	51	0.50	9.219	-0.70	0.240	-0.6206
5	326	1	0.67	9.114	-0.59	0.204	-0.6913
5	326	11	0.83	9.046	-0.53	0.180	-0.7441
5	326	21	1.00	8.987	-0.47	0.160	-0.7958
5	326	31	1.17	8.928	-0.41	0.140	-0.8544
5	326	41	1.33	8.893	-0.37	0.128	-0.8934
5	326	51	1.50	8.863	-0.34	0.118	-0.9298
5	327	1	1.67	8.82	-0.30	0.103	-0.9880
5	327	11	1.83	8.798	-0.28	0.095	-1.0210
5	327	21	2.00	8.795	-0.28	0.094	-1.0258
5	327	31	2.17	8.761	-0.24	0.083	-1.0831
5	327	41	2.33	8.742	-0.22	0.076	-1.1187
5	327	51	2.50	8.731	-0.21	0.072	-1.1408
5	328	1	2.67	8.72	-0.20	0.069 *	-1.1641

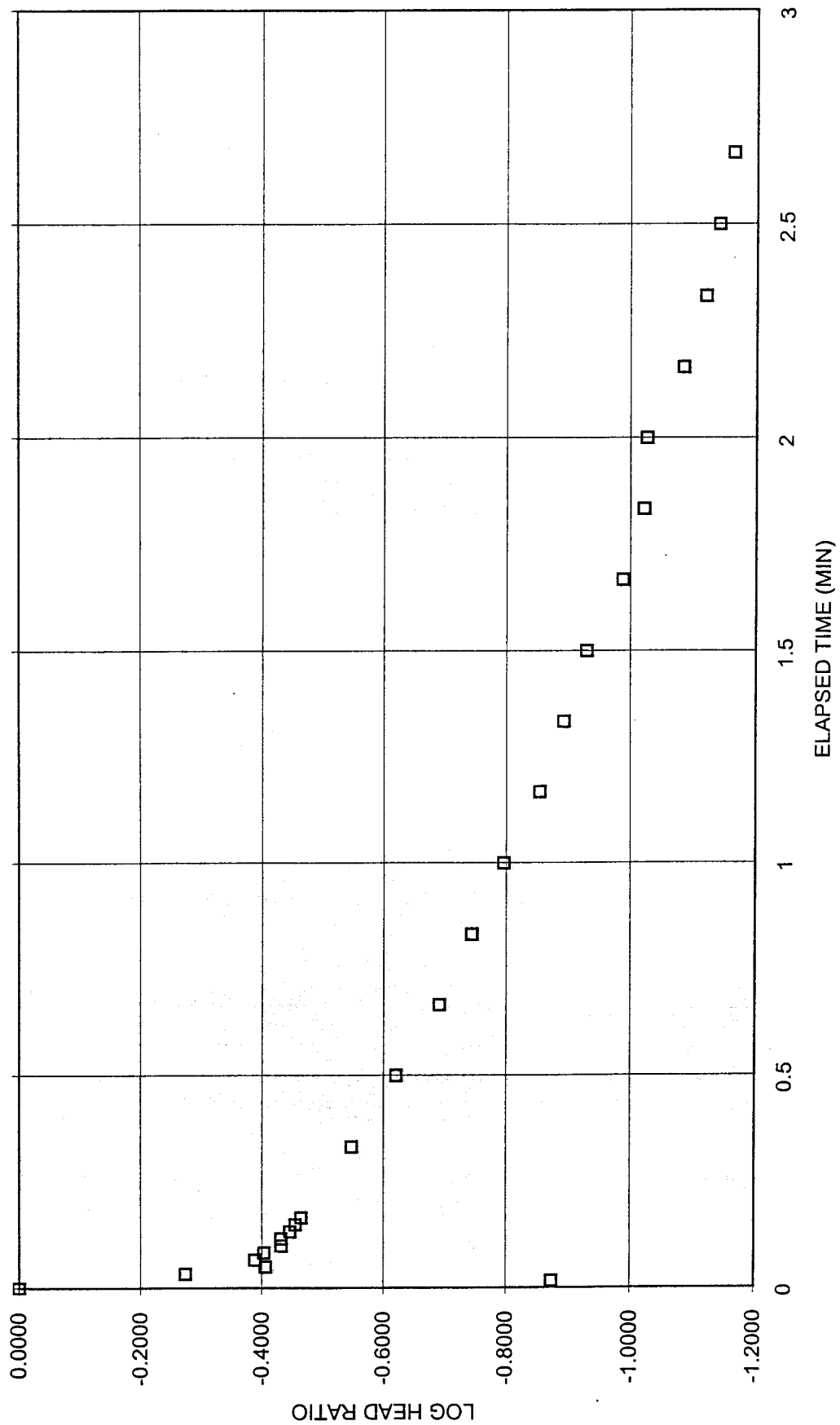
NOTES:

- 1) * INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS
WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 2.71E-04 CM/SEC

	ELAPSED TIME	HEAD RATIO
POINT 1	0.050	0.393
POINT 2	2.670	0.069

FALLING HEAD TEST
WELL RFI-46



RISING HEAD TEST

WELL RFI-47
DATE OF TEST: 7/24/98

STATIC WATER DEPTH = 8.53 FEET BELOW TOC
STANDPIPE DIAMETER = 2.00 INCHES
SANDPACK DIAMETER = 8.00 INCHES
TOP OF SATURATED SAND = 12.30 FEET BELOW TOC
BOTTOM OF SANDPACK = 29.50 FEET BELOW TOC

24 HOUR CLOCK HR	MIN	SEC	ELAPSED TIME (MIN)	DEPTH TO WATER (FT TOC)	HEAD (FEET)	HEAD RATIO (H/Ho)	LOG HEAD RATIO
403	45	17.378	0.00	7.308	1.22	1.000	0.0000
403	46	17.667	1.00	7.597	0.93	0.764 *	-0.1172
403	47	17.787	2.01	7.717	0.81	0.665	-0.1770
403	48	17.892	3.01	7.822	0.71	0.579	-0.2370
403	49	17.979	4.01	7.909	0.62	0.508	-0.2940
403	50	18.055	5.01	7.985	0.54	0.446	-0.3507
403	51	18.12	6.01	8.05	0.48	0.393	-0.4058
403	52	18.187	7.01	8.117	0.41	0.338	-0.4711
403	53	18.228	8.01	8.158	0.37	0.304	-0.5165
403	54	18.271	9.01	8.201	0.33	0.269	-0.5699
403	55	18.312	10.02	8.242	0.29	0.236	-0.6277
403	56	18.344	11.02	8.274	0.26	0.209	-0.6788
403	57	18.374	12.02	8.304	0.23	0.185	-0.7330
403	58	18.401	13.02	8.331	0.20	0.163	-0.7882
403	59	18.422	14.02	8.352	0.18	0.146	-0.8367
404	0	18.443	15.02	8.373	0.16	0.128	-0.8912
404	1	18.461	16.02	8.391	0.14	0.114	-0.9441
404	2	18.481	17.02	8.411	0.12	0.097	-1.0115
404	3	18.491	18.02	8.421	0.11	0.089	-1.0496
404	4	18.504	19.02	8.434	0.10	0.079	-1.1048
404	5	18.518	20.02	8.448	0.08	0.067	-1.1733
404	6	18.523	21.02	8.453	0.08	0.063	-1.2006
404	7	18.536	22.02	8.466	0.06	0.052	-1.2809
404	8	18.547	23.02	8.477	0.05	0.043 *	-1.3628

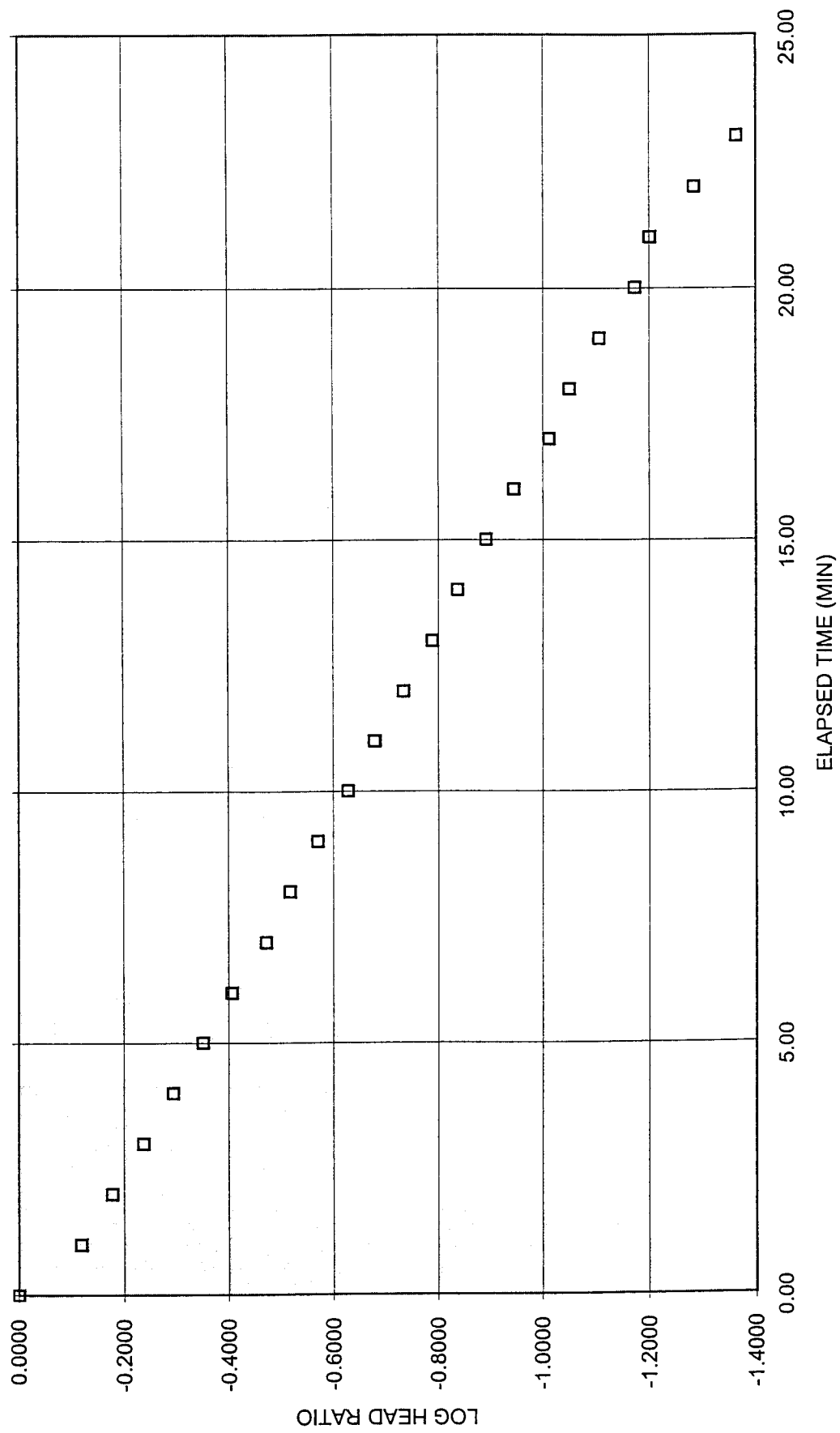
NOTES:

- 1) * INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS
WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 5.28E-05 CM/SEC

	ELAPSED TIME	HEAD RATIO
POINT 1	1.000	0.764
POINT 2	23.020	0.043

RIISING HEAD TEST
WELL RFI-47



RISING HEAD TEST

WELL RFI-48
DATE OF TEST: 7/24/98

STATIC WATER DEPTH = 8.79 FEET BELOW TOC
STANDPIPE DIAMETER = 2.00 INCHES
SANDPACK DIAMETER = 8.00 INCHES
TOP OF SATURATED SAND = 10.40 FEET BELOW TOC
BOTTOM OF SANDPACK = 27.50 FEET BELOW TOC

24 HOUR CLOCK HR	MIN	SEC	ELAPSED TIME (MIN)	DEPTH TO WATER (FT TOC)	HEAD (FEET)	HEAD RATIO (H/Ho)	LOG HEAD RATIO
5	434	21	0.00	8.157	0.63	1.000	0.0000
5	434	22	0.02	8.526	0.26	0.417 *	-0.3798
5	434	23	0.03	8.668	0.12	0.193	-0.7150
5	434	24	0.05	8.709	0.08	0.128	-0.8929
5	434	25	0.07	8.74	0.05	0.079 *	-1.1024
5	434	26	0.08	8.738	0.05	0.082	-1.0854
5	434	27	0.10	8.757	0.03	0.052	-1.2829
5	434	28	0.12	8.771	0.02	0.030	-1.5227
5	434	29	0.13	8.754	0.04	0.057	-1.2451
5	434	30	0.15	8.778	0.01	0.019	-1.7222
5	434	31	0.17	8.783	0.01	0.011	-1.9563
5	434	32	0.18	8.781	0.01	0.014	-1.8472

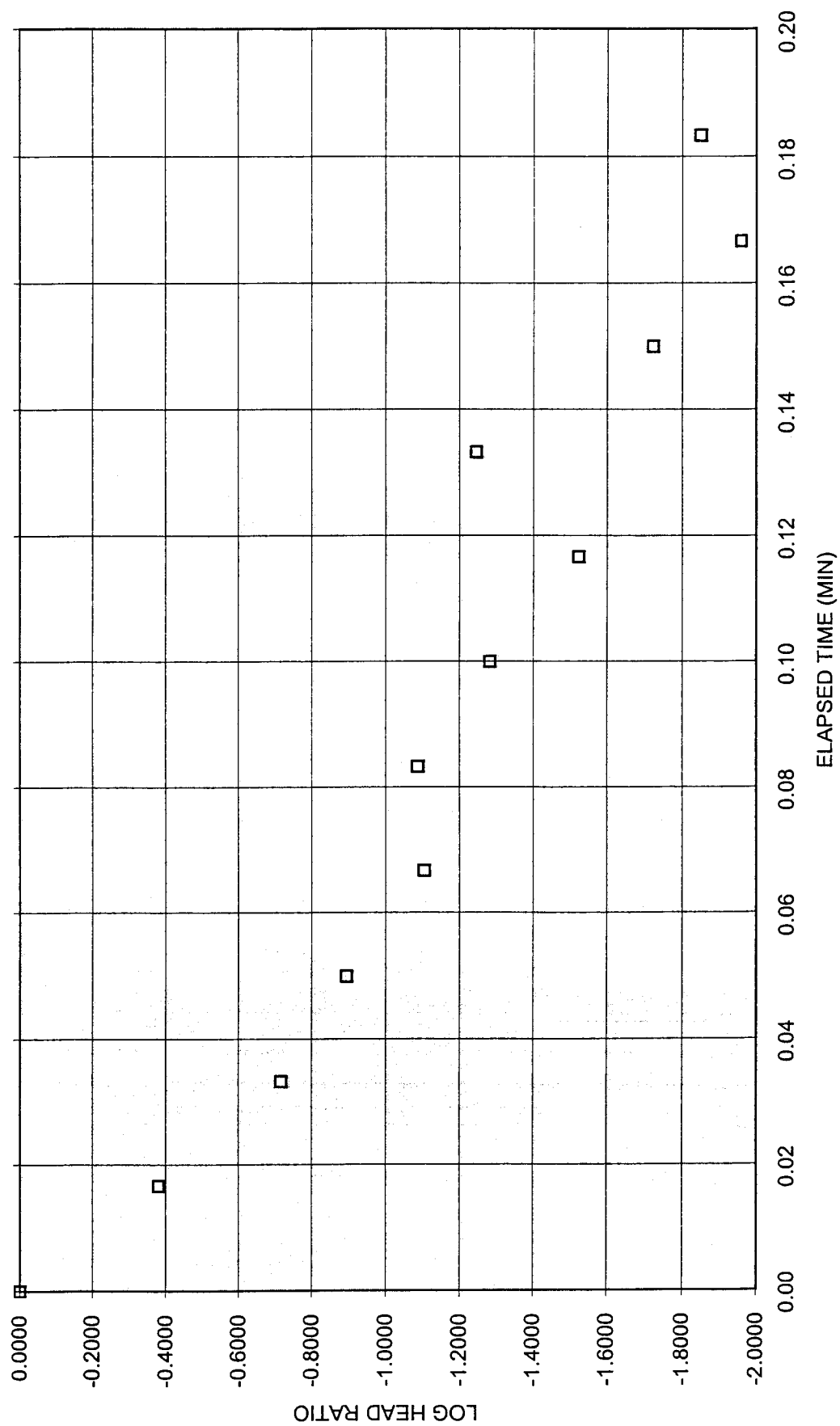
NOTES:

- 1) * INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS
WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 1.35E-02 CM/SEC

	ELAPSED TIME	HEAD RATIO
POINT 1	0.020	0.417
POINT 2	0.070	0.079

RIISING HEAD TEST
WELL RFI-48



RISING HEAD TEST

WELL RFI-49
DATE OF TEST: 7/23/98

STATIC WATER DEPTH = 11.27 FEET BELOW TOC
STANDPIPE DIAMETER = 2.00 INCHES
SANDPACK DIAMETER = 8.00 INCHES
TOP OF SATURATED SAND = 16.00 FEET BELOW TOC
BOTTOM OF SANDPACK = 28.50 FEET BELOW TOC

24 HOUR CLOCK			ELAPSED	DEPTH TO	HEAD	HEAD	LOG
HR	MIN	SEC	TIME (MIN)	WATER (FT TOC)	(FEET)	RATIO (H/Ho)	HEAD RATIO
13	44	25	0.00	16.00	-4.73	1.000	0.0000
13	44	45	0.33	15.50	-4.23	0.894 *	-0.0485
13	45	10	0.75	15.00	-3.73	0.789	-0.1032
13	45	41	1.27	14.50	-3.23	0.683	-0.1657
13	46	19	1.90	14.00	-2.73	0.577	-0.2387
13	47	6	2.68	13.50	-2.23	0.471	-0.3266
13	48	8	3.72	13.00	-1.73	0.366	-0.4368
13	49	35	5.17	12.50	-1.23	0.260 *	-0.5850
13	52	0	7.58	12.00	-0.73	0.154	-0.8115

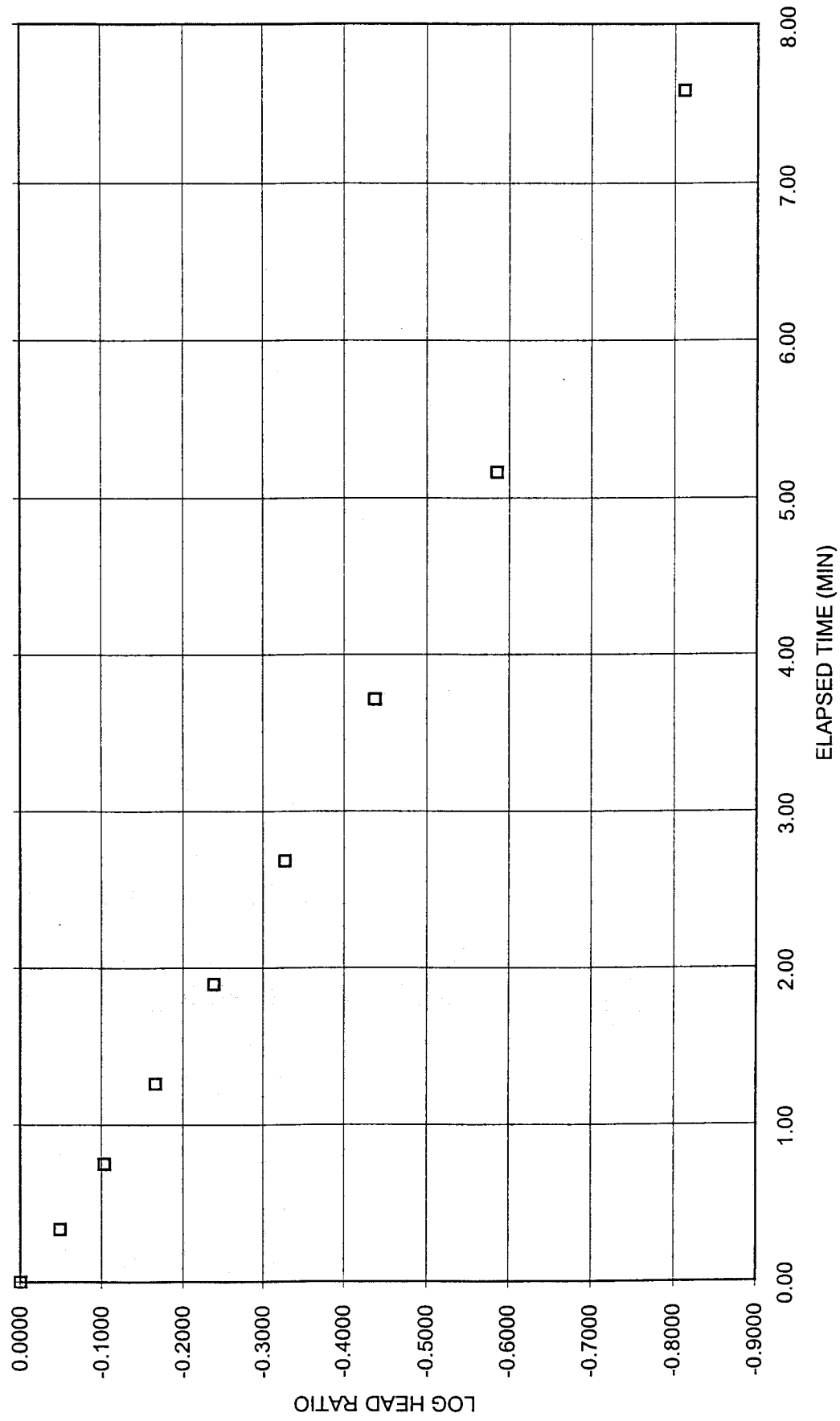
NOTES:

- 1) * INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS
WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 1.31E-04 CM/SEC

	ELAPSED TIME	HEAD RATIO
POINT 1	0.330	0.894
POINT 2	5.170	0.260

RIISING HEAD TEST
WELL RFI-49



RISING HEAD TEST

WELL RFI-50
DATE OF TEST: 7/24/98

STATIC WATER DEPTH = 8.00 FEET BELOW TOC
STANDPIPE DIAMETER = 2.00 INCHES
SANDPACK DIAMETER = 8.00 INCHES
TOP OF SATURATED SAND = 13.10 FEET BELOW TOC
BOTTOM OF SANDPACK = 25.10 FEET BELOW TOC

24 HOUR CLOCK	ELAPSED TIME			DEPTH TO	HEAD	HEAD	LOG
HR	MIN	SEC	(MIN)	WATER	(FEET)	RATIO	HEAD
				(FT TOC)		(H/Ho)	RATIO
5	451	23	0.00	4.427	3.57	1.000	0.0000
5	451	24	0.02	6.778	1.22	0.342 *	-0.4660
5	451	25	0.03	7.063	0.94	0.262	-0.5813
5	451	26	0.05	7.253	0.75	0.209	-0.6797
5	451	27	0.07	7.408	0.59	0.166	-0.7807
5	451	28	0.08	7.529	0.47	0.132	-0.8800
5	451	29	0.10	7.629	0.37	0.104	-0.9837
5	451	30	0.12	7.729	0.27	0.076	-1.1201
5	451	31	0.13	7.807	0.19	0.054	-1.2675
5	451	32	0.15	7.839	0.16	0.045 *	-1.3462
5	451	33	0.17	7.898	0.10	0.029	-1.5444
5	451	34	0.18	7.941	0.06	0.017	-1.7822
5	451	35	0.20	7.959	0.04	0.011	-1.9402
5	451	36	0.22	7.986	0.01	0.004	-2.4069

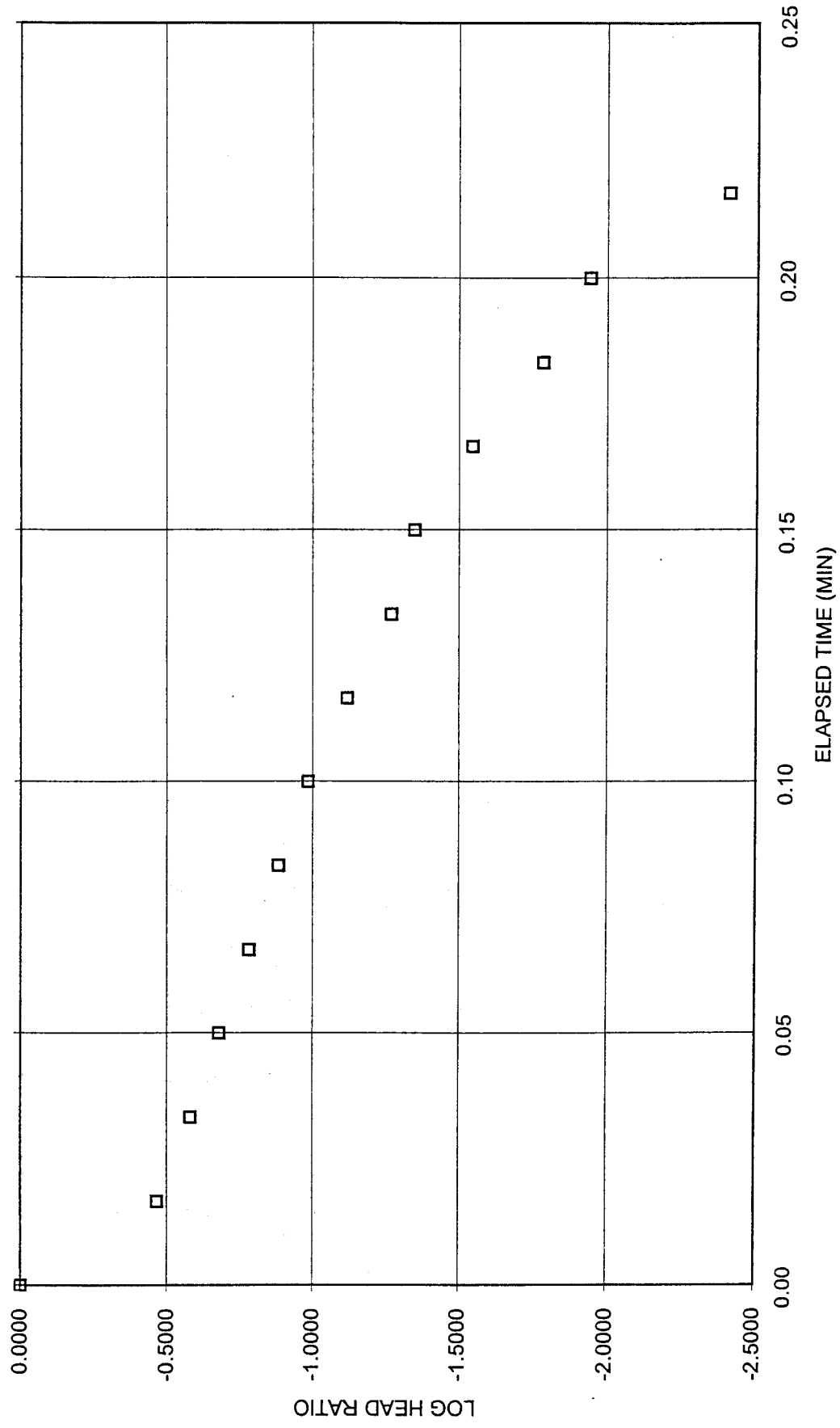
NOTES:

- 1) * INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS
WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 8.22E-03 CM/SEC

	ELAPSED TIME	HEAD RATIO
POINT 1	0.020	0.342
POINT 2	0.150	0.045

RIISING HEAD TEST
WELL RFI-50



RISING HEAD TEST

WELL RFI-51
DATE OF TEST: 10/13/98

STATIC WATER DEPTH = 4.92 FEET BELOW TOC
STANDPIPE DIAMETER = 2.00 INCHES
SANDPACK DIAMETER = 8.00 INCHES
TOP OF SATURATED SAND = 8.41 FEET BELOW TOC
BOTTOM OF SANDPACK = 16.41 FEET BELOW TOC

24 HOUR CLOCK			ELAPSED	DEPTH TO	HEAD	HEAD	LOG
HR	MIN	SEC	TIME (MIN)	WATER (FT TOC)	(FEET)	RATIO (H/Ho)	HEAD RATIO
8	26	0	0.00	12.82	-7.90	1.000	0.0000
8	27	0	1.00	12.28	-7.36	0.932 *	-0.0307
8	28	0	2.00	12.08	-7.16	0.906	-0.0427
8	29	0	3.00	11.90	-6.98	0.884	-0.0538
8	30	0	4.00	11.73	-6.81	0.862	-0.0645
8	31	0	5.00	11.57	-6.65	0.842	-0.0748
8	33	0	7.00	11.30	-6.38	0.808	-0.0928
8	35	0	9.00	11.04	-6.12	0.775	-0.1109
8	40	0	14.00	9.85	-4.93	0.624	-0.2048
8	45	0	19.00	8.95	-4.03	0.510	-0.2923
8	50	0	24.00	8.30	-3.38	0.428	-0.3687
8	55	0	29.00	7.78	-2.86	0.362	-0.4413
9	0	0	34.00	7.39	-2.47	0.313	-0.5049
9	5	0	39.00	7.08	-2.16	0.273 *	-0.5632
9	10	0	44.00	6.81	-1.89	0.239	-0.6212
9	15	0	49.00	6.61	-1.69	0.214	-0.6697
9	20	0	54.00	6.45	-1.53	0.194	-0.7129
9	25	0	59.00	6.30	-1.38	0.175	-0.7577

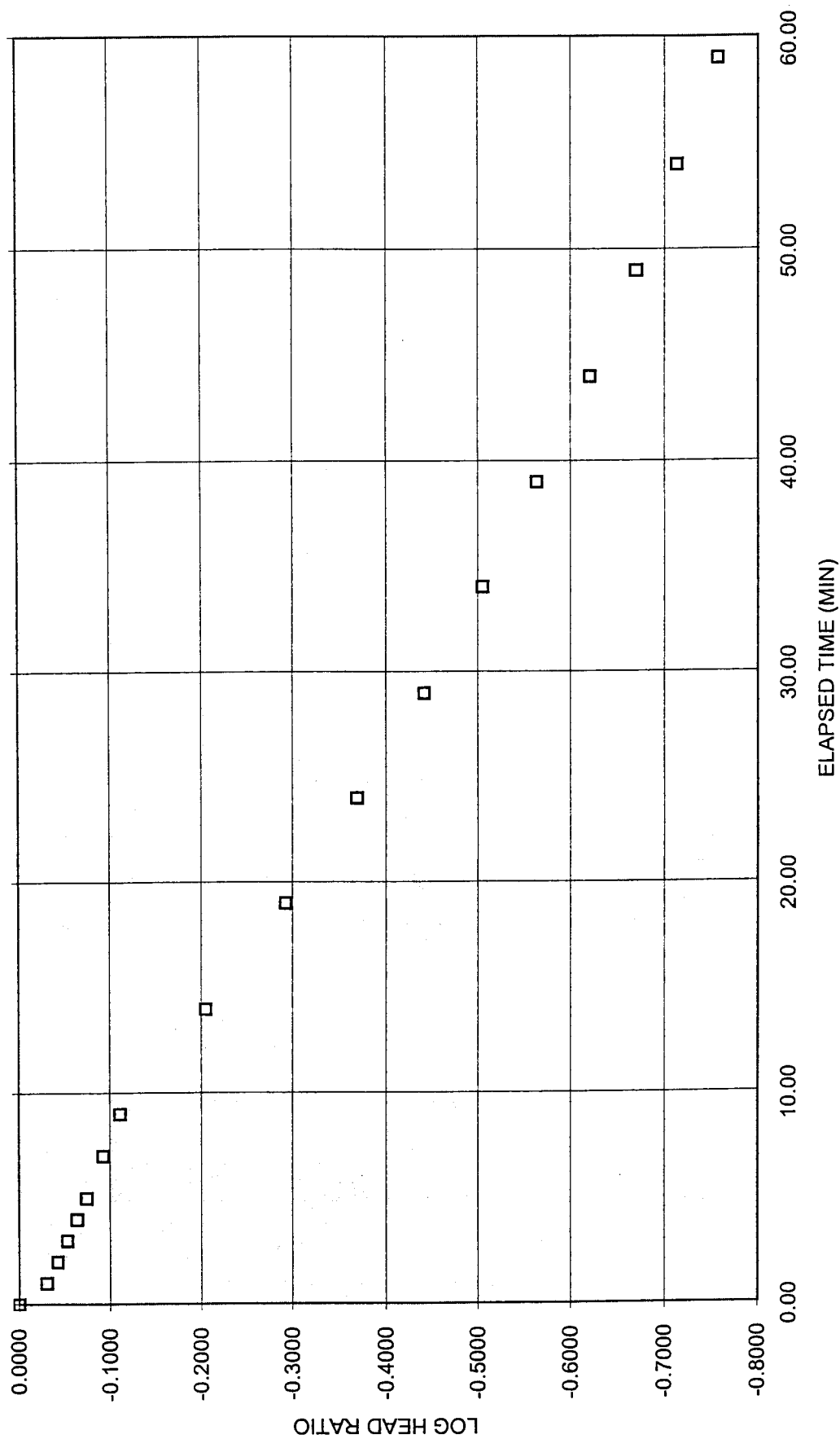
NOTES:

- 1) * INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS
WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 2.26E-05 CM/SEC

	ELAPSED TIME	HEAD RATIO
POINT 1	1.000	0.932
POINT 2	39.000	0.273

RIISING HEAD TEST
WELL RF1-51



APPENDIX E

FIELD INVESTIGATION AIR MONITORING LOGS

Air Monitoring During Drilling

WIND DIRECTION E[illegible]

Air Monitoring During Drilling

PROJECT NAME	BCC / RFI / NY	BORING NUMBER	RFI-45
PROJECT NUMBER	963-9117	AMBIENT TEMPERATURE	85°F
INSTRUMENT USED AND ID NO.	Mini RAE PGM-75	WIND SPEED	5-10 mph
CALIBRATION NUMBER	N/A	WIND DIRECTION	E

[illegible]

Air Monitoring During Drilling

PROJECT NAME	3CC/RFI/NY	BORING NUMBER	RFI-4b
PROJECT NUMBER	963-9117	AMBIENT TEMPERATURE	80°F
INSTRUMENT USED AND ID NO.	Mini RAE PGM-75	WIND SPEED	5-10 mph
CALIBRATION NUMBER	N/A	WIND DIRECTION	E

[illegible]

Air Monitoring During Drilling

PROJECT NAME	BCC / RFI / NY	BORING NUMBER	RFI - 47
PROJECT NUMBER	963-9117	AMBIENT TEMPERATURE	85°F
INSTRUMENT USED AND ID NO.	MiniRAE PGM-75	WIND SPEED	NE
CALIBRATION NUMBER	N/A	WIND DIRECTION	5-10 mph

F/N: AIRMONT, WK1

Air Monitoring During Drilling

PROJECT NAME	BCC / RFI / NY	BORING NUMBER	RFI-48
PROJECT NUMBER	963-9117	AMBIENT TEMPERATURE	80°F
INSTRUMENT USED AND ID NO.	MiniRAE PGM-75	WIND SPEED	5-10 mph
CALIBRATION NUMBER	N/A	WIND DIRECTION	E

[illegible]

Air Monitoring During Drilling

PROJECT NAME

BCC / RFI / NY

BORING NUMBER

RFI - 49

PROJECT NUMBER

963.9117

AMBIENT TEMPERATURE

850F

INSTRUMENT USED AND ID NO.

Mini RAE PGM-75

WIND SPEED

C-5

CALIBRATION NUMBER

N/A

WIND DIRECTION

五

[illegible]

Air Monitoring During Drilling

Sheet 1 of 1

BORING NUMBER RFI-50

AMBIENT TEMPERATURE 85°F

WIND SPEED NE

WIND DIRECTION 2-10

[illegible]

Air Monitoring During Drilling

PROJECT NAME	BCC / RFI / NY	BORING NUMBER	RFI - 51
PROJECT NUMBER	963 - 9117	AMBIENT TEMPERATURE	85°F
INSTRUMENT USED AND ID NO.	Mini RAE PGM-75	WIND SPEED	5-15 mph
CALIBRATION NUMBER	N/A	WIND DIRECTION	E

[illegible]

APPENDIX F

SAMPLE COLLECTION INFORMATION FORMS

APPENDIX F-1

SAMPLE COLLECTION INFORMATION FORMS

Round 1

Groundwater



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-PZ-18
005SOURCE CODES: RIVER OR STREAM WELL SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/05/98</u>	TIME (24 HR CLOCK)	<u>1619</u>	ELAPSED HRS.	<u>1628</u>
CASING VOL. (Gal.)	<u>1.0</u>	GAL. PURGED (Gal.)	<u>3.0</u>	FINISH	
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>ADPE</u>	DEDICATED	<u>ON</u>

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/05/98</u>	TIME (24 HR CLOCK)	<u>1629</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED	<u>ON</u>	FILTERED (Y/N)	
SAMPLING DEVICE MATERIAL	<u>ADPE</u>	SAMPLE TYPE -	<u>GRAB/COMPOSITE (CIRCLE ONE)</u>		

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>TOR</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV. (FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>13.75</u> <u>6gs</u>
DEPTH TO WATER (REF. PT.)	<u>10.11</u> <u>TOR</u>	STICKUP (FT.)	<u>2.5</u>
GW. ELEV. (FT. MSL.)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol	2nd Well Vol	3rd Well Vol	4th Sampling
pH (STD)	<u>6.8</u>	<u>6.9</u>	<u>7.2</u>	<u>Insufficient</u>
SPEC. COND. (UMHOS/CM)	<u>1610</u>	<u>1630</u>	<u>1640</u>	<u>Volume</u>
TEMPERATURE (C)	<u>20.3</u>	<u>20.3</u>	<u>20.6</u>	<u>—</u>
OTHER (SPECIFY)	<u>clear/lt</u> <u>turbid</u>	<u>grey/turbid</u> <u>trace steam</u>	<u>grey/turbid</u>	<u>grey/SLT</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 75-80° overcastSAMPLE APPEARANCE Slight odor, grey SLT, turbidity2" DIA. CASING CONTAINS .163 Gal./Ft. Insufficient Volume for T-Sulphide4" DIA. CASING CONTAINS .652 Gal./Ft. Analyses

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE BC Longfield DATE 8/5/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NY

GAI PROJECT NO. 963-9117

SAMPLE ID. RFI-44
009

SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

12:54

PURGE DATE (yy/mm/dd)	<u>08/06/98</u>	TIME (24 HR CLOCK)	<u>12:34</u>	ELAPSED HRS.	<u>1.254</u>
CASING VOL. (Gal.)	<u>4.2</u>	GAL. PURGED (Gal.)	<u>12.7</u>	Finish	
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>HDPE</u>	DEDICATED <u>(Y/N)</u>	

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/06/98</u>	TIME (24 HR CLOCK)	<u>12:54</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED <u>(Y/N)</u>		FILTERED <u>(Y/N)</u>	
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE - <u>GRAB</u> COMPOSITE (CIRCLE ONE)			

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>TOR</u>	LAND ELEVATION (FT./MSL)	<u>NA</u>
REF. PT. ELEV. (FT. MSL)	<u>NA</u>	WELL DEPTH (FT.)	<u>36.385</u>
DEPTH TO WATER (REF. PT.)	<u>9.91 BTOR</u>	STICKUP (FT.)	<u>0.5</u>
GW. ELEV. (FT. MSL.)	<u>NA</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol	2nd Well Vol	3rd Well Vol	At Sampling
pH (STD)	<u>3.2</u>	<u>2.4</u>	<u>2.2</u>	<u>2.1</u>
SPEC. COND. (UMHOS/CM)	<u>6.80</u>	<u>13.70</u>	<u>15.50</u>	<u>13.70</u>
TEMPERATURE (C)	<u>13.0</u>	<u>12.7</u>	<u>13.0</u>	<u>14.0</u>
OTHER (SPECIFY)	<u>SLT. Turbid</u>	<u>Turbid</u>	<u>Turbid</u>	<u>Turbid</u>
	<u>BROWN</u>	<u>BROWN</u>	<u>BROWN</u>	<u>LT. BROWN</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 75-80°F Overcast

SAMPLE APPEARANCE Slight to turbid, brown

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

Field Duplicate Collected

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

Bin Colquhoun

DATE 8/6/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-45
007SOURCE CODES: RIVER OR STREAM (W), SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd) 08/06/98
CASING VOL. (Gal.) 3.8
PURGING DEVICE (SEE BELOW) ETIME (24 HR CLOCK) 11:39
GAL. PURGED (Gal.) 11.5
PURGING DEVICE MATERIAL HDPEELAPSED HRS. 11:58
Finish
DEDICATED (N)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/06/98
SAMPLING DEVICE (SEE BELOW) E
SAMPLING DEVICE MATERIAL HDPETIME (24 HR CLOCK) 11:59
DEDICATED (N)
MATRIX Water
FILTERED (Y)
SAMPLE TYPE - GRAB/COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT TOR
REF. PT. ELEV. (FT. MSL) N/A
DEPTH TO WATER (REF. PT.) 9.41 TOR
GW. ELEV. (FT. MSL) N/ALAND ELEVATION (FT. MSL) N/A
WELL DEPTH (FT.) 33.2 BGS
STICKUP (FT.) 0.3
WELL DIAMETER (INCHES) 2.00

FIELD MEASUREMENTS (FOUR REPLICATES)

	1 st Well Vol	2 nd Well Vol	3 rd Well Vol	At Sampling
pH (STD)	<u>6.9</u>	<u>6.6</u>	<u>5.9</u>	<u>6.0</u>
SPEC. COND. (UMHOS/CM)	<u>2.90</u>	<u>3.60</u>	<u>3.80</u>	<u>3.80</u>
TEMPERATURE (C)	<u>13.6</u>	<u>13.1</u>	<u>13.1</u>	<u>13.4</u>
OTHER (SPECIFY)	<u>Slightly turbid</u>	<u>Slightly turbid</u>	<u>turbid</u>	<u>Slightly turbid</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 75-80°F OvercastSAMPLE APPEARANCE Slightly turbid, brown

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE B. C. [Signature] DATE 8/6/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-46
001SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

739PURGE DATE (yy/mm/dd) 08/05/98
CASING VOL. (Gal.) 3.5
PURGING DEVICE (SEE BELOW) ETIME (24 HR CLOCK) 1325
GAL. PURGED (Gal.) 10.5
PURGING DEVICE MATERIAL APE
ELAPSED HRS. 1338
Finish
DEDICATED (Y/N)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/05/98
SAMPLING DEVICE (SEE BELOW) E
SAMPLING DEVICE MATERIAL HDPETIME (24 HR CLOCK) 1339
DEDICATED (Y/N)
MATRIX Water
FILTERED (Y/N)
SAMPLE TYPE GRAB COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT TOA
REF. PT. ELEV. (FT. MSL) N/A
DEPTH TO WATER (REF. PT.) 9.25 BTOA
GW. ELEV. (FT. MSL.) N/ALAND ELEVATION (FT./MSL) N/A
WELL DEPTH (FT.) 21.7 BGS
STICKUP (FT.) 0.8
WELL DIAMETER (INCHES) 2.00

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol	2nd Well Vol	3rd Well Vol	4th Well Vol
pH (STD)	<u>5.5</u>	<u>5.6</u>	<u>5.9</u>	<u>5.5</u>
SPEC. COND. (UMHOS/CM)	<u>8.00</u>	<u>8.60</u>	<u>7.40</u>	<u>7.40</u>
TEMPERATURE (C)	<u>13.1</u>	<u>13.2</u>	<u>13.3</u>	<u>13.7</u>
OTHER (SPECIFY)	<u>SLT Turbid</u>	<u>BRN, SLT</u>	<u>BRN SLT</u>	<u>BRN Yellow</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

Overcast 75-80°F

SAMPLE APPEARANCE

SLT BROWN/YELLOW, slightly turbid.

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

MS/MSD collected

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

B. C. Schefelder David J. MitchellDATE 8/5/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NY

GAI PROJECT NO. 963-9617

SAMPLE ID. RFI-47
008

SOURCE CODES: RIVER OR STREAM, (WELL), SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/05/98</u>	TIME (24 HR CLOCK)	<u>12:10</u>	ELAPSED HRS.	<u>12:19</u>
CASING VOL.(Gal.)	<u>3.06</u>	GAL. PURGED (Gal.)	<u>HDPE</u>	DEDICATED <u>(Y/N)</u>	<u>Finish</u>
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL			

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/05/98</u>	TIME (24 HR CLOCK)	<u>12:22</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED <u>(Y/N)</u>	FILTERED <u>(Y/N)</u>		
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE - <u>(GRAB)</u> COMPOSITE (CIRCLE ONE)			

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>TOR</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>28.5005</u>
DEPTH TO WATER (REF. PT.)	<u>20.25</u>	STICKUP (FT.)	<u>0.5</u>
GW. ELEV.(FT. MSL.)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol	2nd Well Vol	3rd Well Vol	4th Sampling
pH (STD)	<u>4.8</u>	<u>4.5</u>	<u>4.5</u>	<u>4.5</u>
SPEC. COND. (UMHOS/CM)	<u>2.70</u>	<u>2.90</u>	<u>2.90</u>	<u>2.90</u>
TEMPERATURE (C)	<u>13.2</u>	<u>13.4</u>	<u>13.0</u>	<u>14.7</u>
OTHER (SPECIFY)	<u>SCT. Turbid</u>	<u>SCT. Turbid</u>	<u>BLW. Turbid</u>	<u>BLW. SCT. Turbid</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 75-80°F, overcast

SAMPLE APPEARANCE Slight turbid, brown

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

B.C. Seifelder / David J. Mitchell

DATE 8/5/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID.
062RFI-48

SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd) 08/05/98
CASING VOL.(Gal.) 2.8
PURGING DEVICE (SEE BELOW) ETIME (24 HR CLOCK) 14:10
GAL. PURGED (Gal.) 8.4
PURGING DEVICE MATERIAL HDPEELAPSED HRS. 14:26
Final
DEDICATED ☒ (Y/N)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/05/98
SAMPLING DEVICE (SEE BELOW) E
SAMPLING DEVICE MATERIAL HDPETIME (24 HR CLOCK) 14:37
DEDICATED ☒ (Y/N)
MATRIX Water
FILTERED ☒ (Y/N)
SAMPLE TYPE - ☒ GRAB/COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT TOR
REF. PT. ELEV.(FT. MSL) N/A
DEPTH TO WATER (REF. PT.) 9.42 BTOR
GW. ELEV.(FT. MSL) N/ALAND ELEVATION (FT./MSL) N/A
WELL DEPTH (FT.) 27.0 BGS
STICKUP (FT.) 0.50
WELL DIAMETER (INCHES) 2.00

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st well Vol.	2nd well Vol.	3rd well Vol.	At Sampling
pH (STD)	<u>6.1</u>	<u>6.4</u>	<u>6.5</u>	<u>6.6</u>
SPEC. COND. (UMHOS/CM)	<u>3.50</u>	<u>3.50</u>	<u>3.20</u>	<u>3.10</u>
TEMPERATURE (C)	<u>15.0</u>	<u>14.1</u>	<u>15.1</u>	<u>15.8</u>
OTHER (SPECIFY)	<u>Turbid, BRN-Black</u>	<u>Turbid, BRN-Black</u>	<u>Turbid, BRN-Black</u>	<u>Turbid, BRN-Black</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

75-80°F overcast

SAMPLE APPEARANCE

Slight odor, Turbid Brown/Black

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

B. Colquhoun

DATE

8/5/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID.
003RFI-49SOURCE CODES: RIVER OR STREAM (WELL) SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd) 08/05/98
CASING VOL. (Gal.) 2.5
PURGING DEVICE (SEE BELOW) ETIME (24 HR CLOCK) 15:02 ELAPSED HRS. 15:14
GAL. PURGED (Gal.) 7.5
PURGING DEVICE MATERIAL HDPE DEDICATED (Y/N)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/05/98
SAMPLING DEVICE (SEE BELOW) E
SAMPLING DEVICE MATERIAL HDPETIME (24 HR CLOCK) 15:15 MATRIX Water
DEDICATED (Y/N) FILTERED (Y/N)
SAMPLE TYPE - GRAB COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT TOR
REF. PT. ELEV. (FT. MSL) NA
DEPTH TO WATER (REF. PT.) 1.68 BTOR
GW. ELEV. (FT. MSL.) NALAND ELEVATION (FT./MSL) NA
WELL DEPTH (FT.) 24.2 BGS
STICKUP (FT.) 2.5
WELL DIAMETER (INCHES) 2.00

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st well Vol	2nd well Vol	3rd well Vol	4th Sampling
pH (STD)	<u>6.6</u>	<u>6.7</u>	<u>6.8</u>	<u>6.9</u>
SPEC. COND. (µMHO/CM) <u>ms</u>	<u>3.10</u>	<u>3.60</u>	<u>3.40</u> <u>6.0 BGS</u>	<u>3.30</u>
TEMPERATURE (C)	<u>13.4</u>	<u>13.0</u>	<u>13.1</u>	<u>14.7</u>
OTHER (SPECIFY)	<u>SLT. Black/ Grey Turbid</u>	<u>SLT. Black/ Grey Turbid</u>	<u>Grey/Black Turbid</u>	

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

75-80°F Overcast

SAMPLE APPEARANCE

Slight odor

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

Bl. Ingold David Mitchell

DATE

8/6/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC / AFI / NYGAI PROJECT NO. 963 9117SAMPLE ID.
004RFI-50SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd) 08/05/98 TIME (24 HR CLOCK) 15:39 ELAPSED HRS. 1555
CASING VOL.(Gal.) 2.6 GAL. PURGED (Gal.) 7.8 Finish
PURGING DEVICE (SEE BELOW) E PURGING DEVICE MATERIAL HDPE DEDICATED (X)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/05/98 TIME (24 HR CLOCK) 15:56 MATRIX Water
SAMPLING DEVICE (SEE BELOW) E DEDICATED (X) FILTERED (X)
SAMPLING DEVICE MATERIAL HDPE SAMPLE TYPE - GRAB COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT TOR LAND ELEVATION (FT./MSL) NA
REF. PT. ELEV.(FT. MSL) NA WELL DEPTH (FT.) 25.70 BGS
DEPTH TO WATER (REF. PT.) 8.64 BTOR STICKUP (FT.) 0.9
GW. ELEV.(FT. MSL) NA WELL DIAMETER (INCHES) 2.00

FIELD MEASUREMENTS (FOUR REPLICATES)

	1 st Well Vol	2 nd Well Vol	3 rd Well Vol	At Sampling
pH (STD)	<u>6.6</u>	<u>6.8</u>	<u>6.7</u>	<u>6.7</u>
SPEC. COND. (UMHOS/CM)	<u>6.90</u>	<u>7.00</u>	<u>7.30</u>	<u>7.30</u>
TEMPERATURE (C)	<u>13.3</u>	<u>12.3</u>	<u>12.1</u>	<u>13.5</u>
OTHER (SPECIFY)	<u>LT. BROWN</u>	<u>Gray SLT Turbid</u>	<u>Gray SLT Turbid</u>	<u>Gray/BROWN SLT Turbid</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

75-80°F overcast

SAMPLE APPEARANCE

Slightly Turbid / Gray Brown

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

B.C. SchaefferDATE 8/5/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-51
006SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd) 08/05/98
CASING VOL. (Gal.) 1.6
PURGING DEVICE (SEE BELOW) ETIME (24 HR CLOCK) 0909
GAL. PURGED (Gal.) 5.0
PURGING DEVICE MATERIAL HDPPEELAPSED HRS. 09:31
0.33
DEDICATED (Y)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/05/98
SAMPLING DEVICE (SEE BELOW) E
SAMPLING DEVICE MATERIAL HDPPETIME (24 HR CLOCK) 1105 MATRIX water
DEDICATED (Y) FILTERED (Y)
SAMPLE TYPE - GRAB/COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT TOR
REF. PT. ELEV. (FT. MSL) N/A
DEPTH TO WATER (REF. PT.) 5.6 TOR 5.6 TOR
GW. ELEV. (FT. MSL) N/ALAND ELEVATION (FT. MSL) N/A
WELL DEPTH (FT.) 13.3 BGS
STICKUP (FT.) 2.4
WELL DIAMETER (INCHES) 2.00

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol.	2nd Well Vol.	3rd Well Vol.	At Sampling
pH (STD)	<u>8.2</u>	<u>7.5</u>	<u>7.2</u>	<u>5.7</u>
SPEC. COND. (UMHOS/CM)	<u>3.50 mS</u>	<u>3.60</u>	<u>3.40</u>	<u>2.90</u>
TEMPERATURE (C)	<u>16.0</u>	<u>14.9</u>	<u>15.0</u>	<u>17.0</u>
OTHER (SPECIFY)	<u>SLT. Turb. & Brown.</u>	<u>SLT. Turb. & Brown.</u>	<u>V. Turb. & Brown.</u>	<u>V. SL. Turb. & Br.</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 75-80° overcast.SAMPLE APPEARANCE V. Slightly turbid, brown

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

BC. Longfellow / David J. VintDATE 8/5/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NY

GAI PROJECT NO. 963-9117

SAMPLE ID. RFI-44

SOURCE CODES: RIVER OR STREAM, (WELL) SOIL, OTHER (CIRCLE ONE)

009

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd) 08/05/98 TIME (24 HR CLOCK) 10:04 ELAPSED HRS. 10:40
CASING VOL.(Gal.) 2.4 GAL. PURGED (Gal.) 7.2
PURGING DEVICE (SEE BELOW) E PURGING DEVICE MATERIAL HDPE DEDICATED (N)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/05/98 TIME (24 HR CLOCK) 10:36 MATRIX water
SAMPLING DEVICE (SEE BELOW) E DEDICATED (Y) FILTERED (Y)
SAMPLING DEVICE MATERIAL HDPE SAMPLE TYPE (GRAB) COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT TOR LAND ELEVATION (FT./MSL) 36.30g
REF. PT. ELEV.(FT. MSL) 20.998TOR WELL DEPTH (FT.) 0.5
DEPTH TO WATER (REF. PT.) --- STICKUP (FT.) 2.00
GW. ELEV.(FT. MSL) --- WELL DIAMETER (INCHES) ---

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol.	2nd Well Vol.	3rd Well Vol.	At Sampling
pH (STD)	<u>4.5</u>	<u>3.7</u>	<u>3.5</u>	<u>3.7</u>
SPEC. COND. (UMHOS/CM)	<u>820</u>	<u>7.40</u>	<u>11.2</u>	<u>11.90</u>
TEMPERATURE (C)	<u>13.7</u>	<u>13.3</u>	<u>13.1</u>	<u>14.7</u>
OTHER (SPECIFY)	<u>SLT. BRN Turbid.</u>	<u>SLT. BRN Turbid.</u>	<u>BRN Turbid.</u>	<u>BRN Turbid.</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

75°-80° Overcast, Humid.

SAMPLE APPEARANCE

Brown, Turbid.

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

RINSE Sample Collected. (RB)

Field Duplicate Collected. (FD)

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

B.C. Schepfeler

DATE 8/5/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 263-9117SAMPLE ID.
007RFI-45

SOURCE CODES: RIVER OR STREAM, (WELL) SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

1136PURGE DATE (yy/mm/dd) 08/05/98
CASING VOL.(Gal.) 2.04
PURGING DEVICE (SEE BELOW) ETIME (24 HR CLOCK) 11:29 ELAPSED HRS. _____
GAL. PURGED (Gal.) 6.12
PURGING DEVICE MATERIAL HDPE DEDICATED (Y/N) (Y)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/05/98
SAMPLING DEVICE (SEE BELOW) E
SAMPLING DEVICE MATERIAL HDPETIME (24 HR CLOCK) 11:38 MATRIX Water
DEDICATED (Y/N) (Y) FILTERED (Y/N) (Y)
SAMPLE TYPE - GRAB/COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT TOR
REF. PT. ELEV.(FT. MSL) _____
DEPTH TO WATER (REF. PT.) 20.39 B.TOR
GW. ELEV.(FT. MSL) _____LAND ELEVATION (FT./MSL) _____
WELL DEPTH (FT.) 33.2 bgs
STICKUP (FT.) 0.3
WELL DIAMETER (INCHES) 2.60

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol	2nd Well Vol	3rd Well Vol	At Sampling
pH (STD)	<u>5.9</u>	<u>5.9</u>	<u>6.0</u>	<u>6.2</u>
SPEC. COND. (UMHOS/CM)	<u>2.70</u>	<u>3.70</u>	<u>3.90</u>	<u>3.90</u>
TEMPERATURE (C)	<u>14.5</u>	<u>14.0</u>	<u>13.7</u>	<u>15.0</u>
OTHER (SPECIFY)	<u>Clear</u>	<u>BRN Turbid</u>	<u>BRN very Turbid</u>	<u>BRN very Turbid</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

75-80°F Overcast

SAMPLE APPEARANCE

Brown, very Turbid.

2" DIA. CASING CONTAINS .163 Gal./Ft.

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

B. Golder / David J. Mitchell

DATE

8/5/98

APPENDIX F-2

SAMPLE COLLECTION INFORMATION FORMS

Round 2

Groundwater



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-PE-18SOURCE CODES: RIVER OR STREAM, (WEL), SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1335</u>	ELAPSED HRS.	<u>1345</u>
CASING VOL.(Gal.)	<u>0.85</u>	GAL. PURGED (Gal.)	<u>2.5</u>	FINISH	
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>HDPE</u>	DEDICATED	<u>(Y/N)</u>

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1715</u> ^{<u>151</u>}	MATRIX	<u>water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED	<u>(Y/N)</u>	FILTERED	<u>(Y/N)</u>
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE -	<u>(GRAB/COMPOSITE)</u> (CIRCLE ONE)		

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>13.75</u> ^{<u>86.5</u>}
DEPTH TO WATER (REF. PT.)	<u>11.04</u> ^{<u>BTOR</u>}	STICKUP (FT.)	<u>2.5</u>
GW. ELEV.(FT. MSL)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	<u>1st. Well Vol.</u>	<u>2nd Well Vol.</u>	<u>3rd. Well Vol.</u>	<u>At Sampling</u>
pH (STD)	<u>6.8</u>	<u>6.8</u>	<u>6.7</u>	<u>7.0</u>
SPEC. COND. (μ MHOS/CM)	<u>1720</u>	<u>1710</u>	<u>1760</u>	<u>1680</u>
TEMPERATURE (C)	<u>20</u>	<u>20</u>	<u>20</u>	<u>22</u>
OTHER (SPECIFY)	<u>Clear</u>	<u>SL Turbid Grey</u>	<u>SL Turbid Grey</u>	<u>Clear</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 70°F, Clear

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft. 009

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE Dan J. Mitchell DATE 8-20-98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-44SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>0955</u>	ELAPSED HRS.	<u>1020</u>
CASING VOL.(Gal.)	<u>4.1</u>	GAL. PURGED (Gal.)	<u>12.4</u>	DEDICATED	<u>Y</u>
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>HDPE</u>		

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1030</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED	<u>Y</u>	FILTERED	<u>Y</u>
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE	<u>GRAB</u>	COMPOSITE (CIRCLE ONE)	

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>36.3</u>
DEPTH TO WATER (REF. PT.)	<u>10.38 BTOR</u>	STICKUP (FT.)	<u>0.5</u>
GW. ELEV.(FT. MSL.)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	<u>1st Well Vol.</u>	<u>2nd Well Vol.</u>	<u>3rd Well Vol.</u>	<u>At Sampling</u>
pH (STD)	<u>5.0</u>	<u>4.2</u>	<u>3.9</u>	<u>3.9</u>
SPEC. COND. (UMHOS/CM)	<u>4.70</u>	<u>6.30</u>	<u>15.60</u>	<u>16.0</u>
TEMPERATURE (C)	<u>14</u>	<u>12</u>	<u>13</u>	<u>12</u>
OTHER (SPECIFY)	<u>V. Sl. Turbid</u>	<u>Turbid, br</u>	<u>Turbid, br</u>	<u>Turbid, br</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 65°F, Clear

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft. 008

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

David J. MitchellDATE 8-20-98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFE, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-45SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>0810</u>	ELAPSED HRS.	<u>0850</u>
CASING VOL.(Gal.)	<u>3.8</u>	GAL. PURGED (Gal.)	<u>11.4</u>	<u>Push</u>	
PURGING DEVICE (SEE BELOW)	<u>F</u>	PURGING DEVICE MATERIAL	<u>ADPE</u>	DEDICATED <u>(Y/N)</u>	

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>0905</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED <u>(Y/N)</u>		FILTERED <u>(Y/N)</u>	
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE <u>(GRAB/COMPOSITE)</u> (CIRCLE ONE)			

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>33.2</u> BGS
DEPTH TO WATER (REF. PT.)	<u>9.63</u> BTOR	STICKUP (FT.)	<u>0.3</u>
GW. ELEV.(FT. MSL.)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	<u>1st Well Vol.</u>	<u>2nd Well Vol.</u>	<u>3rd Well Vol.</u>	<u>4th Sampling</u>
pH (STD)	<u>6.4</u>	<u>6.3</u>	<u>6.3</u>	<u>6.2</u>
SPEC. COND. (UMHOS/CM) <u>ms</u>	<u>2.20</u>	<u>2.90</u>	<u>3.90</u>	<u>3.90</u>
TEMPERATURE (C)	<u>15</u>	<u>14</u>	<u>12</u>	<u>12</u>
OTHER (SPECIFY)	<u>V. SL Turbid</u>	<u>V. SL Turbid</u>	<u>SL Turbid br.</u>	<u>SL Turbid br.</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

60°F, Clear

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft.

207

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

Dan Mitchell

DATE

8/20/98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NY

GAI PROJECT NO. 963-9117

SAMPLE ID. RFI-46

SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1055</u>	ELAPSED HRS.	<u>1120</u>
CASING VOL.(Gal.)	<u>3.5</u>	GAL. PURGED (Gal.)	<u>10.5</u>	DEDICATED	<u>Y/N</u>
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>ADPE</u>		

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1125</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED	<u>Y/N</u>	FILTERED (Y/N)	<u>Y</u>
SAMPLING DEVICE MATERIAL	<u>ADPE</u>	SAMPLE TYPE -	<u>GRAB/COMPOSITE (CIRCLE ONE)</u>		

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>31.7</u> BGS
DEPTH TO WATER (REF. PT.)	<u>9.40</u> BGS	STICKUP (FT.)	<u>0.8</u>
GW. ELEV.(FT. MSL)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol.	2nd Well Vol.	3rd Well Vol.	4th Sampling
pH (STD)	<u>5.8</u>	<u>5.8</u>	<u>5.7</u>	<u>5.6</u>
SPEC. COND. (UMHOS/CM)	<u>8.80</u>	<u>8.90</u>	<u>8.80</u>	<u>8.60</u>
TEMPERATURE (C)	<u>15</u>	<u>12</u>	<u>13</u>	<u>12</u>
OTHER (SPECIFY)	<u>V. SL. Turbid</u>	<u>Mod. Turbid</u>	<u>Mod Turbid</u>	<u>Mod Turbid</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

70°F, Clear

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft.

010

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

Daniel Mitchell

DATE 8-20-98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCL, RFI, NY

GAI PROJECT NO. 963-9117

SAMPLE ID. RFI-47

SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1145</u>	ELAPSED HRS.	<u>1200</u>
CASING VOL.(Gal.)	<u>3.0</u>	GAL. PURGED (Gal.)	<u>9.0</u>	Finish	
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>ADPE</u>	DEDICATED	<u>(Y/N)</u>

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1205</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED	<u>(Y/N)</u>	FILTERED (Y/N)	
SAMPLING DEVICE MATERIAL	<u>ADPE</u>	SAMPLE TYPE -	<u>GRAB</u>	COMPOSITE (CIRCLE ONE)	

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>28.5</u> BGS
DEPTH TO WATER (REF. PT.)	<u>9.45</u> BGS	STICKUP (FT.)	<u>0.5</u>
GW. ELEV.(FT. MSL)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol.	2nd Well Vol.	3rd Well Vol.	4th Sampling
pH (STD)	<u>4.6</u>	<u>4.7</u>	<u>4.8</u>	<u>4.7</u>
SPEC. COND. (UMHOS/CM)	<u>2.90</u>	<u>2.90</u>	<u>2.90</u>	<u>2.90</u>
TEMPERATURE (C)	<u>13</u>	<u>14</u>	<u>13</u>	<u>13</u>
OTHER (SPECIFY)	<u>Clear</u>	<u>SL. Turbid br</u>	<u>Turbid, br</u>	<u>Mod. Turbid, br.</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 70°F, Clear

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft. 011

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

David J. Mitchell

DATE 8-20-98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFT, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-48SOURCE CODES: RIVER OR STREAM (WELL), SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1400</u>	ELAPSED HRS.	<u>1435</u>
CASING VOL. (Gal.)	<u>2.7</u>	GAL. PURGED (Gal.)	<u>8.2</u>	DEDICATED <u>(Y/N)</u>	<u>(Y)</u>
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>HDPE</u>		

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1440</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED <u>(Y/N)</u>	<u>(Y)</u>	FILTERED <u>(Y/N)</u>	<u>(Y)</u>
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE - <u>GRAB/COMPOSITE</u> (CIRCLE ONE)			

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV. (FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>27.0</u>
DEPTH TO WATER (REF. PT.)	<u>9.69 B.T.O.R.</u>	STICKUP (FT.)	<u>0.5</u>
GW. ELEV. (FT. MSL)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol.	2nd Well Vol.	3rd Well Vol.	At Sampling
pH (STD)	<u>6.3</u>	<u>6.4</u>	<u>6.4</u>	<u>6.4</u>
SPEC. COND. (UMHOS/GM)	<u>3.20</u>	<u>3.70</u>	<u>3.60</u>	<u>3.60</u>
TEMPERATURE (C)	<u>15</u>	<u>13</u>	<u>15</u>	<u>14</u>
OTHER (SPECIFY)	<u>Clear</u>	<u>Turbid, Gray</u>	<u>Turbid, Gray</u>	<u>Turbid, Gray</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS

70°F, Clear

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft.

001 = RFT 48

4" DIA. CASING CONTAINS .652 Gal./Ft.

002 = Field Dup.Field Dup. Taken

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

Daniel MitchellDATE 8-20-98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-49SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1605</u>	ELAPSED HRS.	<u>1610</u>
CASING VOL.(Gal.)	<u>2.4</u>	GAL. PURGED (Gal.)	<u>7.2</u>	FINISH	
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>HDPE</u>	DEDICATED	<u>(Y/N)</u>

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1620</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED	<u>(Y/N)</u>	FILTERED	<u>(Y/N)</u>
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE -	<u>(GRAB) COMPOSITE (CIRCLE ONE)</u>		

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>24.2 BGS</u>
DEPTH TO WATER (REF. PT.)	<u>11.98 TOR</u>	STICKUP (FT.)	<u>2.5</u>
GW. ELEV.(FT. MSL)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	<u>1st Well Vol</u>	<u>2nd Well Vol</u>	<u>3rd Well Vol</u>	<u>At Sampling</u>
pH (STD)	<u>6.6</u>	<u>6.4</u>	<u>6.4</u>	<u>6.4</u>
SPEC. COND. (UMHOS/GM)	<u>3.60</u>	<u>3.60</u>	<u>3.90</u>	<u>3.90</u>
TEMPERATURE (C)	<u>12</u>	<u>12</u>	<u>13</u>	<u>13</u>
OTHER (SPECIFY)	<u>Hig Turbid br</u>	<u>Mid Turbid br</u>	<u>Mid Turbid br</u>	<u>Hig Turbid br</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS Clear, 75°F

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft. RFI-49 and MS/MSD (005)4" DIA. CASING CONTAINS .652 Gal./Ft. Laboratory QC obtained at sampling point

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

David MitchellDATE 8-20-98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCL RFI NYGAI PROJECT NO. 963-9117SAMPLE ID. RFI-50SOURCE CODES: RIVER OR STREAM, (WELL) SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1520</u>	ELAPSED HRS.	<u>1530</u>
CASING VOL.(Gal.)	<u>-2.6</u>	GAL. PURGED (Gal.)	<u>-7.8</u>	Finish	
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>HDPE</u>	DEDICATED	<u>(Y/N)</u>

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/20/98</u>	TIME (24 HR CLOCK)	<u>1530</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED	<u>(Y/N)</u>	FILTERED	<u>(Y/N)</u>
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE -	<u>GRAB/COMPOSITE</u> (CIRCLE ONE)		

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>25.70</u> 86-5
DEPTH TO WATER (REF. PT.)	<u>8.95</u> 70R	STICKUP (FT.)	<u>-0.90</u>
GW. ELEV.(FT. MSL)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	<u>1st Well Vol.</u>	<u>2nd Well Vol.</u>	<u>3rd Well Vol.</u>	<u>At sampling</u>
pH (STD)	<u>6.4</u>	<u>6.4</u>	<u>6.4</u>	<u>6.3</u>
SPEC. COND. (UMHOS/CM)	<u>6.70</u>	<u>7.30</u>	<u>7.80</u>	<u>8.30</u>
TEMPERATURE (C)	<u>14</u>	<u>13</u>	<u>12</u>	<u>13</u>
OTHER (SPECIFY)	<u>Clear</u>	<u>Mod Turbid</u>	<u>Mod turbid</u>	<u>Mod turbid</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS Clear, 75°F

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft. Rinse Blank Taken (003)4" DIA. CASING CONTAINS .652 Gal./Ft. RFI-50 (004)

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

David MitchellDATE 8-20-98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCL, AFF, NYGAI PROJECT NO. 963-9117SAMPLE ID. AFI-51SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd) 08/20/98
CASING VOL.(Gal.) 1.6
PURGING DEVICE (SEE BELOW) ETIME (24 HR CLOCK) 1315 ELAPSED HRS. 1330
GAL PURGED (Gal.) 4.7 *Finish*
PURGING DEVICE MATERIAL HDPE DEDICATED (N)

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd) 08/20/98
SAMPLING DEVICE (SEE BELOW) E
SAMPLING DEVICE MATERIAL HDPETIME (24 HR CLOCK) 1700 MATRIX Water
DEDICATED (N) FILTERED (Y/N) (N)
SAMPLE TYPE - GRAB/COMPOSITE (CIRCLE ONE)

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT T.O.R.
REF. PT. ELEV.(FT. MSL) N/A
DEPTH TO WATER (REF. PT.) 5.77 *BTOR*
GW. ELEV.(FT. MSL) N/ALAND ELEVATION (FT./MSL) N/A
WELL DEPTH (FT.) 13.38 *fts*
STICKUP (FT.) 2.4
WELL DIAMETER (INCHES) 2.00

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Vol	2nd Well Vol	3rd Well Vol	At Sampling
pH (STD)	<u>6.9</u>	<u>6.9</u>	<u>6.9</u>	<u>7.6</u>
SPEC. COND. (UMHOS/CM)	<u>3.70</u>	<u>3.60</u>	<u>3.90</u>	<u>3.10</u>
TEMPERATURE (C)	<u>15</u>	<u>17</u>	<u>14</u>	<u>18</u>
OTHER (SPECIFY)	<u>SL. Turbid</u>	<u>Md. turbid</u>	<u>Md. turbid</u>	<u>Clear</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS 70°F, Clear

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft. 006

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE

DATE 8-20-98



SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC, RFI, NY

GAI PROJECT NO. 963-9112

SAMPLE ID. RFI-49

SOURCE CODES: RIVER OR STREAM, WELL, SOIL, OTHER (CIRCLE ONE)

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	<u>08/31/98</u>	TIME (24 HR CLOCK)	<u>1000</u>	ELAPSED HRS.	<u>11:15</u>
CASING VOL.(Gal.)	<u>2.3</u>	GAL. PURGED (Gal.)	<u>6.9</u>	FINISH	
PURGING DEVICE (SEE BELOW)	<u>E</u>	PURGING DEVICE MATERIAL	<u>HDPE</u>	DEDICATED	<u>(N)</u>

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	<u>08/31/98</u>	TIME (24 HR CLOCK)	<u>1130</u>	MATRIX	<u>Water</u>
SAMPLING DEVICE (SEE BELOW)	<u>E</u>	DEDICATED	<u>(N)</u>	FILTERED (Y/N)	<u>(N)</u>
SAMPLING DEVICE MATERIAL	<u>HDPE</u>	SAMPLE TYPE -	<u>GRAB</u>	COMPOSITE (CIRCLE ONE)	

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT	<u>T.O.R.</u>	LAND ELEVATION (FT./MSL)	<u>N/A</u>
REF. PT. ELEV.(FT. MSL)	<u>N/A</u>	WELL DEPTH (FT.)	<u>24.2</u>
DEPTH TO WATER (REF. PT.)	<u>12.40 FTOR</u>	STICKUP (FT.)	<u>2.5</u>
GW. ELEV.(FT. MSL.)	<u>N/A</u>	WELL DIAMETER (INCHES)	<u>2.00</u>

FIELD MEASUREMENTS (FOUR REPLICATES)

	1st Well Val.	2nd Well Val.	3rd Well Val.	At Sampling
pH (STD)	<u>6.2</u>	<u>6.4</u>	<u>6.4</u>	<u>6.4</u>
SPEC. COND.(UMHOS/CM)	<u>← Battery Dead →</u>			
TEMPERATURE (C)	<u>14</u>	<u>13</u>	<u>14</u>	<u>13</u>
OTHER (SPECIFY)	<u>Sl. Turbid</u>	<u>Sl. Turbid</u>	<u>Sl. Turbid</u>	<u>Sl. Turbid</u>

COMMENTS/CALCULATIONS

WEATHER CONDITIONS Clear, 65°F

SAMPLE APPEARANCE

2" DIA. CASING CONTAINS .163 Gal./Ft. Laboratory QC obtained

4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE [Signature] DATE 8-31-98

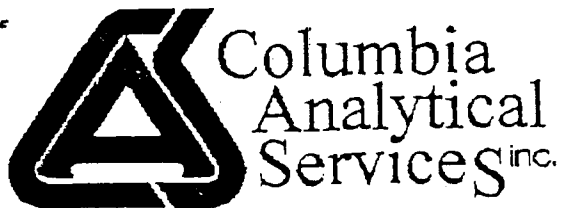
APPENDIX G

RFI LABORATORY REPORTS - GROUNDWATER SAMPLES

APPENDIX G-1

RFI LABORATORY REPORTS - GROUNDWATER SAMPLES

Round 1



A FULL SERVICE ENVIRONMENTAL LABORATORY

September 11, 1998

Mr. Brian Senefelder
Golder Associates
2221 Niagara Falls Blvd.
LPO Box 4069
Niagara Falls, NY 14304-4069

PROJECT: BUFFALO COLOR
Submission #: 9807000319

Dear Mr. Senefelder

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in dark ink, appearing to read 'Mark Wilson', is written over the typed name.

Mark Wilson
Client Service Manager

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal. A handwritten signature in dark ink, appearing to read 'Michael K. Perry', is written over the typed name.



CASE NARRATIVE

COMPANY: Golder Associates
Buffalo Color
SUBMISSION #: 9807000319

Golder water samples were collected on 08/5-6/98 and received at CAS on 08/6-7/98 in good condition.

VOLATILE ORGANICS

Water samples were analyzed for Target Compound List (TCL) of volatile organics by EPA Method 8260 from SW-846.

Sample RFI-46 was analyzed for site specific QC. All matrix and reference spike recoveries were within acceptance limits. The RPD for Benzene, Chlorobenzene and Toluene were outside limits and have been flagged "**".

All surrogate recoveries were within limits.

All tuning criteria for BFB were met.

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

All blank spike recoveries were within QC limits.

All samples were analyzed within the holding time as specified in the method.

No other analytical or QC problems were encountered.

SEMIVOLATILE ORGANICS

Water samples was analyzed for a site specific list of semivolatile organics by EPA Method 8270C from SW-846.

Sample RFI-46 was analyzed for site specific QC. Due to matrix problems several spike recoveries were outside limits as well as RPD. All outliers have been flagged "**". All reference spike recoveries were within limits.

All blank spike recoveries were within QC limits.

Several samples were analyzed at dilutions due to high levels of interfering organics present or to obtain target compounds within the linear range of the method.

All tuning criteria for DFTPP were met.

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

Several surrogate standard recoveries were outside QC limits due to matrix interferences. These surrogates have been flagged "***". Insufficient sample was available to reextract, however reextraction would probably have had the same matrix problems.

All samples were analyzed within the holding time as specified in the method.

No other analytical or QC problems were encountered.

INORGANICS

Water samples were analyzed for site specific metals. ICP metals were analyzed by 6010B and Mercury by 7470. Cyanide was analyzed by 9012A, Sulfide by 9030A, Nitrate/Nitrite by 353.2, Sulfate by 375.4, Chloride by 325.2, Phosphorus by 365.1, Hexavalent Chrome by 7196A, Hardness by 130.2 and TDS by 160.1.

Sample RFi-46 was analyzed for site specific QC. All matrix spike recoveries were within limits except for Barium, Mercury, Arsenic, Hexavalent Chromium and Nitrite. These analytes have been flagged "N". Iron and Manganese were spiked too low and has been flagged "D". All RPD were within limits except for Cyanide.

All Initial and Continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

No other analytical or QC problems were encountered.



Effective 04/01/96

CAS 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.
- 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 analysis only)
- * - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)
 - Also used to qualify Organics QC data outside limits.
- D - Spike diluted out.
- S - Reported value determined by Method of Standard Additions. (MSA)
- X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester: 10145
CT ID # in Rochester: PH0556
MA ID # in Rochester: M-NY032

NJ ID # in Rochester: 73004
RI ID # in Rochester: 158

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-46

Date Sampled : 08/05/98

Order #: 226438

Sample Matrix: WATER

Date Received: 08/06/98

Submission #: 9807000319

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	13.8	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	08/26/98	1.0
BARIUM	0.0200	0.0622	MG/L	08/26/98	1.0
CADMIUM	0.00500	0.00957	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0138	MG/L	08/26/98	1.0
COBALT	0.0500	0.122	MG/L	08/26/98	1.0
COPPER	0.0200	0.123	MG/L	08/26/98	1.0
IRON	0.100	304	MG/L	09/04/98	10.0
LEAD	0.00500	0.0188	MG/L	08/26/98	1.0
MANGANESE	0.0100	15.9	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	08/20/98	1.0
NICKEL	0.0400	0.166	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 U	MG/L	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	08/26/98	1.0
ZINC	0.0100	2.57	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	208	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0500 U	MG/L	08/06/98	5.0
NITRATE NITROGEN	0.0500	76.6	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	76.7	MG/L	08/12/98	100.0
NITRITE NITROGEN	0.0100	0.0723	MG/L	08/06/98	1.0
SULFATE	5.00	5520	MG/L	08/26/98	400.0
TOTAL CYANIDE	0.0100	0.0188	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	8070	MG/L	08/07/98	1.0
TOTAL HARDNESS	2.00	2600	MG/L	08/06/98	1.0
TOTAL PHOSPHORUS	0.0500	0.123	MG/L	08/20/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-46Date Sampled : 08/05/98 Order #: 226438 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	6.2	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	2.0 J	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	3.7 J	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	1.2 J	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	6.7	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	4.0 J	UG/L
M+P-XYLENE	5.0	5.6	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	109	%
TOLUENE-D8	(88 - 110 %)	98	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	105	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/17/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-46

Date Sampled : 08/05/98 Order #: 226438 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/07/98		
DATE ANALYZED	: 08/20/98		
ANALYTICAL DILUTION:	1.00		
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/17/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-46

Date Sampled : 08/05/98 Order #: 226438 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	24	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	61	%
NITROBENZENE-d5	(35 - 114 %)	1 *	%
PHENOL-d6	(10 - 94 %)	16	%
2-FLUOROBIPHENYL	(43 - 116 %)	51	%
2-FLUOROPHENOL	(21 - 110 %)	18 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	35	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-48

Date Sampled : 08/05/98
Date Received: 08/06/98

Order #: 226439
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	42.2	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	1.17	MG/L	08/26/98	1.0
BARIUM	0.0200	0.268	MG/L	08/26/98	1.0
CADMIUM	0.00500	0.0186	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0878	MG/L	08/26/98	1.0
COBALT	0.0500	0.0500 U	MG/L	08/26/98	1.0
COPPER	0.0200	0.254	MG/L	08/26/98	1.0
IRON	0.100	60.8	MG/L	08/26/98	1.0
LEAD	0.0100	0.439	MG/L	08/26/98	1.0
MANGANESE	0.0100	1.98	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	08/20/98	1.0
NICKEL	0.0400	0.0773	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 U	MG/L	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0834	MG/L	08/26/98	1.0
ZINC	0.0100	5.59	MG/L	09/04/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	466	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0100 U	MG/L	08/06/98	1.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.0154	MG/L	08/06/98	1.0
SULFATE	5.00	1400	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3100	MG/L	08/07/98	1.0
TOTAL HARDNESS	2.00	1590	MG/L	08/06/98	1.0
TOTAL PHOSPHORUS	0.0500	2.09	MG/L	08/20/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-48Date Sampled : 08/05/98 Order #: 226439 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	104	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	103	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-48Date Sampled : 08/05/98 Order #: 226439 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)PYRENE	5.0	5.0 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.0 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-48Date Sampled : 08/05/98 Order #: 226439 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBNZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	58	%
NITROBENZENE-d5	(35 - 114 %)	38	%
PHENOL-d6	(10 - 94 %)	28	%
2-FLUOROBIPHENYL	(43 - 116 %)	66	%
2-FLUOROPHENOL	(21 - 110 %)	35	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	57	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID :RFI-49

Date Sampled : 08/05/98
Date Received: 08/06/98

Order #: 226440
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	14.5	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	08/26/98	1.0
BARIUM	0.0200	0.179	MG/L	08/26/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0296	MG/L	08/26/98	1.0
COBALT	0.0500	0.0500 U	MG/L	08/26/98	1.0
COPPER	0.0200	0.131	MG/L	08/26/98	1.0
IRON	0.100	83.7	MG/L	08/26/98	1.0
LEAD	0.0100	0.188	MG/L	08/26/98	1.0
MANGANESE	0.0100	8.38	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000310	MG/L	08/20/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 U	MG/L	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	08/26/98	1.0
ZINC	0.0100	2.97	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	319	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0100 U	MG/L	08/06/98	1.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.0100 U	MG/L	08/06/98	1.0
SULFATE	5.00	2000	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3580	MG/L	08/07/98	1.0
TOTAL HARDNESS	2.00	2060	MG/L	08/06/98	1.0
TOTAL PHOSPHORUS	0.0500	0.947	MG/L	08/20/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-49Date Sampled : 08/05/98 Order #: 226440 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	106	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	104	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-49Date Sampled : 08/05/98 Order #: 226440 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)PYRENE	5.0	5.0 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.0 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.1	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-49

Date Sampled : 08/05/98 Order #: 226440 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/07/98		
DATE ANALYZED	: 08/20/98		
ANALYTICAL DILUTION:	1.00		
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	56	%
NITROBENZENE-d5	(35 - 114 %)	7 *	%
PHENOL-d6	(10 - 94 %)	1 *	%
2-FLUOROBIPHENYL	(43 - 116 %)	59	%
2-FLUOROPHENOL	(21 - 110 %)	1 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	3 *	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-50

Date Sampled : 08/05/98
Date Received: 08/06/98

Order #: 226441
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	16.5	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	08/26/98	1.0
BARIUM	0.0200	0.100	MG/L	08/26/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0191	MG/L	08/26/98	1.0
COBALT	0.0500	0.0500 U	MG/L	08/26/98	1.0
COPPER	0.0200	0.0280	MG/L	08/26/98	1.0
IRON	0.100	164	MG/L	08/26/98	1.0
LEAD	0.0100	0.0200	MG/L	08/26/98	1.0
MANGANESE	0.0100	5.04	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	08/20/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 U	MG/L	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	08/26/98	1.0
ZINC	0.0100	0.124	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	439	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0400 U	MG/L	08/06/98	4.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.0555	MG/L	08/06/98	1.0
SULFATE	5.00	4960	MG/L	08/26/98	400.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	8160	MG/L	08/07/98	1.0
TOTAL HARDNESS	2.00	2740	MG/L	08/06/98	1.0
TOTAL PHOSPHORUS	0.0500	1.24	MG/L	08/20/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
 METHOD 8260B TCL
 Reported: 09/11/98

Golder Associates
 Project Reference: BUFFALO COLOR
 Client Sample ID : RFI-50

Date Sampled : 08/05/98 Order #: 226441 Sample Matrix: WATER
 Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/18/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	4.5 J	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES

QC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	95	%
TOLUENE-D8	(88 - 110 %)	98	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	102	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-50

Date Sampled : 08/05/98 Order #: 226441 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)PYRENE	5.0	5.0 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.0 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-50Date Sampled : 08/05/98 Order #: 226441 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/07/98		
DATE ANALYZED	: 08/20/98		
ANALYTICAL DILUTION:	1.00		
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBNZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	55	%
NITROBENZENE-d5	(35 - 114 %)	1 *	%
PHENOL-d6	(10 - 94 %)	33	%
2-FLUOROBIPHENYL	(43 - 116 %)	60	%
2-FLUOROPHENOL	(21 - 110 %)	40	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	54	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-PZ18

Date Sampled : 08/05/98
Date Received: 08/06/98

Order #: 226442
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	8.28	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	08/26/98	1.0
BARIUM	0.0200	0.343	MG/L	08/26/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0244	MG/L	08/26/98	1.0
COBALT	0.0500	0.0500 U	MG/L	08/26/98	1.0
COPPER	0.0200	0.220	MG/L	08/26/98	1.0
IRON	0.100	19.4	MG/L	08/26/98	1.0
LEAD	0.0100	0.0367	MG/L	08/26/98	1.0
MANGANESE	0.0100	1.10	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	08/20/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 U	MG/L	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	08/26/98	1.0
ZINC	0.0100	0.312	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	257	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0100 U	MG/L	08/06/98	1.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.0100 U	MG/L	08/06/98	1.0
SULFATE	5.00	65.6	MG/L	08/26/98	2.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	984	MG/L	08/07/98	1.0
TOTAL HARDNESS	2.00	576	MG/L	08/06/98	1.0
TOTAL PHOSPHORUS	0.0500	0.257	MG/L	08/20/98	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
 METHOD 8260B TCL
 Reported: 09/11/98

Golder Associates
 Project Reference: BUFFALO COLOR
 Client Sample ID : RFI-PZ18

Date Sampled : 08/05/98 Order #: 226442 Sample Matrix: WATER
 Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	1.4 J	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES

QC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	99	%
TOLUENE-D8	(88 - 110 %)	98	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	102	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-PZ18

Date Sampled : 08/05/98 Order #: 226442 Sample Matrix: WATER

Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A) PYRENE	5.0	5.0 U	UG/L
BENZO(B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I) PERYLENE	5.0	5.0 U	UG/L
BENZO(K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS(2-ETHYLHEXYL) PHTHALATE	5.0	6.2	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-PZ18

Date Sampled : 08/05/98 Order #: 226442 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/07/98		
DATE ANALYZED	: 08/20/98		
ANALYTICAL DILUTION:	1.00		
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLEETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLEETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	38	%
NITROBENZENE-d5	(35 - 114 %)	53	%
PHENOL-d6	(10 - 94 %)	20	%
2-FLUOROBIPHENYL	(43 - 116 %)	54	%
2-FLUOROPHENOL	(21 - 110 %)	24	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	29	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-51

Date Sampled : 08/05/98
Date Received: 08/06/98

Order #: 226443
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	1.09	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	0.0314	MG/L	08/26/98	1.0
BARIUM	0.0200	0.0341	MG/L	08/26/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	08/26/98	1.0
COBALT	0.0500	0.0500 U	MG/L	08/26/98	1.0
COPPER	0.0200	0.0200 U	MG/L	08/26/98	1.0
IRON	0.100	4.18	MG/L	08/26/98	1.0
LEAD	0.0100	0.0100 U	MG/L	08/26/98	1.0
MANGANESE	0.0100	0.564	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	08/20/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 U	MG/L	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	08/26/98	1.0
ZINC	0.0100	0.0330	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	30.5	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0100 U	MG/L	08/06/98	1.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.0232	MG/L	08/06/98	1.0
SULFATE	5.00	1890	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3080	MG/L	08/07/98	1.0
TOTAL HARDNESS	2.00	1510	MG/L	08/06/98	1.0
TOTAL PHOSPHORUS	0.0500	0.134	MG/L	08/20/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS

METHOD 8260B TCL

Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-51

Date Sampled : 08/05/98 Order #: 226443 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	1.6 J	UG/L
M+P-XYLENE	5.0	3.3 J	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	108	%
TOLUENE-D8	(88 - 110 %)	97	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	105	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-51Date Sampled : 08/05/98 Order #: 226443 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/21/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2'-OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-51Date Sampled : 08/05/98 Order #: 226443 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/07/98		
DATE ANALYZED	: 08/21/98		
ANALYTICAL DILUTION:	1.00		
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	54	%
NITROBENZENE-d5	(35 - 114 %)	60	%
PHENOL-d6	(10 - 94 %)	29	%
2-FLUOROBIPHENYL	(43 - 116 %)	63	%
2-FLUOROPHENOL	(21 - 110 %)	33	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	61	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-45

Date Sampled : 08/06/98
Date Received: 08/07/98

Order #: 226444
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	12.1	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	08/26/98	1.0
BARIUM	0.0200	0.0611	MG/L	08/26/98	1.0
CADMIUM	0.00500	0.0324	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0161	MG/L	08/26/98	1.0
COBALT	0.0500	0.0518	MG/L	08/26/98	1.0
COPPER	0.0200	0.0880	MG/L	08/26/98	1.0
IRON	0.100	18.3	MG/L	08/26/98	1.0
LEAD	0.0100	0.0359	MG/L	08/26/98	1.0
MANGANESE	0.0100	10.9	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	08/20/98	1.0
NICKEL	0.0400	0.0590	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 U	MG/L	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	08/26/98	1.0
ZINC	0.0100	1.02	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	159	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0100 U	MG/L	08/07/98	1.0
NITRATE NITROGEN	0.0500	59.3	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	59.3	MG/L	08/12/98	100.0
NITRITE NITROGEN	0.0100	0.0191	MG/L	08/08/98	1.0
SULFATE	5.00	1700	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3700	MG/L	08/11/98	1.0
TOTAL HARDNESS	2.00	2340	MG/L	08/20/98	1.0
TOTAL PHOSPHORUS	0.0500	0.259	MG/L	08/20/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-45Date Sampled : 08/06/98 Order #: 226444 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	109	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	103	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/17/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-45

Date Sampled : 08/06/98 Order #: 226444 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29412

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/12/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/17/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-45

Date Sampled : 08/06/98 Order #: 226444 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29412

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/12/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	56	%
NITROBENZENE-d5	(35 - 114 %)	56	%
PHENOL-d6	(10 - 94 %)	0 *	%
2-FLUOROBIPHENYL	(43 - 116 %)	65	%
2-FLUOROPHENOL	(21 - 110 %)	1 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	3 *	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-47

Date Sampled : 08/05/98
Date Received: 08/06/98

Order #: 226445
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	31.4	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	08/26/98	1.0
BARIUM	0.0200	0.0556	MG/L	08/26/98	1.0
CADMIUM	0.00500	7.77	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0294	MG/L	08/26/98	1.0
COBALT	0.0500	0.0856	MG/L	08/26/98	1.0
COPPER	0.0200	0.210	MG/L	08/26/98	1.0
IRON	0.100	22.7	MG/L	08/26/98	1.0
LEAD	0.0100	0.0230	MG/L	08/26/98	1.0
MANGANESE	0.0100	4.99	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	08/20/98	1.0
NICKEL	0.0400	3.79	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 U	MG/L	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	08/26/98	1.0
ZINC	0.0100	1.04	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	167	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0115	MG/L	08/06/98	1.0
NITRATE NITROGEN	0.0500	12.7	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	12.7	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.0100 U	MG/L	08/06/98	1.0
SULFATE	5.00	1970	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3120	MG/L	08/07/98	1.0
TOTAL HARDNESS	2.00	1740	MG/L	08/06/98	1.0
TOTAL PHOSPHORUS	0.0500	0.527	MG/L	08/20/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS

METHOD 8260B TCL

Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-47

Date Sampled : 08/05/98 Order #: 226445 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	1.1 J	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	8.2	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	1.9 J	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	105	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	102	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/17/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-47

Date Sampled : 08/05/98 Order #: 226445 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/21/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/17/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-47

Date Sampled : 08/05/98 Order #: 226445 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/21/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	57	%
NITROBENZENE-d5	(35 - 114 %)	70	%
PHENOL-d6	(10 - 94 %)	0 *	%
2-FLUOROBIPHENYL	(43 - 116 %)	68	%
2-FLUOROPHENOL	(21 - 110 %)	1 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	3 *	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-44

Date Sampled : 08/06/98
Date Received: 08/07/98

Order #: 226446
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	1620	MG/L	08/26/98	10.0
ANTIMONY	0.0600	0.600 U	MG/L	08/26/98	10.0
ARSENIC	0.0100	0.100 U	MG/L	08/26/98	10.0
BARIUM	0.0200	0.388	MG/L	08/26/98	10.0
CADMIUM	0.00500	2.49	MG/L	08/26/98	10.0
CHROMIUM	0.0100	0.362	MG/L	08/26/98	10.0
COBALT	0.0500	1.81	MG/L	08/26/98	10.0
COPPER	0.0200	1.13	MG/L	08/26/98	10.0
IRON	0.100	4040	MG/L	09/04/98	100.0
LEAD	0.0100	0.359	MG/L	08/26/98	10.0
MANGANESE	0.0100	42.7	MG/L	08/26/98	10.0
MERCURY	0.000300	0.00148	MG/L	08/20/98	1.0
NICKEL	0.0400	9.10	MG/L	08/26/98	10.0
SELENIUM	0.00300	0.0189	MG/L	09/09/98	3.0
SILVER	0.0100	0.100 U	MG/L	08/26/98	10.0
VANADIUM	0.0500	0.500 U	MG/L	08/26/98	10.0
ZINC	0.0100	38.1	MG/L	08/26/98	10.0
WET CHEMISTRY					
CHLORIDE	1.00	381	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/07/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.515	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.168	MG/L	08/08/98	4.0
SULFATE	5.00	23800	MG/L	08/26/98	1000.0
TOTAL CYANIDE	0.0100	0.0238	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	33000	MG/L	08/11/98	1.0
TOTAL HARDNESS	2.00	4720	MG/L	08/20/98	1.0
TOTAL PHOSPHORUS	0.0500	14.1	MG/L	08/20/98	4.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-44Date Sampled : 08/06/98 Order #: 226446 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	460	UG/L
BENZENE	5.0	110	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	56	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	1.9 J	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	160	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	40	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	2.8 J	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	10	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	69	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	69	UG/L
M+P-XYLENE	5.0	140	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	115	%
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	103	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-44

Date Sampled : 08/06/98 Order #: 226446 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29412

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/12/98		
DATE ANALYZED	: 08/21/98		
ANALYTICAL DILUTION:	20.00		
ACENAPHTHENE	5.0	100 U	UG/L
ACENAPHTHYLENE	5.0	100 U	UG/L
ANILINE	5.0	100 U	UG/L
ANTHRACENE	5.0	100 U	UG/L
BENZO(A)ANTHRACENE	5.0	100 U	UG/L
BENZO(A)PYRENE	5.0	100 U	UG/L
BENZO(B)FLUORANTHENE	5.0	100 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	100 U	UG/L
BENZO(K)FLUORANTHENE	5.0	100 U	UG/L
BENZYL ALCOHOL	5.0	100 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	100 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	100 U	UG/L
CARBAZOLE	5.0	100 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	100 U	UG/L
4-CHLOROANILINE	5.0	100 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	100 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	100 U	UG/L
2-CHLORONAPHTHALENE	5.0	100 U	UG/L
2-CHLOROPHENOL	10	200 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	100 U	UG/L
CHRYSENE	5.0	100 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	100 U	UG/L
DIBENZOFURAN	5.0	100 U	UG/L
1,3-DICHLOROBENZENE	5.0	100 U	UG/L
1,2-DICHLOROBENZENE	5.0	100 U	UG/L
1,4-DICHLOROBENZENE	5.0	100 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	100 U	UG/L
2,4-DICHLOROPHENOL	10	200 U	UG/L
N,N-DIETHYLANILINE	10	200 U	UG/L
DIETHYLPHTHALATE	5.0	100 U	UG/L
DIMETHYL PHTHALATE	5.0	100 U	UG/L
N,N-DIMETHYLANILINE	10	200 U	UG/L
2,4-DIMETHYLPHENOL	10	200 U	UG/L
2,4-DINITROPHENOL	20	400 U	UG/L
2,4-DINITROTOLUENE	5.0	100 U	UG/L
2,6-DINITROTOLUENE	5.0	100 U	UG/L
N-ETHYLANILINE	20	400 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	100 U	UG/L
FLUORANTHENE	5.0	100 U	UG/L
FLUORENE	5.0	100 U	UG/L
HEXACHLOROBENZENE	5.0	100 U	UG/L
HEXACHLOROBUTADIENE	5.0	100 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	100 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-44

Date Sampled : 08/06/98 Order #: 226446 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29412

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/12/98		
DATE ANALYZED	: 08/21/98		
ANALYTICAL DILUTION:	20.00		
HEXACHLOROETHANE	5.0	100 U	UG/L
ISOPHORONE	5.0	100 U	UG/L
N-METHYLANILINE	50	1000 U	UG/L
2-METHYLNAPHTHALENE	10	460	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	400 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	200 U	UG/L
2-METHYLPHENOL	10	200 U	UG/L
4-METHYLPHENOL	10	200 U	UG/L
NAPHTHALENE	5.0	2300	UG/L
1-NAPHTHYLAMINE	10	200 U	UG/L
2-NAPHTHYLAMINE	10	200 U	UG/L
2-NITROANILINE	5.0	100 U	UG/L
3-NITROANILINE	5.0	100 U	UG/L
4-NITROANILINE	5.0	100 U	UG/L
NITROBENZENE	5.0	100 U	UG/L
2-NITROPHENOL	10	200 U	UG/L
4-NITROPHENOL	20	400 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	100 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	100 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	100 U	UG/L
PENTACHLOROPHENOL	20	400 U	UG/L
PHENANTHRENE	5.0	100 U	UG/L
PHENOL	10	200 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	100 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	100 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	100 U	UG/L
PYRENE	5.0	100 U	UG/L
O+P-TOLUIDINE	20	400 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	100 U	UG/L
2,4,6-TRICHLOROPHENOL	10	200 U	UG/L
2,4,5-TRICHLOROPHENOL	10	200 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	D	%
NITROBENZENE-d5	(35 - 114 %)	D	%
PHENOL-d6	(10 - 94 %)	D	%
2-FLUOROBIPHENYL	(43 - 116 %)	D	%
2-FLUOROPHENOL	(21 - 110 %)	D	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	D	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : FIELD DUP

Date Sampled : 08/06/98
Date Received: 08/07/98

Order #: 226447
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	1570	MG/L	08/26/98	10.0
ANTIMONY	0.0600	0.600 U	MG/L	08/26/98	10.0
ARSENIC	0.0100	0.100 U	MG/L	08/26/98	10.0
BARIUM	0.0200	0.382	MG/L	08/26/98	10.0
CADMIUM	0.00500	2.44	MG/L	08/26/98	10.0
CHROMIUM	0.0100	0.349	MG/L	08/26/98	10.0
COBALT	0.0500	1.76	MG/L	08/26/98	10.0
COPPER	0.0200	1.11	MG/L	08/26/98	10.0
IRON	0.100	3880	MG/L	09/04/98	100.0
LEAD	0.0100	0.354	MG/L	08/26/98	10.0
MANGANESE	0.0100	41.7	MG/L	08/26/98	10.0
MERCURY	0.000300	0.00130	MG/L	08/20/98	1.0
NICKEL	0.0400	8.90	MG/L	08/26/98	10.0
SELENIUM	0.00300	0.0148	MG/L	09/09/98	3.0
SILVER	0.0100	0.100 U	MG/L	08/26/98	10.0
VANADIUM	0.0500	0.500 U	MG/L	08/26/98	10.0
ZINC	0.0100	36.9	MG/L	08/26/98	10.0
WET CHEMISTRY					
CHLORIDE	1.00	162	MG/L	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/07/98	10.0
NITRATE NITROGEN	0.0500	0.866	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.998	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.132	MG/L	08/08/98	4.0
SULFATE	5.00	24400	MG/L	08/26/98	1000.0
TOTAL CYANIDE	0.0100	0.0238	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	31900	MG/L	08/11/98	1.0
TOTAL HARDNESS	2.00	4780	MG/L	08/20/98	1.0
TOTAL PHOSPHORUS	0.0500	13.8	MG/L	08/20/98	4.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : FIELD DUPDate Sampled : 08/06/98 Order #: 226447 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/18/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	420	UG/L
BENZENE	5.0	110	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	54	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	1.8 J	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	160	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	38	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	3.0 J	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	9.9	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	65	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	68	UG/L
M+P-XYLENE	5.0	130	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	110	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	101	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : FIELD DUP

Date Sampled : 08/06/98 Order #: 226447 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29412

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/12/98		
DATE ANALYZED	: 08/21/98		
ANALYTICAL DILUTION:	10.00		
ACENAPHTHENE	5.0	57	UG/L
ACENAPHTHYLENE	5.0	50 U	UG/L
ANILINE	5.0	50 U	UG/L
ANTHRACENE	5.0	50 U	UG/L
BENZO (A) ANTHRACENE	5.0	50 U	UG/L
BENZO (A) PYRENE	5.0	50 U	UG/L
BENZO (B) FLUORANTHENE	5.0	50 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	50 U	UG/L
BENZO (K) FLUORANTHENE	5.0	50 U	UG/L
BENZYL ALCOHOL	5.0	50 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	50 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	50 U	UG/L
CARBAZOLE	5.0	50 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	50 U	UG/L
4-CHLOROANILINE	5.0	50 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	50 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	50 U	UG/L
2-CHLORONAPHTHALENE	5.0	50 U	UG/L
2-CHLOROPHENOL	10	100 U	UG/L
2,2'-OXYBIS (1-CHLOROPROPANE)	5.0	50 U	UG/L
CHRYSENE	5.0	50 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	50 U	UG/L
DIBENZOFURAN	5.0	84	UG/L
1,3-DICHLOROBENZENE	5.0	50 U	UG/L
1,2-DICHLOROBENZENE	5.0	50 U	UG/L
1,4-DICHLOROBENZENE	5.0	50 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	50 U	UG/L
2,4-DICHLOROPHENOL	10	100 U	UG/L
N,N-DIETHYLANILINE	10	100 U	UG/L
DIETHYLPHTHALATE	5.0	50 U	UG/L
DIMETHYL PHTHALATE	5.0	50 U	UG/L
N,N-DIMETHYLANILINE	10	100 U	UG/L
2,4-DIMETHYLPHENOL	10	100 U	UG/L
2,4-DINITROPHENOL	20	200 U	UG/L
2,4-DINITROTOLUENE	5.0	50 U	UG/L
2,6-DINITROTOLUENE	5.0	50 U	UG/L
N-ETHYLANILINE	20	200 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	50 U	UG/L
FLUORANTHENE	5.0	50 U	UG/L
FLUORENE	5.0	50 U	UG/L
HEXACHLOROBENZENE	5.0	50 U	UG/L
HEXACHLOROBUTADIENE	5.0	50 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	50 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : FIELD DUPDate Sampled : 08/06/98 Order #: 226447 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29412

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/12/98			
DATE ANALYZED : 08/21/98			
ANALYTICAL DILUTION: 10.00			
HEXACHLOROETHANE	5.0	50 U	UG/L
ISOPHORONE	5.0	50 U	UG/L
N-METHYLANILINE	50	500 U	UG/L
2-METHYLNAPHTHALENE	10	350	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	200 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	100 U	UG/L
2-METHYLPHENOL	10	100 U	UG/L
4-METHYLPHENOL	10	100 U	UG/L
NAPHTHALENE	5.0	1500	UG/L
1-NAPHTHYLAMINE	10	100 U	UG/L
2-NAPHTHYLAMINE	10	100 U	UG/L
2-NITROANILINE	5.0	50 U	UG/L
3-NITROANILINE	5.0	50 U	UG/L
4-NITROANILINE	5.0	50 U	UG/L
NITROBENZENE	5.0	50 U	UG/L
2-NITROPHENOL	10	100 U	UG/L
4-NITROPHENOL	20	200 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	50 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	50 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	50 U	UG/L
PENTACHLOROPHENOL	20	200 U	UG/L
PHENANTHRENE	5.0	50 U	UG/L
PHENOL	10	160	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	50 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	50 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	50 U	UG/L
PYRENE	5.0	50 U	UG/L
O+P-TOLUIDINE	20	200 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	50 U	UG/L
2,4,6-TRICHLOROPHENOL	10	100 U	UG/L
2,4,5-TRICHLOROPHENOL	10	100 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	82	%
NITROBENZENE-d5	(35 - 114 %)	24 *	%
PHENOL-d6	(10 - 94 %)	55	%
2-FLUOROBIPHENYL	(43 - 116 %)	77	%
2-FLUOROPHENOL	(21 - 110 %)	48	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	91	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/11/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RINSEATE BLANK

Date Sampled : 08/05/98
Date Received: 08/06/98

Order #: 226448
Submission #: 9807000319

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	0.100 U	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	08/26/98	1.0
BARIUM	0.0200	0.0200 U	MG/L	08/26/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	08/26/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	08/26/98	1.0
COBALT	0.0500	0.0500 U	MG/L	08/26/98	1.0
COPPER	0.0200	0.0200 U	MG/L	08/26/98	1.0
IRON	0.100	0.100 U	MG/L	08/26/98	1.0
LEAD	0.0100	0.0100 U	MG/L	08/26/98	1.0
MANGANESE	0.0100	0.0100 U	MG/L	08/26/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	08/20/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	08/26/98	1.0
SELENIUM	0.00300	0.00300 U	MG/L	09/08/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	08/26/98	1.0
ZINC	0.0100	0.0100 U	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	1.00 U	MG/L	08/13/98	1.0
HEXAVALENT CHROMIUM	0.0100	0.0100 U	MG/L	08/06/98	1.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.0100 U	MG/L	08/06/98	1.0
SULFATE	5.00	10.0 U	MG/L	08/26/98	2.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	10.0 U	MG/L	08/07/98	1.0
TOTAL HARDNESS	2.00	2.00 U	MG/L	08/06/98	1.0
TOTAL PHOSPHORUS	0.0500	0.0500 U	MG/L	08/20/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RINSEATE BLANK

Date Sampled : 08/05/98 Order #: 226448 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
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DATE ANALYZED	: 08/19/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	3.3 J	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	8.0	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	102	%
TOLUENE-D8	(88 - 110 %)	98	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	95	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RINSEATE BLANK

Date Sampled : 08/05/98 Order #: 226448 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/21/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)PYRENE	5.0	5.0 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.0 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RINSEATE BLANKDate Sampled : 08/05/98 Order #: 226448 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/21/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	53	%
NITROBENZENE-d5	(35 - 114 %)	60	%
PHENOL-d6	(10 - 94 %)	28	%
2-FLUOROBIPHENYL	(43 - 116 %)	61	%
2-FLUOROPHENOL	(21 - 110 %)	32	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	68	%

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : TRIP BLANKDate Sampled : 08/05/98 Order #: 226449 Sample Matrix: WATER
Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/19/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	101	%
TOLUENE-D8	(88 - 110 %)	94	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	96	%

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : TRIP BLANKDate Sampled : 08/06/98 Order #: 226450 Sample Matrix: WATER
Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/19/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	104	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	96	%

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/11/98Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 234858	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/18/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	100	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	100	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS

METHOD 8260B TCL

Reported: 09/11/98

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 234862	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/19/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES

QC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	102	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	96	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 233671	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
HEXACHLOROETHANE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 233671	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	58	%
NITROBENZENE-d5	(35 - 114 %)	64	%
PHENOL-d6	(10 - 94 %)	66	%
2-FLUOROBIPHENYL	(43 - 116 %)	68	%
2-FLUOROPHENOL	(21 - 110 %)	56	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	65	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 233673	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 29412

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/12/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A) PYRENE	5.0	5.0 U	UG/L
BENZO(B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO(K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS(2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
HEXACHLOROETHANE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/11/98

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 233673	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 29412

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/12/98			
DATE ANALYZED : 08/20/98			
ANALYTICAL DILUTION: 1.00			
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLEETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLEETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	71	%
NITROBENZENE-d5	(35 - 114 %)	47	%
PHENOL-d6	(10 - 94 %)	24	%
2-FLUOROBIPHENYL	(43 - 116 %)	51	%
2-FLUOROPHENOL	(21 - 110 %)	32	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	61	%

INORGANIC QUALITY CONTROL SUMMARY

	PRECISION	ACCURACY
1	0.99	0.99
2	0.99	0.99
3	0.99	0.99
4	0.99	0.99
5	0.99	0.99
6	0.99	0.99
7	0.99	0.99
8	0.99	0.99
9	0.99	0.99
10	0.99	0.99
11	0.99	0.99
12	0.99	0.99
13	0.99	0.99
14	0.99	0.99
15	0.99	0.99
16	0.99	0.99
17	0.99	0.99
18	0.99	0.99
19	0.99	0.99
20	0.99	0.99
21	0.99	0.99
22	0.99	0.99
23	0.99	0.99
24	0.99	0.99
25	0.99	0.99
26	0.99	0.99
27	0.99	0.99
28	0.99	0.99
29	0.99	0.99
30	0.99	0.99
31	0.99	0.99
32	0.99	0.99
33	0.99	0.99
34	0.99	0.99
35	0.99	0.99
36	0.99	0.99
37	0.99	0.99
38	0.99	0.99
39	0.99	0.99
40	0.99	0.99
41	0.99	0.99
42	0.99	0.99
43	0.99	0.99
44	0.99	0.99
45	0.99	0.99
46	0.99	0.99
47	0.99	0.99
48	0.99	0.99
49	0.99	0.99
50	0.99	0.99
51	0.99	0.99
52	0.99	0.99
53	0.99	0.99
54	0.99	0.99
55	0.99	0.99
56	0.99	0.99
57	0.99	0.99
58	0.99	0.99
59	0.99	0.99
60	0.99	0.99
61	0.99	0.99
62	0.99	0.99
63	0.99	0.99
64	0.99	0.99
65	0.99	0.99
66	0.99	0.99
67	0.99	0.99
68	0.99	0.99
69	0.99	0.99
70	0.99	0.99
71	0.99	0.99
72	0.99	0.99
73	0.99	0.99
74	0.99	0.99
75	0.99	0.99
76	0.99	0.99
77	0.99	0.99
78	0.99	0.99
79	0.99	0.99
80	0.99	0.99
81	0.99	0.99
82	0.99	0.99
83	0.99	0.99
84	0.99	0.99
85	0.99	0.99
86	0.99	0.99
87	0.99	0.99
88	0.99	0.99
89	0.99	0.99
90	0.99	0.99
91	0.99	0.99
92	0.99	0.99
93	0.99	0.99
94	0.99	0.99
95	0.99	0.99
96	0.99	0.99
97	0.99	0.99
98	0.99	0.99
99	0.99	0.99
100	0.99	0.99

	ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
ALUMINUM	13.8	14.6	5	16.2	2.00	119	75 - 125
ANTIMONY	0.0600 U	0.0600 U	NC	0.435	0.500	87	75 - 125
ARSENIC	0.0100 U	0.0100 U	NC	0.0100 U	0.0400	0 N	75 - 125
BARIUM	0.0622	0.0635	2	1.42	2.00	68	75 - 125
CADMIUM	0.00957	0.00947	1	0.0529	0.0500	87	75 - 125
CHROMIUM	0.0138	0.0148	7	0.208	0.200	97	75 - 125
COBALT	0.122	0.121	1	0.566	0.500	89	75 - 125
COPPER	0.123	0.128	4	0.352	0.250	92	75 - 125
LEAD	0.352	0.0154	20	0.482	0.500	93	75 - 125

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/18/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29638

	PRECISION			ACCURACY		
	ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC. LIMITS
MANGANESE	15.9	15.8	1	16.1	0.500	75 - 125
NICKEL	0.166	0.169	2	0.633	0.500	75 - 125
SELENIUM	0.0300 U	0.0300 U	NC	1.13	1.01	75 - 125
SILVER	0.0100 U	0.0100 U	NC	0.0585	0.0500	75 - 125
VANADIUM	0.0500 U	0.0500 U	NC	0.488	0.500	75 - 125
ZINC	2.57	2.60	1	3.06	0.500	75 - 125

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 : BUFFALO COLOR
Reported Units: MG/L
Run # : 29638

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC. LIMITS
0.0188	0.0154	20	0.482	0.500	93 75 - 125

LEAD

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29942

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.
304	291	4	307	1.00	D
IRON			75	-	125

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29493

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC. LIMITS
0.00030 U	0.00030 U	NC	0.000368	0.00100	37N 75 - 125

MERCURY

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29157

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC. LIMITS
208	225	8	453	250	98 70 - 130

CHLORIDE

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/18/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 28966

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.
0.0500 U	0.0500 U	NC	0.0500 U	0.250	0 N
					70 - 130

HEXAVALENT CHROMIUM

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29097

PRECISION				ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
76.7	76.1	1	122	50.0	91	70 - 130

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 28963

PRECISION				ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
0.0723	0.0668	8	0.129	0.250	23 N	70 - 130

NITRITE NITROGEN

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29528

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.
LIMITS					
5520	5400	2	9260	4000	93
					70 - 130

SULFATE

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29151

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC. LIMITS
0.0188	0.0138	31*	0.121	0.100	102 70 - 130

TOTAL CYANIDE

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29044

PRECISION

ORIGINAL	DUPLICATE	RPD
8070	8080	0

TOTAL DISSOLVED SOLIDS

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 28959

	PRECISION	ACCURACY
1	0.99	0.99
2	0.99	0.99
3	0.99	0.99
4	0.99	0.99
5	0.99	0.99
6	0.99	0.99
7	0.99	0.99
8	0.99	0.99
9	0.99	0.99
10	0.99	0.99
11	0.99	0.99
12	0.99	0.99
13	0.99	0.99
14	0.99	0.99
15	0.99	0.99
16	0.99	0.99
17	0.99	0.99
18	0.99	0.99
19	0.99	0.99
20	0.99	0.99
21	0.99	0.99
22	0.99	0.99
23	0.99	0.99
24	0.99	0.99
25	0.99	0.99
26	0.99	0.99
27	0.99	0.99
28	0.99	0.99
29	0.99	0.99
30	0.99	0.99
31	0.99	0.99
32	0.99	0.99
33	0.99	0.99
34	0.99	0.99
35	0.99	0.99
36	0.99	0.99
37	0.99	0.99
38	0.99	0.99
39	0.99	0.99
40	0.99	0.99
41	0.99	0.99
42	0.99	0.99
43	0.99	0.99
44	0.99	0.99
45	0.99	0.99
46	0.99	0.99
47	0.99	0.99
48	0.99	0.99
49	0.99	0.99
50	0.99	0.99
51	0.99	0.99
52	0.99	0.99
53	0.99	0.99
54	0.99	0.99
55	0.99	0.99
56	0.99	0.99
57	0.99	0.99
58	0.99	0.99
59	0.99	0.99
60	0.99	0.99
61	0.99	0.99
62	0.99	0.99
63	0.99	0.99
64	0.99	0.99
65	0.99	0.99
66	0.99	0.99
67	0.99	0.99
68	0.99	0.99
69	0.99	0.99
70	0.99	0.99
71	0.99	0.99
72	0.99	0.99
73	0.99	0.99
74	0.99	0.99
75	0.99	0.99
76	0.99	0.99
77	0.99	0.99
78	0.99	0.99
79	0.99	0.99
80	0.99	0.99
81	0.99	0.99
82	0.99	0.99
83	0.99	0.99
84	0.99	0.99
85	0.99	0.99
86	0.99	0.99
87	0.99	0.99
88	0.99	0.99
89	0.99	0.99
90	0.99	0.99
91	0.99	0.99
92	0.99	0.99
93	0.99	0.99
94	0.99	0.99
95	0.99	0.99
96	0.99	0.99
97	0.99	0.99
98	0.99	0.99
99	0.99	0.99
100	0.99	0.99

ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
2600	2610	0	3620	1000	102	70 - 130

INORGANIC QUALITY CONTROL SUMMARY

	PRECISION	ACCURACY
1	0.99	0.99
2	0.99	0.99
3	0.99	0.99
4	0.99	0.99
5	0.99	0.99
6	0.99	0.99
7	0.99	0.99
8	0.99	0.99
9	0.99	0.99
10	0.99	0.99
11	0.99	0.99
12	0.99	0.99
13	0.99	0.99
14	0.99	0.99
15	0.99	0.99
16	0.99	0.99
17	0.99	0.99
18	0.99	0.99
19	0.99	0.99
20	0.99	0.99
21	0.99	0.99
22	0.99	0.99
23	0.99	0.99
24	0.99	0.99
25	0.99	0.99
26	0.99	0.99
27	0.99	0.99
28	0.99	0.99
29	0.99	0.99
30	0.99	0.99
31	0.99	0.99
32	0.99	0.99
33	0.99	0.99
34	0.99	0.99
35	0.99	0.99
36	0.99	0.99
37	0.99	0.99
38	0.99	0.99
39	0.99	0.99
40	0.99	0.99
41	0.99	0.99
42	0.99	0.99
43	0.99	0.99
44	0.99	0.99
45	0.99	0.99
46	0.99	0.99
47	0.99	0.99
48	0.99	0.99
49	0.99	0.99
50	0.99	0.99
51	0.99	0.99
52	0.99	0.99
53	0.99	0.99
54	0.99	0.99
55	0.99	0.99
56	0.99	0.99
57	0.99	0.99
58	0.99	0.99
59	0.99	0.99
60	0.99	0.99
61	0.99	0.99
62	0.99	0.99
63	0.99	0.99
64	0.99	0.99
65	0.99	0.99
66	0.99	0.99
67	0.99	0.99
68	0.99	0.99
69	0.99	0.99
70	0.99	0.99
71	0.99	0.99
72	0.99	0.99
73	0.99	0.99
74	0.99	0.99
75	0.99	0.99
76	0.99	0.99
77	0.99	0.99
78	0.99	0.99
79	0.99	0.99
80	0.99	0.99
81	0.99	0.99
82	0.99	0.99
83	0.99	0.99
84	0.99	0.99
85	0.99	0.99
86	0.99	0.99
87	0.99	0.99
88	0.99	0.99
89	0.99	0.99
90	0.99	0.99
91	0.99	0.99
92	0.99	0.99
93	0.99	0.99
94	0.99	0.99
95	0.99	0.99
96	0.99	0.99
97	0.99	0.99
98	0.99	0.99
99	0.99	0.99
100	0.99	0.99

ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
0.123	0.124	1	1.79	2.00	83	50 - 150

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/11/98
CAS Order # : 226438 - RFI-46
Client : Golder Associates
 BUFFALO COLOR
Reported Units: MG/L
Run # : 29093

PRECISION

ORIGINAL	DUPLICATE	RPD
1.00 U	1.00 U	NC

TOTAL SULFIDE

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9807000319
Client: Golder Associates
BUFFALO COLOR

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
MERCURY	0.000300 U	0.00100	0.00100	100	80 - 120	29493	MG/L
ALUMINUM	0.100 U	1.88	2.00	94	80 - 120	29638	MG/L
ANTIMONY	0.0600 U	0.469	0.500	94	80 - 120	29638	MG/L
BARIUM	0.0200 U	2.13	2.00	107	80 - 120	29638	MG/L
CADMIUM	0.00500 U	0.0494	0.0500	99	80 - 120	29638	MG/L
CHROMIUM	0.0100 U	0.206	0.200	103	80 - 120	29638	MG/L
COBALT	0.0500 U	0.497	0.500	99	80 - 120	29638	MG/L
COPPER	0.0200 U	0.229	0.250	91	80 - 120	29638	MG/L
IRON	0.100 U	1.03	1.00	103	80 - 120	29638	MG/L
LEAD	0.0100 U	0.543	0.500	109	80 - 120	29638	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9807000319
Client: Golder Associates
BUFFALO COLOR

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
MANGANESE	0.0100 U	0.511	0.500	102	80 - 120	29638	MG/L
NICKEL	0.0400 U	0.526	0.500	105	80 - 120	29638	MG/L
SELENIUM	0.0300 U	1.04	1.01	104	80 - 120	29638	MG/L
SILVER	0.0100 U	0.0485	0.0500	97	80 - 120	29638	MG/L
VANADIUM	0.0500 U	0.494	0.500	99	80 - 120	29638	MG/L
ZINC	0.0207	0.527	0.500	105	80 - 120	29638	MG/L
SELENIUM	0.00300 U	0.0105	0.0100	105	80 - 120	29999	MG/L
TOTAL HARDNESS	2.00 U	19.0	20.0	95	80 - 120	28959	MG/L
NITRITE NITROGEN	0.0100 U	0.287	0.250	115	80 - 120	28963	MG/L
HEXAVALENT CHROMIUM	0.0100 U	0.0487	0.0500	97	70 - 130	28966	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9807000319
Client: Golder Associates
BUFFALO COLOR

BLANK SPIKES

BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
NITRITE NITROGEN						
0.0100 U	0.248	0.250	99	80 - 120	28999	MG/L
HEXAVALENT CHROMIUM						
0.0100 U	0.0506	0.0500	101	70 - 130	29002	MG/L
NITRATE/NITRITE NITROGEN						
0.0500 U	0.432	0.500	86	80 - 120	29097	MG/L
TOTAL CYANIDE						
0.0100 U	0.426	0.400	107	80 - 120	29151	MG/L
CHLORIDE						
1.00 U	23.8	25.0	95	80 - 120	29157	MG/L
TOTAL PHOSPHORUS						
0.0500 U	2.05	2.00	102	80 - 120	29335	MG/L
SULFATE						
5.00 U	20.8	20.0	104	80 - 120	29528	MG/L

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
WATER

Spiked Order No. : 226438 Golder Associates

Client ID: RFI-46

Test: 8260B TCL

Analytical Units: UG/L

Run Number : 29556

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
BENZENE	50.0	6.20	50.0	88	58.0	104	15 *	11	76 - 127	
CHLOROBENZENE	50.0	0	45.0	90	53.0	106	16 *	13	75 - 130	
1,1-DICHLOROETHENE	50.0	0	45.0	90	50.0	100	11	14	61 - 145	
TOLUENE	50.0	6.70	50.0	87	58.0	103	15 *	13	76 - 125	
TRICHLOROETHENE	50.0	0	42.0	84	48.0	96	13	14	71 - 120	

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
WATER

Spiked Order No. : 226438 Golder Associates

Client ID: RFI-46

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 29411

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
ACENAPHTHENE	100	0	75.0	75	67.0	67	11	31	46 - 118	
2-CHLOROPHENOL	200	0	96.0	48	39.0	20*	84 *	40	27 - 123	
1,4-DICHLOROBENZENE	100	0	58.0	58	48.0	48	19	28	36 - 97	
2,4-DINITROTOLUENE	100	0	0.000	0 *	0.000	0 *		38	24 - 96	
4-CHLORO-3-METHYLPHENOL	200	0	91.0	46	20.0	10*	128 *	42	23 - 97	
4-NITROPHENOL	200	0	12.0	6 *	24.0	12	67 *	50	10 - 80	
PENTACHLOROPHENOL	200	0	110	55	100	50	10	50	9 - 103	
PHENOL	200	0	45.0	23	14.0	7 *	105 *	42	12 - 110	
N-NITROSO-DI-N-PROPYLAMINE	100	0	60.0	60	53.0	53	12	38	41 - 116	
PYRENE	100	0	62.0	62	54.0	54	14	31	26 - 127	
1,2,4-TRICHLOROBENZENE	100	0	62.0	62	50.0	50	21	28	39 - 98	

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD: 8260B TCLLABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 234864 ANALYTICAL RUN #: 29556

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED :	8/19/98		
ANALYTICAL DILUTION:	1.0		
ACETONE	20	69	21 - 165
BENZENE	20	108	37 - 151
BROMODICHLOROMETHANE	20	99	35 - 155
BROMOFORM	20	86	45 - 169
BROMOMETHANE	20	119	10 - 242
2-BUTANONE (MEK)	20	115	25 - 162
CARBON DISULFIDE	20	106	45 - 148
CARBON TETRACHLORIDE	20	93	70 - 140
CHLOROBENZENE	20	105	37 - 160
CHLOROETHANE	20	136	53 - 149
CHLOROFORM	20	112	51 - 138
CHLOROMETHANE	20	110	10 - 273
DIBROMOCHLOROMETHANE	20	92	53 - 149
1,1-DICHLOROETHANE	20	108	59 - 155
1,2-DICHLOROETHANE	20	90	49 - 155
1,1-DICHLOROETHENE	20	107	10 - 234
CIS-1,2-DICHLOROETHENE	20	121	54 - 156
TRANS-1,2-DICHLOROETHENE	20	120	54 - 156
1,2-DICHLOROPROPANE	20	105	10 - 210
CIS-1,3-DICHLOROPROPENE	20	105	10 - 227
TRANS-1,3-DICHLOROPROPENE	20	94	17 - 183
ETHYLBENZENE	20	104	37 - 162
2-HEXANONE	20	69	22 - 155
METHYLENE CHLORIDE	20	109	10 - 221
4-METHYL-2-PENTANONE (MIBK)	20	89	46 - 157
STYRENE	20	104	66 - 144
1,1,2,2-TETRACHLOROETHANE	20	98	46 - 157
TETRACHLOROETHENE	20	102	64 - 148
TOLUENE	20	105	47 - 150
1,1,1-TRICHLOROETHANE	20	107	52 - 162
1,1,2-TRICHLOROETHANE	20	97	52 - 150
TRICHLOROETHENE	20	100	71 - 157
VINYL CHLORIDE	20	123	10 - 251
O-XYLENE	20	100	71 - 135
M+P-XYLENE	40	108	71 - 135

OLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 226438

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 29411

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE		QC LIMITS
			FOUND	% REC.	REC.
ACENAPHTHENE	100	0	78.0	78	46 - 118
2-CHLOROPHENOL	200	0	140	70	27 - 123
1,4-DICHLOROBENZENE	100	0	73.0	73	36 - 97
2,4-DINITROTOLUENE	100	0	74.0	74	24 - 96
4-CHLORO-3-METHYLPHENO	200	0	130	65	23 - 97
4-NITROPHENOL	200	0	130	65	10 - 80
PENTACHLOROPHENOL	200	0	140	70	9 - 103
PHENOL	200	0	120	60	12 - 110
N-NITROSO-DI-N-PROPYLA	100	0	68.0	68	41 - 116
PYRENE	100	0	66.0	66	26 - 127
1,2,4-TRICHLOROBENZENE	100	0	73.0	73	39 - 98

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 8/5/98 PAGE 1 OF

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COLUMBIA ANALYTICAL SERVICES, INC.

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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DATE 8/5/98

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PROJECT NAME <u>BCC/RFI/NY</u> PROJECT MANAGER/CONTACT <u>David Mitchell</u> COMPANY/ADDRESS <u>Golden Associates Inc</u> <u>2221 Niagara Falls Blvd. Suite 9 14304</u> TEL (716) 731-1560 FAX (716) 731-1652 SAMPLER'S SIGNATURE <u>Ben Campbell</u>				ANALYSIS REQUESTED <table border="1"> <tr> <th># OF CONTAINERS</th> <th>GC/MS VOAS 8260 □ 624</th> <th>GC/MS SVOAS 8270A □ 625</th> <th>GC VOAS 8010/8020 □ 601/602</th> <th>PESTICIDES/PCBs 8080 □ 608</th> <th>STAR'S LIST 8021 VOAS TOTAL □ TCLP</th> <th>STAR'S LIST 8270 SVOAS TOTAL □ TCLP</th> <th>TCLP □ METALS VOAS □ SVOAS □ H/P</th> <th>WASTE CHARACTERIZATION React □ Corros. □ Ignit.</th> <th>METALS, TOTAL (LIST BELOW)</th> <th>METALS, DISSOLVED (LIST BELOW)</th> <th>TCN</th> <th>SULFIDE</th> <th>MO2</th> <th>SO4, CI</th> <th>NO3/NO2/NO4</th> <th>Handness</th> <th>PRESERVATION</th> </tr> <tr> <td>8</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>PH < 2.0</td> </tr> <tr> <td>8</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>PH > 12</td> </tr> <tr> <td>7</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> </table>												# OF CONTAINERS	GC/MS VOAS 8260 □ 624	GC/MS SVOAS 8270A □ 625	GC VOAS 8010/8020 □ 601/602	PESTICIDES/PCBs 8080 □ 608	STAR'S LIST 8021 VOAS TOTAL □ TCLP	STAR'S LIST 8270 SVOAS TOTAL □ TCLP	TCLP □ METALS VOAS □ SVOAS □ H/P	WASTE CHARACTERIZATION React □ Corros. □ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	TCN	SULFIDE	MO2	SO4, CI	NO3/NO2/NO4	Handness	PRESERVATION	8	X	X							X		X	X	X	X	X	X	PH < 2.0	8	X	X							X		X	X	X	X	X	X	PH > 12	7	X	X							X		X	X	X	X	X	X	
# OF CONTAINERS	GC/MS VOAS 8260 □ 624	GC/MS SVOAS 8270A □ 625	GC VOAS 8010/8020 □ 601/602	PESTICIDES/PCBs 8080 □ 608	STAR'S LIST 8021 VOAS TOTAL □ TCLP	STAR'S LIST 8270 SVOAS TOTAL □ TCLP	TCLP □ METALS VOAS □ SVOAS □ H/P	WASTE CHARACTERIZATION React □ Corros. □ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	TCN	SULFIDE	MO2	SO4, CI	NO3/NO2/NO4	Handness	PRESERVATION																																																																						
8	X	X							X		X	X	X	X	X	X	PH < 2.0																																																																						
8	X	X							X		X	X	X	X	X	X	PH > 12																																																																						
7	X	X							X		X	X	X	X	X	X																																																																							
RELINQUISHED BY: <u>Ben Campbell</u> Signature <u>Ben Campbell</u> Printed Name <u>Ben Campbell</u> Date/Time <u>8/5/98 18:09</u>				RECEIVED BY: <u>James Hawk</u> Signature <u>James Hawk</u> Printed Name <u>James Hawk</u> Date/Time <u>8/6/98 @ 0945</u>				TURNAROUND REQUIREMENTS 24 hr. — 48 hr. — 5 day Standard (10-15 working days) Provide Verbal Preliminary Results Provide FAX Preliminary Results Requested Report Date _____				REPORT REQUIREMENTS 1. Routine Report 2. Routine Rep. w/CASE Narrative 3. EPA Level III Validatable Package 4. N.J. Reduced Deliverables Level IV 5. NY ASP/CLP Deliverables 6. Site specific QC.				INVOICE INFORMATION: P.O. #: _____ Bill To: _____ Shipping Via: <u>FEB EX</u> Shipping #: _____ Temperature: <u>4.8°C</u> Submission No: <u>98-7-317</u>				SAMPLE RECEIPT:																																																																			
RELINQUISHED BY: Signature _____ Printed Name _____ Date/Time _____				RECEIVED BY: Signature _____ Printed Name _____ Date/Time _____				SPECIAL INSTRUCTIONS/COMMENTS: <u>Insufficient Volume for sulfate for RFI-PZ18 (005)</u> <u>METALS Cr+6 See project log for other metals</u>				ORGANICS: <input type="checkbox"/> TCL <input type="checkbox"/> PPL <input type="checkbox"/> AE Only <input type="checkbox"/> BN Only <input type="checkbox"/> Special List				SPECIAL INSTRUCTIONS/COMMENTS: <u>Insufficient Volume for sulfate for RFI-PZ18 (005)</u>																																																																							
RELINQUISHED BY: Signature _____ Printed Name _____ Date/Time _____				RECEIVED BY: Signature _____ Printed Name _____ Date/Time _____				65 RAMAPO VALLEY ROAD MAHWAH, NJ 07430				201-512-3292 FAX 201-512-3362				309 WEST RIDLEY AVE. RIDLEY PARK, PA 19078				610-521-3083 FAX 610-521-4589																																																																			

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

(716) 288-5380 • FAX (716) 288-8475

(800) 695-7222

DATE 8/6/98 PAGE

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PROJECT NAME <u>BCC/RFI/IN</u>		PROJECT MANAGER/CONTACT <u>Pave Mitchell</u>		COMPANY/ADDRESS <u>Golden Associates Inc</u>		2221 Niagara Falls Blvd. Suite 9 14304		TEL <u>716 731-1560</u> FAX <u>716 731-1652</u>		SAMPLER'S SIGNATURE <u>Ben C. DeFolter</u>											
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOAs 8260 <input type="checkbox"/> 624	GC/MS SVOAs 8270A <input type="checkbox"/> 625	GC VOAs 801D/8020 <input type="checkbox"/> 601/602	PESTICIDES/PCBs 8080 <input type="checkbox"/> 608	STARS LIST 8021 VOAs TOTAL <input type="checkbox"/> TCLP	STARS LIST 8270 SVOAs TOTAL <input type="checkbox"/> TCLP	TCLP <input type="checkbox"/> METALS VOAs <input type="checkbox"/> SVOAs <input type="checkbox"/> H/P	WASTE CHARACTERIZATION <input type="checkbox"/> React <input type="checkbox"/> Corros. <input type="checkbox"/> Ignit	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	TCN	SO ₄ , Cl	NO ₃ , NO ₂ , TP4	TDS	Hardness	PRESERVATION PH < 2.0 PH > 12
RFI-45(007)	8/6/98	11:59	226444	H ₂ O	9	X	X							X	X	X	X	X	X	X	
RFI-44(009)	8/6/98	12:54	226446	H ₂ O	9	X	X							X	X	X	X	X	X	X	
Field Dup	8/6/98	12:54	226447	H ₂ O	9	X	X							X	X	X	X	X	X	X	
TB	8/6/98	-	226450	H ₂ O	2	X															
RELINQUISHED BY: <u>Paul C. DeFolter</u> Signature Printed Name Firm Date/Time <u>8/6/98</u> <u>18:04</u>		RECEIVED BY: <u>Tom Hastings</u> Signature Printed Name Firm Date/Time <u>8/7/98</u> <u>0915</u>		TURNAROUND REQUIREMENTS 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 5 day Standard (10-15 working days) Provide Verbal Preliminary Results Provide FAX Preliminary Results Requested Report Date		REPORT REQUIREMENTS 1. Routine Report 2. Routine Rep. w/CASE Narrative 3. EPA Level III Validatable Package 4. N.J. Reduced Deliverables Level IV 5. NY ASP/CLP Deliverables 6. Site specific QC.		INVOICE INFORMATION: P.O. #: Bill To:		SAMPLE RECEIPT: Shipping Via: <u>FedEx</u> Shipping #: <u>49</u> Temperature: Submission No: <u>7-319</u>											
RELINQUISHED BY: Signature Printed Name Firm Date/Time		RECEIVED BY: Signature Printed Name Firm Date/Time		SPECIAL INSTRUCTIONS/COMMENTS: <u>No preservation provided for analysis!</u>		METALS <u>Cr+6 to Titer No Lab per Project See Project Log</u>		ORGANICS: <input type="checkbox"/> TCL <input type="checkbox"/> PPL <input type="checkbox"/> AE Only <input type="checkbox"/> BN Only <input type="checkbox"/> Special List		(Returned 3 Extra Bod Bottles) <u>empty/used</u>											
RELINQUISHED BY: Signature Printed Name Firm Date/Time		RECEIVED BY: Signature Printed Name Firm Date/Time		65 RAMAPO VALLEY ROAD MAHWAH, NJ 07430		201-512-3292 FAX 201-512-3362		309 WEST RIDLEY AVE. RIDLEY PARK, PA 19078		610-521-3083 FAX 610-521-4589											

APPENDIX G-2

RFI LABORATORY REPORTS - GROUNDWATER SAMPLES

Round 2



A FULL SERVICE ENVIRONMENTAL LABORATORY

September 18, 1998

Mr. Brian Senefelder
Golder Associates
2221 Niagara Falls Blvd.
LPO Box 4069
Niagara Falls, NY 14304-4069

PROJECT: BUFFALO COLOR
Submission #: 9808000118

Dear Mr. Senefelder

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.



CASE NARRATIVE

COMPANY: Golder Associates
Buffalo Color
SUBMISSION #: 9808000118

Golder water samples were collected on 08/20/98 and received at CAS on 08/21/98 in good condition. Sample RFI-49 was initially submitted on 08/20/98 and received 08/21/98, however there was insufficient quantity to perform QC. The sample was recollected on 08/31/98 and received on 08/31/98.

VOLATILE ORGANICS

Water samples were analyzed for Target Compound List (TCL) of volatile organics by EPA Method 8260 from SW-846.

Sample RFI-49 was analyzed for site specific QC. All matrix and reference spike recoveries were within acceptance limits. All RPD were within limits.

All surrogate recoveries were within limits.

All tuning criteria for BFB were met.

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

All blank spike recoveries were within QC limits.

All samples were analyzed within the holding time as specified in the method.

No other analytical or QC problems were encountered.

SEMIVOLATILE ORGANICS

Water samples was analyzed for a site specific list of semivolatile organics by EPA Method 8270C from SW-846.

Sample RFI-49 was analyzed for site specific QC. Due to matrix problems several spike recoveries were outside limits. All outliers have been flagged "**". All RPD were within limits. All reference spike recoveries were within limits.

All blank spike recoveries were within QC limits.

Several samples were analyzed at dilutions due to high levels of interfering organics present or to obtain target compounds within the linear range of the method.

All tuning criteria for DFTPP were met.

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

Several surrogate standard recoveries were outside QC limits due to matrix interferences. These surrogates have been flagged "**". Insufficient sample was available to reextract, however reextraction would probably have had the same matrix problems. Surrogates were diluted out in sample RFI-44 and have been flagged "D".

All samples were analyzed within the holding time as specified in the method.

No other analytical or QC problems were encountered.

INORGANICS

Water samples were analyzed for site specific metals. ICP metals were analyzed by 6010B and Mercury by 7470. Cyanide was analyzed by 9012A, Sulfide by 9030A, Nitrate/Nitrite by 353.2, Sulfate by 375.4, Chloride by 325.2, Phosphorus by 365.1, Hexavalent Chrome by 7196A, Hardness by 130.2 and TDS by 160.1.

Sample RFI-49 was analyzed for site specific QC. All matrix spike recoveries were within limits except for Hexavalent Chromium which has been flagged "N". Manganese was spiked too low and has been flagged "D". All RPD were within limits.

All Initial and Continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

No other analytical or QC problems were encountered.



Effective 04/01/96

CAS 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.
- 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 analysis only)
- * - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)
- Also used to qualify Organics QC data outside limits.
- D - Spike diluted out.
- S - Reported value determined by Method of Standard Additions. (MSA)
- X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester: 10145
CT ID # in Rochester: PH0556
MA ID # in Rochester: M-NY032

NJ ID # in Rochester: 73004
RI ID # in Rochester: 158

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-48

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230837
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	7.94	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.168	MG/L	09/09/98	1.0
BARIUM	0.0200	0.0910	MG/L	09/09/98	1.0
CADMIUM	0.00500	0.0143	MG/L	09/09/98	1.0
CHROMIUM	0.0100	0.0158	MG/L	09/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	09/09/98	1.0
COPPER	0.0200	0.0455	MG/L	09/16/98	1.0
IRON	0.100	24.0	MG/L	09/16/98	1.0
LEAD	0.00500	0.0901	MG/L	09/16/98	1.0
MANGANESE	0.0100	1.47	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	5.0
SILVER	0.0100	0.0100 U	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.789	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	476	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	1300	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3120	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	1640	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.646	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-48Date Sampled : 08/20/98 Order #: 230837 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/31/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	105	%
TOLUENE-D8	(88 - 110 %)	98	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	105	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-48

Date Sampled : 08/20/98 Order #: 230837 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-48

Date Sampled : 08/20/98 Order #: 230837 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	61	%
NITROBENZENE-d5	(35 - 114 %)	60	%
PHENOL-d6	(10 - 94 %)	27	%
2-FLUOROBIPHENYL	(43 - 116 %)	64	%
2-FLUOROPHENOL	(21 - 110 %)	29	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	57	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : FIELD DUP

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230838
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	8.61	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.171	MG/L	09/09/98	1.0
BARIUM	0.0200	0.0894	MG/L	09/09/98	1.0
CADMIUM	0.00500	0.00892	MG/L	09/09/98	1.0
CHROMIUM	0.0100	0.0159	MG/L	09/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	09/09/98	1.0
COPPER	0.0200	0.0506	MG/L	09/16/98	1.0
IRON	0.100	25.7	MG/L	09/16/98	1.0
LEAD	0.00500	0.103	MG/L	09/16/98	1.0
MANGANESE	0.0100	1.45	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	5.0
SILVER	0.0100	0.0100 U	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.808	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	471	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	1290	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3050	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	1650	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.637	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : FIELD DUP

Date Sampled : 08/20/98 Order #: 230838 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
<hr/>			
DATE ANALYZED	: 08/31/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	106	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	106	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : FIELD DUP

Date Sampled : 08/20/98 Order #: 230838 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYL PHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYL PHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : FIELD DUP

Date Sampled : 08/20/98 Order #: 230838 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	44	%
NITROBENZENE-d5	(35 - 114 %)	55	%
PHENOL-d6	(10 - 94 %)	27	%
2-FLUOROBIPHENYL	(43 - 116 %)	64	%
2-FLUOROPHENOL	(21 - 110 %)	32	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	55	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RINSATE

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230839
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	0.100 U	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	09/09/98	1.0
BARIUM	0.0200	0.0200 U	MG/L	09/09/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	09/09/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	09/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	09/09/98	1.0
COPPER	0.0200	0.0200 U	MG/L	09/16/98	1.0
IRON	0.100	0.100 U	MG/L	09/16/98	1.0
LEAD	0.00500	0.00500 U	MG/L	09/16/98	1.0
MANGANESE	0.0100	0.0100 U	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.00500 U	MG/L	09/15/98	1.0
SILVER	0.0100	0.0154	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.0200 U	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	1.00 U	MG/L	08/25/98	1.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	10.0 U	MG/L	08/26/98	2.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	10.0 U	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	2.00 U	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.0500 U	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RINSATE

Date Sampled : 08/20/98 Order #: 230839 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/31/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	8.0	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	107	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	102	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RINSATEDate Sampled : 08/20/98 Order #: 230839 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RINSATE

Date Sampled : 08/20/98 Order #: 230839 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	65	%
NITROBENZENE-d5	(35 - 114 %)	67	%
PHENOL-d6	(10 - 94 %)	33	%
2-FLUOROBIPHENYL	(43 - 116 %)	64	%
2-FLUOROPHENOL	(21 - 110 %)	41	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	73	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-50

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230840
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	10.0	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0953	MG/L	09/09/98	1.0
BARIUM	0.0200	0.0746	MG/L	09/09/98	1.0
CADMIUM	0.00500	0.0200	MG/L	09/09/98	1.0
CHROMIUM	0.0100	0.0119	MG/L	09/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	09/09/98	1.0
COPPER	0.0200	0.0200 U	MG/L	09/16/98	1.0
IRON	0.100	142	MG/L	09/16/98	1.0
LEAD	0.00500	0.0176	MG/L	09/16/98	1.0
MANGANESE	0.0100	4.56	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	5.0
SILVER	0.0100	0.0186	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.0629	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	424	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	5000	MG/L	08/26/98	400.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	8000	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	2740	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.874	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-50Date Sampled : 08/20/98 Order #: 230840 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/31/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	108	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	106	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-50

Date Sampled : 08/20/98 Order #: 230840 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-50

Date Sampled : 08/20/98 Order #: 230840 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	59	%
NITROBENZENE-d5	(35 - 114 %)	3 *	%
PHENOL-d6	(10 - 94 %)	29	%
2-FLUOROBIPHENYL	(43 - 116 %)	61	%
2-FLUOROPHENOL	(21 - 110 %)	36	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	68	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID :RFI-51

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230842
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	1.41	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.160	MG/L	09/09/98	1.0
BARIUM	0.0200	0.0395	MG/L	09/09/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	09/09/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	09/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	09/09/98	1.0
COPPER	0.0200	0.0200 U	MG/L	09/15/98	1.0
IRON	0.100	6.38	MG/L	09/16/98	1.0
LEAD	0.00500	0.00721	MG/L	09/16/98	1.0
MANGANESE	0.0100	1.03	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	5.0
SILVER	0.0100	0.0100 U	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.0247	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	33.8	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	2420	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3640	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	2130	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.116	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-51Date Sampled : 08/20/98 Order #: 230842 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/31/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	108	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	107	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-51

Date Sampled : 08/20/98 Order #: 230842 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-51Date Sampled : 08/20/98 Order #: 230842 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	61	%
NITROBENZENE-d5	(35 - 114 %)	65	%
PHENOL-d6	(10 - 94 %)	14	%
2-FLUOROBIPHENYL	(43 - 116 %)	66	%
2-FLUOROPHENOL	(21 - 110 %)	16 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	34	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-45

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230843
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	8.77	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0543	MG/L	09/09/98	1.0
BARIUM	0.0200	0.0578	MG/L	09/09/98	1.0
CADMIUM	0.00500	0.0301	MG/L	09/16/98	1.0
CHROMIUM	0.0100	0.0119	MG/L	09/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	09/09/98	1.0
COPPER	0.0200	0.0571	MG/L	09/16/98	1.0
IRON	0.100	15.8	MG/L	09/16/98	1.0
LEAD	0.00500	0.0311	MG/L	09/16/98	1.0
MANGANESE	0.0100	9.54	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.0476	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	5.0
SILVER	0.0100	0.0109	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.865	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	346	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	49.7	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	49.7	MG/L	08/26/98	100.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	1500	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3540	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	2240	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.210	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-45

Date Sampled : 08/20/98 Order #: 230843 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
<hr/>			
DATE ANALYZED	: 09/01/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	104	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	105	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-45

Date Sampled : 08/20/98 Order #: 230843 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-45

Date Sampled : 08/20/98 Order #: 230843 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	53	%
NITROBENZENE-d5	(35 - 114 %)	68	%
PHENOL-d6	(10 - 94 %)	1 *	%
2-FLUOROBIPHENYL	(43 - 116 %)	69	%
2-FLUOROPHENOL	(21 - 110 %)	1 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	2 *	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-44

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230844
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	1490	MG/L	09/09/98	10.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	09/09/98	1.0
BARIUM	0.0200	0.206	MG/L	09/09/98	1.0
CADMIUM	0.00500	2.77	MG/L	09/16/98	10.0
CHROMIUM	0.0100	0.167	MG/L	09/09/98	1.0
COBALT	0.0500	0.682	MG/L	09/09/98	1.0
COPPER	0.0200	1.08	MG/L	09/16/98	10.0
IRON	0.100	3590	MG/L	09/17/98	100.0
LEAD	0.00500	0.350	MG/L	09/16/98	10.0
MANGANESE	0.0100	38.3	MG/L	09/09/98	10.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	3.61	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0930 S	MG/L	09/15/98	5.0
SILVER	0.0100	0.0567	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.259	MG/L	09/09/98	1.0
ZINC	0.0200	34.2	MG/L	09/09/98	10.0
WET CHEMISTRY					
CHLORIDE	1.00	166	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.552	MG/L	08/21/98	10.0
SULFATE	5.00	22100	MG/L	08/26/98	1000.0
TOTAL CYANIDE	0.0100	0.0263	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	29400	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	3800	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	12.3	MG/L	08/27/98	2.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-44Date Sampled : 08/20/98 Order #: 230844 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 09/01/98		
ANALYTICAL DILUTION:	10.00		
ACETONE	20	260	UG/L
BENZENE	5.0	89	UG/L
BROMODICHLOROMETHANE	5.0	50 U	UG/L
BROMOFORM	5.0	50 U	UG/L
BROMOMETHANE	5.0	50 U	UG/L
2-BUTANONE (MEK)	10	100 U	UG/L
CARBON DISULFIDE	10	100 U	UG/L
CARBON TETRACHLORIDE	5.0	50 U	UG/L
CHLOROBENZENE	5.0	50 U	UG/L
CHLOROETHANE	5.0	50 U	UG/L
CHLOROFORM	5.0	120	UG/L
CHLOROMETHANE	5.0	50 U	UG/L
DIBROMOCHLOROMETHANE	5.0	50 U	UG/L
1,1-DICHLOROETHANE	5.0	50 U	UG/L
1,2-DICHLOROETHANE	5.0	50 U	UG/L
1,1-DICHLOROETHENE	5.0	50 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	50 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	50 U	UG/L
1,2-DICHLOROPROPANE	5.0	50 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	50 U	UG/L
ETHYLBENZENE	5.0	50 U	UG/L
2-HEXANONE	10	100 U	UG/L
METHYLENE CHLORIDE	5.0	50 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	100 U	UG/L
STYRENE	5.0	50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	50 U	UG/L
TETRACHLOROETHENE	5.0	50 U	UG/L
TOLUENE	5.0	50 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	50 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	50 U	UG/L
TRICHLOROETHENE	5.0	50 U	UG/L
VINYL CHLORIDE	5.0	50 U	UG/L
O-XYLENE	5.0	50 U	UG/L
M+P-XYLENE	5.0	97	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	112	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	108	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-44

Date Sampled : 08/20/98 Order #: 230844 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/27/98			
ANALYTICAL DILUTION: 20.00			
ACENAPHTHENE	5.0	100 U	UG/L
ACENAPHTHYLENE	5.0	100 U	UG/L
ANILINE	5.0	100 U	UG/L
ANTHRACENE	5.0	100 U	UG/L
BENZO (A) ANTHRACENE	5.0	100 U	UG/L
BENZO (A) PYRENE	5.0	100 U	UG/L
BENZO (B) FLUORANTHENE	5.0	100 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	100 U	UG/L
BENZO (K) FLUORANTHENE	5.0	100 U	UG/L
BENZYL ALCOHOL	5.0	100 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	100 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	100 U	UG/L
CARBAZOLE	5.0	100 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	100 U	UG/L
4-CHLOROANILINE	5.0	100 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	100 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	100 U	UG/L
2-CHLORONAPHTHALENE	5.0	100 U	UG/L
2-CHLOROPHENOL	10	200 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	100 U	UG/L
CHRYSENE	5.0	100 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	100 U	UG/L
DIBENZOFURAN	5.0	100 U	UG/L
1, 3-DICHLOROBENZENE	5.0	100 U	UG/L
1, 2-DICHLOROBENZENE	5.0	100 U	UG/L
1, 4-DICHLOROBENZENE	5.0	100 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	100 U	UG/L
2, 4-DICHLOROPHENOL	10	200 U	UG/L
N,N-DIETHYLANILINE	10	200 U	UG/L
DIETHYLPHTHALATE	5.0	100 U	UG/L
DIMETHYL PHTHALATE	5.0	100 U	UG/L
N,N-DIMETHYLANILINE	10	200 U	UG/L
2, 4-DIMETHYLPHENOL	10	200 U	UG/L
2, 4-DINITROPHENOL	20	400 U	UG/L
2, 4-DINITROTOLUENE	5.0	100 U	UG/L
2, 6-DINITROTOLUENE	5.0	100 U	UG/L
N-ETHYLANILINE	20	400 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	100 U	UG/L
FLUORANTHENE	5.0	100 U	UG/L
FLUORENE	5.0	100 U	UG/L
HEXACHLOROBENZENE	5.0	100 U	UG/L
HEXACHLOROBUTADIENE	5.0	100 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	100 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-44

Date Sampled : 08/20/98 Order #: 230844 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/24/98		
DATE ANALYZED	: 08/27/98		
ANALYTICAL DILUTION:	20.00		
HEXACHLOROETHANE	5.0	100 U	UG/L
ISOPHORONE	5.0	100 U	UG/L
N-METHYLANILINE	50	1000 U	UG/L
2-METHYLNAPHTHALENE	10	400	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	400 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	200 U	UG/L
2-METHYLPHENOL	10	200 U	UG/L
4-METHYLPHENOL	10	200 U	UG/L
NAPHTHALENE	5.0	2200	UG/L
1-NAPHTHYLAMINE	10	200 U	UG/L
2-NAPHTHYLAMINE	10	200 U	UG/L
2-NITROANILINE	5.0	100 U	UG/L
3-NITROANILINE	5.0	100 U	UG/L
4-NITROANILINE	5.0	100 U	UG/L
NITROBENZENE	5.0	100 U	UG/L
2-NITROPHENOL	10	200 U	UG/L
4-NITROPHENOL	20	400 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	100 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	100 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	100 U	UG/L
PENTACHLOROPHENOL	20	400 U	UG/L
PHENANTHRENE	5.0	100 U	UG/L
PHENOL	10	200 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	100 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	100 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	100 U	UG/L
PYRENE	5.0	100 U	UG/L
O+P-TOLUIDINE	20	400 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	100 U	UG/L
2,4,6-TRICHLOROPHENOL	10	200 U	UG/L
2,4,5-TRICHLOROPHENOL	10	200 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	D	%
NITROBENZENE-d5	(35 - 114 %)	D	%
PHENOL-d6	(10 - 94 %)	D	%
2-FLUOROBIPHENYL	(43 - 116 %)	D	%
2-FLUOROPHENOL	(21 - 110 %)	D	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	D	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID :RFI-PZ-18

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230845
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	6.12	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0177	MG/L	09/09/98	1.0
BARIUM	0.0200	0.344	MG/L	09/09/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	09/16/98	1.0
CHROMIUM	0.0100	0.0168	MG/L	09/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	09/09/98	1.0
COPPER	0.0200	0.105	MG/L	09/16/98	1.0
IRON	0.100	14.5	MG/L	09/16/98	1.0
LEAD	0.00500	0.0263	MG/L	09/16/98	1.0
MANGANESE	0.0100	0.938	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.00500 U	MG/L	09/11/98	1.0
SILVER	0.0100	0.0100 U	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.242	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	261	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	21.3	MG/L	08/26/98	2.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	1010	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	604	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.500	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-PZ-18Date Sampled : 08/20/98 Order #: 230845 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/01/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	112	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	112	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-PZ-18

Date Sampled : 08/20/98 Order #: 230845 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-PZ-18

Date Sampled : 08/20/98 Order #: 230845 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	41	%
NITROBENZENE-d5	(35 - 114 %)	65	%
PHENOL-d6	(10 - 94 %)	18	%
2-FLUOROBIPHENYL	(43 - 116 %)	66	%
2-FLUOROPHENOL	(21 - 110 %)	38	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	61	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID :RFI-46

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230846
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	6.56	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0583	MG/L	09/09/98	1.0
BARIUM	0.0200	0.0411	MG/L	09/09/98	1.0
CADMIUM	0.00500	0.00879	MG/L	09/16/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	09/09/98	1.0
COBALT	0.0500	0.0945	MG/L	09/09/98	1.0
COPPER	0.0200	0.0597	MG/L	09/16/98	1.0
IRON	0.100	275	MG/L	09/16/98	10.0
LEAD	0.00500	0.00913	MG/L	09/16/98	1.0
MANGANESE	0.0100	14.5	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.108	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	5.0
SILVER	0.0100	0.0100 U	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	2.00	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	200	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.233	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	18.2	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	18.2	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	5400	MG/L	08/26/98	400.0
TOTAL CYANIDE	0.0100	0.0126	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	8380	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	2560	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.0500 U	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-46Date Sampled : 08/20/98 Order #: 230846 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/01/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	110	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	106	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-46

Date Sampled : 08/20/98 Order #: 230846 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/24/98		
DATE ANALYZED	: 08/26/98		
ANALYTICAL DILUTION:	1.00		
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2'-OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-46

Date Sampled : 08/20/98 Order #: 230846 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/26/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	28	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	52	%
NITROBENZENE-d5	(35 - 114 %)	7 *	%
PHENOL-d6	(10 - 94 %)	29	%
2-FLUOROBIPHENYL	(43 - 116 %)	65	%
2-FLUOROPHENOL	(21 - 110 %)	37	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	62	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID :RFI-47

Date Sampled : 08/20/98
Date Received: 08/21/98

Order #: 230847
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	31.4	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0287	MG/L	09/09/98	1.0
BARIUM	0.0200	0.0836	MG/L	09/09/98	1.0
CADMIUM	0.00500	7.23	MG/L	09/16/98	1.0
CHROMIUM	0.0100	0.0288	MG/L	09/09/98	1.0
COBALT	0.0500	0.0703	MG/L	09/09/98	1.0
COPPER	0.0200	0.170	MG/L	09/16/98	1.0
IRON	0.100	24.7	MG/L	09/16/98	1.0
LEAD	0.00500	0.0311	MG/L	09/16/98	1.0
MANGANESE	0.0100	3.75	MG/L	09/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	3.14	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	5.0
SILVER	0.0100	0.0100 U	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.834	MG/L	09/09/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	156	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	10.3	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	10.3	MG/L	08/26/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	08/21/98	10.0
SULFATE	5.00	1920	MG/L	08/26/98	100.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3040	MG/L	08/27/98	1.0
TOTAL HARDNESS	2.00	1740	MG/L	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.568	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	08/26/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-47

Date Sampled : 08/20/98 Order #: 230847 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
<hr/>			
DATE ANALYZED	: 09/01/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	7.8	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	112	%
TOLUENE-D8	(88 - 110 %)	103	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	108	%

COLUMBIA ANALYTICAL SERVICESEXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/21/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-47

Date Sampled : 08/20/98 Order #: 230847 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/26/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N,N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N,N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/21/98

Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : RFI-47

Date Sampled : 08/20/98 Order #: 230847 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/26/98			
ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	54	%
NITROBENZENE-d5	(35 - 114 %)	68	%
PHENOL-d6	(10 - 94 %)	0 *	%
2-FLUOROBIPHENYL	(43 - 116 %)	66	%
2-FLUOROPHENOL	(21 - 110 %)	0 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	0 *	%

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : TRIP BLANK-1Date Sampled : 08/20/98 Order #: 230848 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
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DATE ANALYZED : 09/02/98
ANALYTICAL DILUTION: 1.00

ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	113	%
TOLUENE-D8	(88 - 110 %)	103	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	104	%

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BUFFALO COLOR
Client Sample ID : TRIP BLANK-2Date Sampled : 08/20/98 Order #: 230849 Sample Matrix: WATER
Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/02/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	114	%
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	106	%

COLUMBIA ANALYTICAL SERVICES

Reported: 09/18/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID :RFI-49/QC

Date Sampled : 08/31/98
Date Received: 09/01/98

Order #: 236551
Submission #: 9808000118

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	0.902	MG/L	09/17/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	09/17/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	09/17/98	1.0
BARIUM	0.0200	0.0486	MG/L	09/17/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	09/17/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	09/17/98	1.0
COBALT	0.0500	0.0500 U	MG/L	09/17/98	1.0
COPPER	0.0200	0.0200 U	MG/L	09/17/98	1.0
IRON	0.100	46.3	MG/L	09/17/98	1.0
LEAD	0.00500	0.0168	MG/L	09/17/98	1.0
MANGANESE	0.0100	8.17	MG/L	09/17/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	09/17/98	1.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	5.0
SILVER	0.0100	0.0100 U	MG/L	09/17/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	09/17/98	1.0
ZINC	0.0100	2.53	MG/L	09/17/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	349	MG/L	09/11/98	100.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	09/01/98	10.0
NITRATE NITROGEN	0.0500	0.500 U	MG/L		NA
NITRATE/NITRITE NITROGEN	0.0500	0.500 U	MG/L	09/09/98	10.0
NITRITE NITROGEN	0.0100	0.100 U	MG/L	09/01/98	10.0
SULFATE	5.00	1310	MG/L	09/10/98	200.0
TOTAL CYANIDE	0.0100	0.0100 U	MG/L	09/04/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	3670	MG/L	09/03/98	1.0
TOTAL HARDNESS	2.00	2190	MG/L	09/04/98	1.0
TOTAL PHOSPHORUS	0.0500	0.0500 U	MG/L	09/03/98	1.0
TOTAL SULFIDE	1.00	1.00 U	MG/L	09/04/98	1.0

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-49/QCDate Sampled : 08/31/98 Order #: 236551 Sample Matrix: WATER
Date Received: 09/01/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/02/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	113	%
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	107	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-49/QC

Date Sampled : 08/31/98 Order #: 236551 Sample Matrix: WATER
Date Received: 09/01/98 Submission #: 9808000118 Analytical Run 29829

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 09/02/98			
DATE ANALYZED : 09/02/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-49/QC

Date Sampled : 08/31/98 Order #: 236551 Sample Matrix: WATER
Date Received: 09/01/98 Submission #: 9808000118 Analytical Run 29829

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 09/02/98		
DATE ANALYZED	: 09/02/98		
ANALYTICAL DILUTION:	1.00		
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	47	%
NITROBENZENE-d5	(35 - 114 %)	68	%
PHENOL-d6	(10 - 94 %)	2 *	%
2-FLUOROBIPHENYL	(43 - 116 %)	69	%
2-FLUOROPHENOL	(21 - 110 %)	4 *	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	13	%

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : TRIP BLANKDate Sampled : 08/31/98 Order #: 236552 Sample Matrix: WATER
Date Received: 09/01/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 09/03/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	115	%
TOLUENE-D8	(88 - 110 %)	104	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	108	%

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
BCC/RFI/NY
Reported Units: MG/L
Run # : 30286

PRECISION ACCURACY

	ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
ALUMINUM	0.902	1.02	13	3.32	2.00	121	75 - 125
ANTIMONY	0.0600 U	0.0600 U	NC	0.507	0.500	101	75 - 125
ARSENIC	0.0100 U	0.0100 U	NC	0.0290	0.0245	119	75 - 125
BARIUM	0.0486	0.0485	0	2.11	2.00	103	75 - 125
CADMIUM	0.00500 U	0.00500 U	NC	0.0447	0.0500	89	75 - 125
CHROMIUM	0.0100 U	0.0100 U	NC	0.202	0.200	101	75 - 125
COBALT	0.0500 U	0.0500 U	NC	0.484	0.500	97	75 - 125
COPPER	0.0200 U	0.0200 U	NC	0.240	0.250	96	75 - 125
IRON	46.3	46.3	0	47.2	1.00	88	75 - 125

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
BCC/RFI/NY
Reported Units: MG/L
Run # : 30286

PRECISION ACCURACY

	ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
LEAD	0.0168	0.0164	2	0.505	0.500	98	75 - 125
MANGANESE	8.17	8.03	2	8.43	0.500	D	75 - 125
NICKEL	0.0400 U	0.0400 U	NC	0.493	0.500	99	75 - 125
SILVER	0.0100 U	0.0100 U	NC	0.0532	0.0500	106	75 - 125
VANADIUM	0.0500 U	0.0500 U	NC	0.507	0.500	101	75 - 125
ZINC	2.53	2.49	1	3.03	0.500	100	75 - 125

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
BCC/RFI/NY

Reported Units: MG/L
Run # : 29793

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC. LIMITS
0.100 U	0.100 U	NC	0.100 U	0.500	0 N 70 - 130

HEXAVALENT CHROMIUM

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
BCC/RFI/NY

Reported Units: MG/L
Run # : 29798

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC. LIMITS
0.100 U	0.100 U	NC	2.18	2.50	87 70 - 130

NITRITE NITROGEN

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
 BCC/RFI/NY
Reported Units: MG/L
Run # : 29833

PRECISION				ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
0.0100 U	0.0100 U	NC	0.0830	0.100	83	70 - 130

TOTAL CYANIDE

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
 BCC/RFI/NY
Reported Units: MG/L
Run # : 29850

PRECISION

ORIGINAL	DUPLICATE	RPD
3670	3640	1

TOTAL DISSOLVED SOLIDS

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
 BCC/RFI/NY
Reported Units: MG/L
Run # : 29876

PRECISION

ORIGINAL	DUPLICATE	RPD
1.00 U	1.00 U	NC

TOTAL SULFIDE

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
 BCC/RFI/NY
Reported Units: MG/L
Run # : 29881

PRECISION				ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
2190	2200	0	2880	750	93	70 - 130

TOTAL HARDNESS

INORGANIC QUALITY CONTROL SUMMARY

	PRECISION	ACCURACY
1	0.99	0.99
2	0.99	0.99
3	0.99	0.99
4	0.99	0.99
5	0.99	0.99
6	0.99	0.99
7	0.99	0.99
8	0.99	0.99
9	0.99	0.99
10	0.99	0.99
11	0.99	0.99
12	0.99	0.99
13	0.99	0.99
14	0.99	0.99
15	0.99	0.99
16	0.99	0.99
17	0.99	0.99
18	0.99	0.99
19	0.99	0.99
20	0.99	0.99
21	0.99	0.99
22	0.99	0.99
23	0.99	0.99
24	0.99	0.99
25	0.99	0.99
26	0.99	0.99
27	0.99	0.99
28	0.99	0.99
29	0.99	0.99
30	0.99	0.99
31	0.99	0.99
32	0.99	0.99
33	0.99	0.99
34	0.99	0.99
35	0.99	0.99
36	0.99	0.99
37	0.99	0.99
38	0.99	0.99
39	0.99	0.99
40	0.99	0.99
41	0.99	0.99
42	0.99	0.99
43	0.99	0.99
44	0.99	0.99
45	0.99	0.99
46	0.99	0.99
47	0.99	0.99
48	0.99	0.99
49	0.99	0.99
50	0.99	0.99
51	0.99	0.99
52	0.99	0.99
53	0.99	0.99
54	0.99	0.99
55	0.99	0.99
56	0.99	0.99
57	0.99	0.99
58	0.99	0.99
59	0.99	0.99
60	0.99	0.99
61	0.99	0.99
62	0.99	0.99
63	0.99	0.99
64	0.99	0.99
65	0.99	0.99
66	0.99	0.99
67	0.99	0.99
68	0.99	0.99
69	0.99	0.99
70	0.99	0.99
71	0.99	0.99
72	0.99	0.99
73	0.99	0.99
74	0.99	0.99
75	0.99	0.99
76	0.99	0.99
77	0.99	0.99
78	0.99	0.99
79	0.99	0.99
80	0.99	0.99
81	0.99	0.99
82	0.99	0.99
83	0.99	0.99
84	0.99	0.99
85	0.99	0.99
86	0.99	0.99
87	0.99	0.99
88	0.99	0.99
89	0.99	0.99
90	0.99	0.99
91	0.99	0.99
92	0.99	0.99
93	0.99	0.99
94	0.99	0.99
95	0.99	0.99
96	0.99	0.99
97	0.99	0.99
98	0.99	0.99
99	0.99	0.99
100	0.99	0.99

ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
0.500 U	0.500 U	NC	4.74	5.00	95	70 - 130

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
 CAS Order # : 236551 - RFI-49/QC
 Client : Golder Associates
 BCC/RFI/NY
 Reported Units: MG/L
 Run # : 30026

PRECISION				ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
1310	1390	6	3590	2000	114	70 - 130

SULFATE

INORGANIC QUALITY CONTROL SUMMARY

ACCURACY

ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
349	356	2	2730	2500	95	70 - 130

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118
Client: Golder Associates
BUFFALO COLOR

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
MERCURY	0.000300 U	0.000998	0.00100	100	80 - 120	29903	MG/L
ALUMINUM	0.100 U	1.91	2.00	95	80 - 120	30047	MG/L
ANTIMONY	0.0600 U	0.489	0.500	98	80 - 120	30047	MG/L
ARSENIC	0.0100 U	0.0237	0.0245	97	80 - 120	30047	MG/L
BARIUM	0.0200 U	2.17	2.00	108	80 - 120	30047	MG/L
CADMIUM	0.00500 U	0.0495	0.0500	99	80 - 120	30047	MG/L
CHROMIUM	0.0100 U	0.204	0.200	102	80 - 120	30047	MG/L
MANGANESE	0.0100 U	0.507	0.500	101	80 - 120	30047	MG/L
NICKEL	0.0400 U	0.511	0.500	102	80 - 120	30047	MG/L
SILVER	0.0100 U	0.0453	0.0500	91	80 - 120	30047	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118
Client: Golder Associates
BUFFALO COLOR

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
VANADIUM	0.0500 U	0.500	0.500	100	80 - 120	30047	MG/L
	0.0200 U	0.496	0.500	99	80 - 120	30047	MG/L
ZINC	0.00500 U	0.0110	0.0100	110	80 - 120	30206	MG/L
	0.00500 U	0.0103	0.0100	103	80 - 120	30209	MG/L
SELENIUM	0.00500 U	0.0495	0.0500	99	80 - 120	30259	MG/L
	0.0200 U	0.209	0.250	84	80 - 120	30259	MG/L
COPPER	0.100 U	1.02	1.00	102	80 - 120	30259	MG/L
	0.00500 U	0.503	0.500	101	80 - 120	30259	MG/L
LEAD	0.100 U	2.00	2.00	100	80 - 120	30286	MG/L
	0.0600 U	0.493	0.500	99	80 - 120	30286	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118
Client: Golder Associates
BCC/RFI/NY

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
ARSENIC	0.0100 U	0.0209	0.0245	85	80 - 120	30286	MG/L
BARIUM	0.0200 U	2.13	2.00	107	80 - 120	30286	MG/L
CADMIUM	0.00500 U	0.0495	0.0500	99	80 - 120	30286	MG/L
CHROMIUM	0.0100 U	0.206	0.200	103	80 - 120	30286	MG/L
COBALT	0.0500 U	0.517	0.500	103	80 - 120	30286	MG/L
COPPER	0.0200 U	0.219	0.250	88	80 - 120	30286	MG/L
IRON	0.100 U	1.04	1.00	104	80 - 120	30286	MG/L
LEAD	0.00500 U	0.522	0.500	104	80 - 120	30286	MG/L
MANGANESE	0.0100 U	0.511	0.500	102	80 - 120	30286	MG/L
NICKEL	0.0400 U	0.526	0.500	105	80 - 120	30286	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118
Client: Golder Associates
BCC/RFI/NY

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
SILVER	0.0100 U	0.0455	0.0500	91	80 - 120	30286	MG/L
VANADIUM	0.0500 U	0.501	0.500	100	80 - 120	30286	MG/L
ZINC	0.0717	0.564	0.500	113	80 - 120	30286	MG/L
NITRITE NITROGEN	0.0100 U	0.252	0.250	101	80 - 120	29469	MG/L
HEXAVALENT CHROMIUM	0.0100 U	0.0518	0.0500	104	70 - 130	29476	MG/L
SULFATE	5.00 U	20.8	20.0	104	80 - 120	29528	MG/L
CHLORIDE	1.00 U	20.5	25.0	82	80 - 120	29537	MG/L
TOTAL PHOSPHORUS	0.0500 U	1.98	2.00	99	80 - 120	29570	MG/L
NITRATE/NITRITE NITROGEN	0.0500 U	0.501	0.500	100	80 - 120	29581	MG/L
TOTAL CYANIDE	0.0100 U	0.391	0.400	98	80 - 120	29611	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118
Client: Golder Associates
BCC/RFI/NY

BLANK SPIKES

BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
HEXAVALENT CHROMIUM						
0.0100 U	0.0518	0.0500	104	70 - 130	29793	MG/L
NITRITE NITROGEN						
0.0100 U	0.242	0.250	97	80 - 120	29798	MG/L
TOTAL PHOSPHORUS						
0.0500 U	1.94	2.00	97	80 - 120	29800	MG/L
TOTAL CYANIDE						
0.0100 U	0.358	0.400	90	80 - 120	29833	MG/L
TOTAL HARDNESS						
2.00 U	20.5	20.0	103	80 - 120	29856	MG/L
TOTAL HARDNESS						
2.00 U	20.4	20.0	102	80 - 120	29881	MG/L
NITRATE/NITRITE NITROGEN						
0.0500 U	0.507	0.500	101	80 - 120	29981	MG/L
SULFATE						
5.00 U	20.8	20.0	104	80 - 120	30026	MG/L
CHLORIDE						
1.00 U	24.7	25.0	99	80 - 120	30068	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
BCC/RFI/NY

Reported Units: MG/L
Run # : 29903

PRECISION				ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
0.00030 U	0.00030 U	NC	0.000993	0.00100	99	75 - 125

MERCURY

COLUMBIA ANALYTICAL SERVICES

INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/19/98
CAS Order # : 236551 - RFI-49/QC
Client : Golder Associates
BCC/RFI/NY

Reported Units: MG/L
Run # : 30206

PRECISION ACCURACY

ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
0.0250 U	0.0250 U	NC	0.0143	0.0100	143	75 - 125

SELENIUM

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
WATER

Spiked Order No. : 236551 Golder Associates

Client ID: RFI-49/QC

Test: 8260B TCL

Analytical Units: UG/L

Run Number : 30005

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
BENZENE	50.0	0	55.0	110	53.0	106	4	11	76 - 127	
CHLOROBENZENE	50.0	0	49.0	98	47.0	94	4	13	75 - 130	
1,1-DICHLOROETHENE	50.0	0	51.0	102	49.0	98	4	14	61 - 145	
TOLUENE	50.0	0	52.0	104	50.0	100	4	13	76 - 125	
TRICHLOROETHENE	50.0	0	53.0	106	52.0	104	2	14	71 - 120	

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD: 8260B TCLLABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 238131

ANALYTICAL RUN # : 30005

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED :	9/ 2/98		
ANALYTICAL DILUTION:	1.0		
ACETONE	20	80	21 - 165
BENZENE	20	97	37 - 151
BROMODICHLOROMETHANE	20	100	35 - 155
BROMOFORM	20	91	45 - 169
BROMOMETHANE	20	89	10 - 242
2-BUTANONE (MEK)	20	97	25 - 162
CARBON DISULFIDE	20	71	45 - 148
CARBON TETRACHLORIDE	20	101	70 - 140
CHLOROBENZENE	20	91	37 - 160
CHLOROETHANE	20	85	53 - 149
CHLOROFORM	20	93	51 - 138
CHLOROMETHANE	20	88	10 - 273
DIBROMOCHLOROMETHANE	20	90	53 - 149
1,1-DICHLOROETHANE	20	90	59 - 155
1,2-DICHLOROETHANE	20	99	49 - 155
1,1-DICHLOROETHENE	20	85	10 - 234
CIS-1,2-DICHLOROETHENE	20	90	54 - 156
TRANS-1,2-DICHLOROETHENE	20	90	54 - 156
1,2-DICHLOROPROPANE	20	95	10 - 210
CIS-1,3-DICHLOROPROPENE	20	88	10 - 227
TRANS-1,3-DICHLOROPROPENE	20	84	17 - 183
ETHYLBENZENE	20	96	37 - 162
2-HEXANONE	20	97	22 - 155
METHYLENE CHLORIDE	20	89	10 - 221
4-METHYL-2-PENTANONE (MIBK)	20	88	46 - 157
STYRENE	20	96	66 - 144
1,1,2,2-TETRACHLOROETHANE	20	75	46 - 157
TETRACHLOROETHENE	20	91	64 - 148
TOLUENE	20	93	47 - 150
1,1,1-TRICHLOROETHANE	20	96	52 - 162
1,1,2-TRICHLOROETHANE	20	86	52 - 150
TRICHLOROETHENE	20	108	71 - 157
VINYL CHLORIDE	20	89	10 - 251
O-XYLENE	20	89	71 - 135
M+P-XYLENE	40	98	71 - 135

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 238129	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/02/98			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	100	%
TOLUENE-D8	(88 - 110 %)	94	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	101	%

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 238128	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 08/31/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	104	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	102	%

COLUMBIA ANALYTICAL SERVICESVOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/18/98Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 238130	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 30005

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED	: 09/03/98		
ANALYTICAL DILUTION:	1.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIESQC LIMITS

4-BROMOFLUOROBENZENE	(86 - 115 %)	112	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	106	%

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
WATER

Spiked Order No. : 236551 Golder Associates

Client ID: RFI-49/QC

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 29829

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
ACENAPHTHENE	100	0	68.0	68	64.0	64	6	31	46 - 118	
2-CHLOROPHENOL	200	0	10.0	5*	7.70	4 *	26	40	27 - 123	
1,4-DICHLOROBENZENE	100	0	56.0	56	58.0	58	4	28	36 - 97	
2,4-DINITROTOLUENE	100	0	54.0	54	46.0	46	16	38	24 - 96	
4-CHLORO-3-METHYLPHENOL	200	0	12.0	6*	10.0	5*	18	42	23 - 97	
4-NITROPHENOL	200	0	14.0	7*	11.0	6*	24	50	10 - 80	
PENTACHLOROPHENOL	200	0	31.0	16	26.0	13	18	50	9 - 103	
PHENOL	200	0	5.10	3*	3.80	2*	29	42	12 - 110	
N-NITROSO-DI-N-PROPYLAMINE	100	0	93.0	93	86.0	86	8	38	41 - 116	
PYRENE	100	0	50.0	50	49.0	49	2	31	26 - 127	
1,2,4-TRICHLOROBENZENE	100	0	64.0	64	64.0	64	0	28	39 - 98	

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 236551

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 29829

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE		QC LIMITS	
			FOUND	% REC.	REC.	
ACENAPHTHENE	100	0	67.0	67	46 - 118	
2-CHLOROPHENOL	200	0	120	60	27 - 123	
1,4-DICHLOROBENZENE	100	0	52.0	52	36 - 97	
2,4-DINITROTOLUENE	100	0	68.0	68	24 - 96	
4-CHLORO-3-METHYLPHENO	200	0	150	75	23 - 97	
4-NITROPHENOL	200	0	71.0	36	10 - 80	
PENTACHLOROPHENOL	200	0	140	70	9 - 103	
PHENOL	200	0	70.0	35	12 - 110	
N-NITROSO-DI-N-PROPYLA	100	0	95.0	95	41 - 116	
PYRENE	100	0	52.0	52	26 - 127	
1,2,4-TRICHLOROBENZENE	100	0	59.0	59	39 - 98	

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : Order #: 234721 Sample Matrix: WATER
Date Received: Submission #: Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
HEXACHLOROETHANE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : Order #: 234721 Sample Matrix: WATER
Date Received: Submission #: Analytical Run 29540

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/98			
DATE ANALYZED : 08/25/98			
ANALYTICAL DILUTION: 1.00			
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	68	%
NITROBENZENE-d5	(35 - 114 %)	76	%
PHENOL-d6	(10 - 94 %)	79	%
2-FLUOROBIPHENYL	(43 - 116 %)	78	%
2-FLUOROPHENOL	(21 - 110 %)	68	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	84	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : Order #: 237003 Sample Matrix: WATER
Date Received: Submission #: Analytical Run 29829

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 09/02/98			
DATE ANALYZED : 09/02/98			
ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANILINE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO (1, 2, 3-CD) PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS (-2-CHLOROETHOXY) METHANE	5.0	5.0 U	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2, 2' -OXYBIS (1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO (A, H) ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1, 3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1, 4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3, 3' -DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2, 4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2, 4-DIMETHYLPHENOL	10	10 U	UG/L
2, 4-DINITROPHENOL	20	20 U	UG/L
2, 4-DINITROTOLUENE	5.0	5.0 U	UG/L
2, 6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
HEXACHLOROETHANE	5.0	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 09/18/98

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : Order #: 237003 Sample Matrix: WATER
Date Received: Submission #: Analytical Run 29829

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 09/02/98			
DATE ANALYZED : 09/02/98			
ANALYTICAL DILUTION: 1.00			
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(33 - 141 %)	53	%
NITROBENZENE-d5	(35 - 114 %)	86	%
PHENOL-d6	(10 - 94 %)	35	%
2-FLUOROBIPHENYL	(43 - 116 %)	68	%
2-FLUOROPHENOL	(21 - 110 %)	46	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	78	%

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 8-20-98

PAGE

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

8-20-98

PAGE

OF

[illegible]

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

**1 Mustard St., Suite 250, Rochester, NY 14609-6925
(716) 288-5380 • FAX (716) 288-8475**

(800) 695-7222

DATE 8-20-70 PAGE 9 OF 11

PROJECT NAME <u>BCC/RFI/NY</u>		PROJECT MANAGER/CONTACT <u>David Mitchell</u>		COMPANY/ADDRESS <u>Golden Assoc. Inc.</u> <u>2221 Wings Ferry Blvd - Ste 9 New Falls, NY</u> TEL (716) <u>731-1560</u> FAX (716) <u>731-1652</u>		SAMPLER'S SIGNATURE <u>David Mitchell</u>		SAMPLE I.D.		DATE		TIME		FOR OFFICE USE ONLY LAB I.D.		SAMPLE MATRIX	
RFI-45(007)		8-20-98		0910												H ₂ O	
RFI-47(008)		8-20-98		1030												H ₂ O	
RFI-46(010)		8-20-98		1125												H ₂ O	
RFI-47(011)		8-20-98		1205												H ₂ O	
RFI-49+QC		8-20-98		1620		230841										H ₂ O	
RFI-51(006)		8-20-98		1700		42										H ₂ O	
RFI-P2+8(009)		8-20-98		1715		45										H ₂ O	
RELINQUISHED BY: <u>David Mitchell</u> Signature <u>David Mitchell</u> Printed Name <u>Golden Assoc.</u> Firm <u>8-20-98</u> 1800 Date/Time		RECEIVED BY: <u>David Mitchell</u> Signature <u>David Mitchell</u> Printed Name <u>Golden Assoc.</u> Firm <u>8/21/98</u> 0930 Date/Time		RELINQUISHED BY: Signature Printed Name Firm Date/Time		RECEIVED BY: Signature Printed Name Firm Date/Time		RELINQUISHED BY: Signature Printed Name Firm Date/Time		RECEIVED BY: Signature Printed Name Firm Date/Time							

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

8-28-98

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APPENDIX H

RFI LABORATORY REPORTS - SOIL SAMPLES



A FULL SERVICE ENVIRONMENTAL LABORATORY

October 29, 1998

Mr. David Mitchell
Golder Associates
2221 Niagara Falls Blvd.
LPO Box 4069
Niagara Falls, NY 14304-4069

PROJECT: BCC/RFI/NY
Submission #: 9810000189

Dear Mr. Mitchell

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the printed name.

Mark Wilson
Client Service Manager

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal. A handwritten signature in black ink, appearing to read 'Michael K. P.', is written over the printed name.

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-16(F)

Date Sampled : 10/09/98
Date Received: 10/12/98

Order #: 246802
Submission #: 9810000189

Sample Matrix: SOIL/SEDIMENT

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	78.3	%		1.0
TOC *	1.00	19500	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-19D(F)

Date Sampled : 10/09/98	Order #: 246803	Sample Matrix: SOIL/SEDIMENT
Date Received: 10/12/98	Submission #:9810000189	

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
<hr/>					
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	80.5	%		1.0
TOC *	1.00	20000	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-31(F)

Date Sampled : 10/09/98
Date Received: 10/12/98

Order #: 246804
Submission #: 9810000189

Sample Matrix: SOIL/SEDIMENT

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	86.9	%		1.0
TOC *	1.00	4990	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-19D(T)

Date Sampled : 10/09/98
Date Received: 10/12/98

Order #: 246806
Submission #:9810000189

Sample Matrix: SOIL/SEDIMENT

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	82.8	%		1.0
TOC *	1.00	15400	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-31(T)

Date Sampled : 10/09/98	Order #: 246807	Sample Matrix: SOIL/SEDIMENT
Date Received: 10/12/98	Submission #:9810000189	

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
<hr/>					
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	79.4	%		1.0
TOC *	1.00	12300	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-32(T)

Date Sampled : 10/09/98	Order #: 246808	Sample Matrix: SOIL/SEDIMENT
Date Received: 10/12/98	Submission #:9810000189	

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
<hr/>					
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	79.3	%		1.0
TOC *	1.00	2790	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-16(A)

Date Sampled : 10/09/98
Date Received: 10/12/98

Order #: 246810
Submission #: 9810000189

Sample Matrix: SOIL/SEDIMENT

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	73.6	%		1.0
TOC *	1.00	12000	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-22(A)

Date Sampled : 10/09/98	Order #: 246811	Sample Matrix: SOIL/SEDIMENT
Date Received: 10/12/98	Submission #:9810000189	

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
<hr/>					
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	86.4	%		1.0
TOC *	1.00	7120	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-24(A)

Date Sampled : 10/09/98	Order #: 246812	Sample Matrix: SOIL/SEDIMENT
Date Received: 10/12/98	Submission #: 9810000189	

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
---------	-----	--------	---------------------	------------------	------------------------

SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	81.8	%		1.0
TOC *	1.00	7480	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID : RFI-25(A)

Date Sampled : 10/09/98	Order #: 246813	Sample Matrix: SOIL/SEDIMENT
Date Received: 10/12/98	Submission #:9810000189	

ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
<hr/>					
SUB CONTRACTED ANALYSIS					
PERCENT SOLIDS *	1.0	86.8	%		1.0
TOC *	1.00	3610	MG/KG		1.0

COLUMBIA ANALYTICAL SERVICES, INC.

(800) 695-7222

DATE 10-1-18 PAGE 7 OF 7

PROJECT NAME	ANALYSIS REQUESTED
BCC/AFI/WY	

PROJECT MANAGER/CONTACT	Dave Mitchell		
DATE	22	5	2008
LOCATION	H/P	IGNIT.	WORK
PRESERVATION			

COMPANY/ADDRESS Candler Associates Inc.


2221 Niagara Falls Blvd., Niagara Falls, NY 14304

TEL (76) 731-1560 FAX (76) 731-1652

SAMPLER'S SIGNATURE Wanda Pritchett

[illegible]

RELINQUISHED BY: <i>David J. McIntire</i> Signature <i>David J. McIntire</i> Printed Name <i>David J. McIntire</i> Firm <i>David J. McIntire Associates, Inc.</i> Date/Time <i>10-7-98 1500</i>	RECEIVED BY: <i>Tom Hastings</i> Signature <i>Tom Hastings</i> Printed Name <i>Tom Hastings</i> Date/Time <i>10/12/98 1000</i>	TURNAROUND REQUIREMENTS <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 5 day <input checked="" type="checkbox"/> Standard (10-15 working days) <input type="checkbox"/> Provide Verbal Preliminary Results <input checked="" type="checkbox"/> Provide FAX Preliminary Results Requested Report Date <i>10/24/98</i> <i>Faxed data in 10 days</i>	REPORT REQUIREMENTS <input checked="" type="checkbox"/> 1. Routine Report <input type="checkbox"/> 2. Routine Rep. w/CASE Narrative <input type="checkbox"/> 3. EPA Level III Validatable Package <input type="checkbox"/> 4. N.J. Reduced Deliverables Level IV <input type="checkbox"/> 5. NY ASP/CLP Deliverables <input type="checkbox"/> 6. Site specific QC.	INVOICE INFORMATION:	SAMPLE RECEIPT:
RELINQUISHED BY: Signature Printed Name Firm Date/Time	RECEIVED BY: Signature Printed Name Date/Time	TURNAROUND REQUIREMENTS <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 5 day <input type="checkbox"/> Standard (10-15 working days) <input type="checkbox"/> Provide Verbal Preliminary Results <input type="checkbox"/> Provide FAX Preliminary Results Requested Report Date 	REPORT REQUIREMENTS <input type="checkbox"/> 1. Routine Report <input type="checkbox"/> 2. Routine Rep. w/CASE Narrative <input type="checkbox"/> 3. EPA Level III Validatable Package <input type="checkbox"/> 4. N.J. Reduced Deliverables Level IV <input type="checkbox"/> 5. NY ASP/CLP Deliverables <input type="checkbox"/> 6. Site specific QC.	INVOICE INFORMATION:	SAMPLE RECEIPT: Shipping Via: <i>Fed. Ex.</i> Shipping #: <i>15-30C</i> Temperature: <i>9810-189</i> Submission No:

Signature	
Printed Name	
SPECIAL INSTRUCTIONS/COMMENTS:	
	

Film	Date/Time
Film	Date/Time
METALS	

RELINQUISHED BY:	RECEIVED BY:	ORGANICS: <input type="checkbox"/> TCL <input type="checkbox"/> PPL <input type="checkbox"/> AE Only <input type="checkbox"/> BN Only <input type="checkbox"/> Special List
------------------	--------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Signature	Signature
-----------	-----------

	Firm	65 RAMAPO VALLEY ROAD	201-512-3003	300 WEST BIRCH AVE	SUB TO HZM Sub to HZM	840 EOL 2093
	Printed Name					
	Firm	Firm				
	Printed Name					

Date/Time		US MAILING OFFICE 309 WEST RIDLEY AVE. RIDLEY PARK, PA 19078 FAX 610-521-3089
Date/Time		MAHWAH, NJ 07430 FAX 201-512-3362 RIDLEY PARK, PA 19078 FAX 610-521-4589

**Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form**

Project/Client Galder Submission Number 7-319

Cooler received on 10/12/98 and opened on 10/12/98 by DS

1. Were custody seals on outside of cooler? YES NO
If yes, how many and where? _____
2. Were signature & date correct? YES NO
3. Were custody papers properly filled out (ink, signed, etc)? YES NO
4. Did all bottles arrive in good condition (unbroken)? YES NO
5. Were all bottle labels complete (i.e. analysis, preservation, etc)? YES NO
6. Did all bottle labels and tags agree with custody papers? YES NO
7. Were correct bottles used for the tests indicated? YES NO
8. Were VOA vials checked for absence of air bubbles, and noted if so? YES NO
9. Where did the bottles originate? CAS/A CAS/K CAS/S CAS/L CAS/X CAS/J CAS/R
10. Temperature of cooler(s) upon receipt: 15.3 _____

Is the temperature within $4 \pm 2^\circ \text{C}$: Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes ☐

If No, Explain Below No ☒ No ☐ No ☐ No ☐ No ☐

Date/Time Temperatures Taken: 10/12/98 10:16

Thermometer ID: #139 Circle One: Temp Blank Sample Bottle Cooler Temp.

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO ₃					
2	H ₂ SO ₄					
5-9*	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

*If pH adjustment is required, use NaOH and/or H₂SO₄

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

CLIENT NOTIFICATION: _____