# ADDENDUM TO FINAL REPORT ON RCRA FACILITY INVESTIGATION



PREPARED BY:



**DECEMBER 1998** 

PROJECT NO. 963-9117

#### Golder Associates Inc.

2221 Niagara Falls Boulevard, Suite 9 Niagara Falls, NY USA 14304 Telephone (716) 731-1560 Fax (716) 731-1652



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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 1998

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#### Golder Associates Inc.

2221 Niagara Falls Boulevard, Suite 9 Niagara Falls, NY USA 14304 Telephone (716) 731-1560 Fax (716) 731-1652



December 21, 1998

963-9117

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.

Senior Scientist/Pr

Very truly yours,

James - Politica

David J. Mitchell, P.G.

Senior Engineering Geologist/

COLDER ASSOCIATES INC.

Project Manager

BCS/DJM:dml

Attachments

F/N: RFIADDEND.DOC

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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

6

• 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

## 2.9 Analytical Procedures

this well on August 31, 1998.

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 acenapthene, 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  $\mu$ g/l. The source of the chloroform is not known. Chloroform was detected in samples from RFI-44 at 120-160  $\mu$ g/l and RFI-47 at 7.8-8  $\mu$ g/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  $1.35 \times 10^{-2}$  centimeters/second (cm/s) within fill at RFI-48 to a low of  $2.26 \times 10^{-5}$  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  $8.22 \times 10^{-3}$  cm/s at RFI-50 to a low of  $5.28 \times 10^{-5}$  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  $(5.0-6.7 \mu g/l)$  just above the Class GA standard of  $5 \mu g/l$ ,

• RFI-47 (Chloroform)

Chloroform was detected in both rinsate blanks collected at 8  $\mu$ g/l. Chloroform was detected in samples from RFI-47 at 7.8-8  $\mu$ g/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-Methylnapthalene, 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
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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-methylnapthalene and napthalene, 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, napthalene, 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	<u>RFI-44</u>
Benzene (0.045 - 0.046) mg/l	Benzene (0.089 - 0.110) mg/l
Toluene (ND-0.0062) mg/l	Toluene (0.54 - 0.69) mg/l
Ethylbenzene (0.1-0.2) mg/l	Ethylbenzene (0.038-0.040) mg/l
m+p - Xylene (0.040 - 0.049) mg/l	m+p - Xylene (0.097 - 0.140) mg/l
o - Xylene (0.033 - 0.037) 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.

David C. Wehn

Hydrogeologist

Brian C. Senefelder, CHMM Senior Scientist/Project Director

DCW/DJM/BCS/ALG:dml

F/N: RFIADDEN.DOC

David J. Mitchell, P.G.

Senior Engineering Geologist/

Project Manager

Anthony L. Grasso, P.G.

Associate

#### **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	TOP OF RISER ELEVATION	WATER LEVEL	WATER LEVEL ELEVATION
NAME	(FT. MSL)	(FT. BTOR)	(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

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

WELL	TOP OF RISER ELEVATION	WATER LEVEL	WATER LEVEL ELEVATION
NAME_	(FT. MSL)	(FT. BTOR)	(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	504.04	10.20	572 (5
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	TOP OF RISER ELEVATION	WATER LEVEL	WATER LEVEL ELEVATION
NAME	(FT. MSL)	(FT. BTOR)	(FT. MSL)
BCC PRE-RFI	(111112)	(2-11-11-1)	
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.

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

WELL ID	HYDRAULIC CONDUCTIVITY (CM/SEC)	SCREENED UNIT
RFI-44	1.81x10 <sup>-3</sup>	ALLUVIUM
RFI-45	$7.27 \times 10^{-3}$	ALLUVIUM
RFI-46	2.71x10 <sup>-4</sup>	ALLUVIUM
RFI-47	5.28x10 <sup>-5</sup>	ALLUVIUM
RFI-48	1.35x10 <sup>-2</sup>	FILL
RFI-49	1.31x10 <sup>-4</sup>	ALLUVIUM
RFI-50	8.22x10 <sup>-3</sup>	ALLUVIUM
RFI-51	2.26x10 <sup>-5</sup>	FILL/UPPER TILLS

F/N: KVALUEAD.XLS

# **Golder Associates**

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

TABLE 4

**DECEMBER 1998** 

		Sa	Sample Ide	ntification	le Identification and Concentration (mg/l) (2)	centratio	n (mg/l) (	2)		Range	ige	Groundwater
Analytes (1)	RFI-44	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RF1-50	RF1-51	RFI-PZ-18	MIN.	MAX.	Standards (mg/l)(3)
Volatile							٠					
Organic Compounds												
BENZENE	0.11		0.0062						-,-	ND	0.11	0.001
CHLOROBENZENE										ND	ND	0.005
ETHYLBENZENE	0.04									QN	0.04	0.005
TETRACHLOROETHENE										ND	ND	0.005
TOLUENE	0.069		0.0067							ND	690.0	0:005
M+P-XYLENE	0.14		0.0056							Q	0.14	0.005 each isomer
O-XYLENE	0.069									Q	690.0	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	91.0	0.007
2-BUTANONE (MEK)	0.056									ND	0.056	0.05 *
STYRENE	0.01									QN	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										UN	ON	0.05 *
CARBAZOLE										ND	QN	0.005 (4)
4-CHLOROANILINE							:			ON	ND	0.005 (4)
2-CHLOROPHENOL										ND	ND	0.001
CHRYSENE										ND	ND	0.000002 * / 0.0002 (4)
DIBENZOFURAN										ND	QN	0.05 (4)
1,2-DICHLOROBENZENE										ND	QN	0.003
1,3-DICHLOROBENZENE										ND	QN	0.003
1,4-DICHLOROBENZENE										ND	ND	0.003
N,N-DIETHYLANILINE										ND	ND	-
DIETHYLPHTHALATE										ND	ND	0.05 *
N,N-DIMETHYLANILINE										ND	ΩN	0.001
BIS(2-ETHYLHEXYL)PHTHALATE						0.0051			0.0062	ND	0.0062	0.005
FLUORANTHENE										ND	QN	0.05 *
N-METHYLANILINE										ND	QN	0.005
NAPHTHALENE	2.3		0.024							QN	2.3	0.01 *

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

**DECEMBER 1998** 

		Sa	Sample Ide	le Identification and Concentration (mg/l) (2)	and Con	centratio	) (l/gm) u	2)		Ra	Range	Groundwater
Analytes (1)	RFI-44	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RF1-50	RFI-51	RFI-PZ-18	MIN.	MAX.	Standards (mg/l)(3)
I-NAPHTHYLAMINE										QN	QN	0.005 (4)
2-NAPHTHYLAMINE										QN	QN	0.005 (4)
NITROBENZENE										QN	QN	0.0004
N-NITROSODIMETHYLAMINE										Q	QN	0.05 (4)
N-NITROSODIPHENYLAMINE										QN	QN	0.05 *
PHENANTHRENE										QN	QΝ	0.05 *
PYRENE										ND	QN	0.05 *
O+P-TOLUIDINE										ND	QN	0.005 each isomer
1,2,4-TRICHLOROBENZENE										ND	QN	0.005
HEXACHLOROETHANE										ND	QN	0.005
2-METHYLNAPHTHALENE	0.46									ND	0.46	0.05 (4)
2-NITROPHENOL										ND	QN	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	1.77	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	980.0						QN	1.81	•
COPPER	1.13	0.088	0.123	0.21	0.254	0.131	0.028	j	0.22	ND	1.13	0.2
IRON	4040	18.3	304	22.7	8.09	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	0.05		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			

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

SHALLOW AQUIFER (DETECTIONS ONLY)

Analytes (1)         RFI-44         RFI-45         RFI-46         RFI-47         RFI-48         RFI-48         RFI-48         RFI-48         RFI-49           Inorganics         381         159         208         167         466         319           CHLORIDE         33000         3700         8070         3120         3100         3580           TOTAL CYANIDE         0.0238         0.0188         1740         1590         2060           HEXAVALENT CHROMIUM         4720         2340         2600         1740         1590         2060           HEXAVALENT CHROMIUM         59.3         76.6         12.7         0.012         0.012         0.012           NITRATE NITROGEN         0.515         59.3         76.6         12.7         0.0154         0.0154           NITRATE NITROGEN         0.168         0.0191         0.0723         0.0154         6.8         0.0154         0.0154         0.0154           PH         PH         2.5         6.4         5.6         4.6         6.4         6.8           TOTAL PHOSPHORUS         14.1         0.259         0.123         0.527         2.09         0.947           TOTAL SULFIDE         NA         NA	Sample Identification and Concentration (mg/l) (2)	tration (mg/l)	(2)		Range	ıge	Groundwater
381         159         208         167         466           0.0238         0.0188         6.0188         3120         3100         3           33000         3700         8070         3120         3100         3           4720         2340         2600         1740         1590         2           59.3         76.6         12.7         0.012           0.515         59.3         76.7         12.7         0.0154           0.168         0.0191         0.0723         4.6         6.4         6.4           1.4.1         0.259         0.123         0.527         2.09         0.           23800         1700         5520         1970         1400         2           NA         NA         NA         NA         NA	-46 RFI-47 RFI-48	:1-49 RFI-50	RFI-51	RFI-PZ-18	MIN.	MAX.	Standards (mg/l)(3)
381         159         208         167         466           0.0238         0.0188         33000         3700         8070         3120         3100         3           4720         2340         2600         1740         1590         2           59.3         76.6         12.7         0.012         0.015           0.168         0.0191         0.0723         0.0154         0.0154           2.5         6.4         5.6         4.6         6.4         0.13           14.1         0.259         0.123         0.527         2.09         0.           23800         1700         5520         1970         1400         2           NA         NA         NA         NA         NA				: :			
0.0238         0.0188           33000         3700         8070         3120         3100         3           4720         2340         2600         1740         1590         2           59.3         76.6         12.7             0.515         59.3         76.7         12.7            0.168         0.0191         0.0723         0.0154            2.5         6.4         5.6         4.6         6.4         0.           14.1         0.259         0.123         0.527         2.09         0.           23800         1700         5520         1970         1400         2           NA         NA         NA         NA         NA         NA	167	319 439	30.5	257	30.5	466	250
33000         3700         8070         3120         3100         3           4720         2340         2600         1740         1590         2           59.3         76.6         12.7             0.515         59.3         76.7         12.7            0.168         0.0191         0.0723         0.0154            2.5         6.4         5.6         4.6         6.4         0.           14.1         0.259         0.123         0.527         2.09         0.           23800         1700         5520         1970         1400         2           NA         NA         NA         NA         NA	0.0188				ΩN	0.0238	0.2
4720         2340         2600         1740         1590         2           59.3         76.6         12.7	3120	3580 8160	3080	984	984	33000	-
59.3     76.6     12.7       0.515     59.3     76.7     12.7       0.168     0.0191     0.0723     0.0154       2.5     6.4     5.6     4.6     6.4       14.1     0.259     0.123     0.527     2.09     0.       23800     1700     5520     1970     1400     2       NA     NA     NA     NA     NA	1740	2060 2740	1510	276	576	4720	
59.3     76.6     12.7       0.515     59.3     76.7     12.7       0.168     0.0191     0.0723     0.0154       2.5     6.4     5.6     4.6     6.4       14.1     0.259     0.123     0.527     2.09     0.       23800     1700     5520     1970     1400     2       NA     NA     NA     NA     NA	0.012				ND	0.0115	0.05
0.515         59.3         76.7         12.7           0.168         0.0191         0.0723         0.0154           2.5         6.4         5.6         4.6         6.4           14.1         0.259         0.123         0.527         2.09         0.           23800         1700         5520         1970         1400         2           NA         NA         NA         NA         NA         NA					ND	76.6	10
0.168     0.0191     0.0723     0.0154       2.5     6.4     5.6     4.6     6.4       14.1     0.259     0.123     0.527     2.09     0.       23800     1700     5520     1970     1400     2       NA     NA     NA     NA     NA     NA	_				ND	76.7	01
2.5 6.4 5.6 4.6 6.4 6.4 14.1 0.259 0.123 0.527 2.09 0.123 0.520 1970 1400 2.23800 NA NA NA NA NA NA NA NA		0.0555	0.0232		ND	0.168	-
14.1 0.259 0.123 0.527 2.09 ( 23800 1700 5520 1970 1400   NA N	4.6	6.8	7.2	7.0	2.5	7.2	6.5 to 8.5 SU
23800 1700 5520 1970 1400 NA	0.527 2.09	0.947 1.24	0.134	0.257	0.123	14.1	•
NA NA NA NA	1970	2000 4960	1890	65.6	65.6	23800	250
NA NA NA NA NA					QN	ND	0.05 *
	A NA NA	NA NA	NA	NA	NA	NA	0.00009
Alcohols NA NA NA NA NA NA	NA NA	NA NA	NA	NA	NA	NA	1

(1) Analysis performed in accordance with USEPA Methods identified in Quality Assurance Project Plan (Golder Associates, Inc. 1995). Notes:

(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 I 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

3 of 3

# DECEMBER 1998

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

		S	ample Ide	ntification	Sample Identification and Concentration (mg/l) (2)	centratio	n (mg/l) (	2)		Rai	Range	Groundwater
Analytes (1)	RF1-44	RF1-45	RFI-46	RFI-47	RFI-48	RFI-49	RF1-50	RF1-51	RFI-PZ-18	MIN.	MAX.	Standards (mg/l)(3)
Volatile												
Organic Compounds												
BENZENE	0.089									QN	0.089	0.001
CHLOROBENZENE										ND	ND	0.005
ETHYLBENZENE										ND	ND	0.005
TETRACHLOROETHENE										ND	ND	0.005
TOLUENE			0.005							QN	0.005	0.005
M+P-XYLENE	0.097							 		QN	0.097	0.005 each isomer
O-XYLENE										QN	Q	0.005
ACETONE	0.76									ND	0.26	0.005
BROMOMETHANE										ND	ND	0.005 *
CHLOROMETHANE										ND	ND	1
CHLOROFORM	0.12			0.008 (5)						ND	0.12	0.007
2-BUTANONE (MEK)										ND	ND	0.05 *
STYRENE										ND	ND	0.005
TOTAL CONCENTRATION	0.566	0	0.005	800.0	0	0	0	0	0			
Semi-Volatile												
Organic Compounds	:											
ACENAPHTHENE			_							ND	ND	0.02
ANILINE										ND	QN	0.005
ANTHRACENE										ND	QN	0.05 *
BUTYL BENZYL PHTHALATE										ND	ΩN	0.05 *
CARBAZOLE										QN	QN	0.005 (4)
4-CHLOROANILINE										ND	αN	0.005 (4)
2-CHLOROPHENOL										ND	QN	0.001
CHRYSENE										ND	ND	0.000002 * / 0.0002 (4)
DIBENZOFURAN										ND	QN	0.05 (4)
1,2-DICHLOROBENZENE										ND	ON	0.003
1,3-DICHLOROBENZENE										ND	ΩN	0.003
I,4-DICHLOROBENZENE										QN	QN	0.003
N,N-DIETHYLANILINE										ND	QN	•
DIETHYLPHTHALATE										ND	QN	0.05 *
N,N-DIMETHYLANILINE										QN	QN	0.001
BIS(2-ETHYLHEXYL)PHTHALATE			-							ND	0	0.005
FLUORANTHENE										ND	ND	0.05 *
N-METHYLANILINE										ND	ND	0.005
NAPHTHALENE	2.2		0.028							ΩN	2.2	* 10.0

1 of 3

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

DECEMBER 1998

		Sa	Sample Ider	ntification	e Identification and Concentration (mg/l) (2)	centratio	) (l/gm) n	2)		Range	ag	Groundwater
Analytes (1)	RFI-44	RFI-45	RFI-46	RFI-47	RFI-48	RFI-49	RFI-50	RF1-51	RFI-PZ-18	MIN	MAX.	Standards (mg/l)(3)
1-NAPHTHYLAMINE										QN	QN	0.005 (4)
2-NAPHTHYLAMINE										QN	ND	0.005 (4)
NITROBENZENE										ND	ND	0.0004
N-NITROSODIMETHYLAMINE					0					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	95'9	31.4	7.94	0.905	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	
CADMIUM	2.77	0.0301	62800.0	7.23	0.0143		0.05			ND	7.23	0.005
CHROMIUM	0.167	0.0119		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	ON	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	598.0	7	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)

		Sa	Sample Ider	ntification	e Identification and Concentration (mg/l) (2)	centratio	n (mg/l) (	(2)		Ra	Range	Groundwater
Analytes (1)	RFI-44	RFI-45	RF1-46	RFI-47	RFI-48	RFI-49	RFI-50	RFI-51	RFI-PZ-18	MIN.	MAX.	Standards (mg/l)(3)
Inorganics												
CHLORIDE	991	346	200	156	476	349	424	33.8	197	33.8	476	250
TOTAL CYANIDE	0.0263		0.0126							ON	0.0263	0.2
TOTAL DISSOLVED SOLIDS	29400	3540	8380	3040	3120	3670	8000	3640	0101	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						ΩN	49.7	01
NITRATE/NITRITE NITROGEN		49.7	18.2	10.3						ND	49.7	01
NITRITE NITROGEN	0.552									ND	0.552	1
Hd	4.2	6.3	5.7	4.7	6.4	6.4	6.4	7.1	8.9	4.2	1.7	6.5 to 8.5 SU
TOTAL PHOSPHORUS	12.3	0.21		0.568	0.646		0.874	0.116	0.5	ND	12.3	•
SULFATE	22100	1500	2400	1920	1300	1310	2000	2420	21.3	21.3	22100	250
TOTAL SULFIDE										ND	QN	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	-

(1) Analysis performed in accordance with USEPA Methods identified in Quality Assurance Project Plan (Golder Associates, Inc. 1995). Notes:

(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 Cornection from NYSDEC Sentember 10, 1903.

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

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F/N: REVEXCD.XLS

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

**DECEMBER 1998** 

Analytes (1)	RFI-34	RFI-35	RFI-36	RFI-37	RFI-38	RFI-39	RF1-40	RF1-41	RFI-42	RF1-43	RFI-44
Volatile Organic Compounds											
ACETONE											×
BENZENE											×
2-BUTANONE											X
CHLOROBENZENE							X				
CHLOROFORM					X						X
ETHYLBENZENE											
STYRENE											X
TOLUENE											×
M+P XYLENE											×
O-XYLENE				,							×
Semi-Volatile Organic Compounds											
BIS(2-ETHYLHEXYL)PHTHALATE								X	X		
1,2-DICHLOROBENZENE							X				
1,3-DICHLOROBENZENE							×				
1,4-DICHLOROBENZENE							×				
2-METHYL NAPHTHALENE											×
NAPHTHALENE					×						×
NITROPHENOL					X						
1,2,4-TRICHLOROBENZENE							×				
Metals											
ARSENIC	X			Х	X	X	×	×			
CADMIUM					X	×		×			×
CHROMIUM					×						×
COPPER					×	×					×
IRON	X	X	X	×	×	×	×	×	×	×	×
LEAD					×	×					×
MANGANESE	X	X	X	×	×	×	×	×		×	×
MERCURY					×	×					
NICKEL					×						×
SELENIUM											×
ZINIC	Λ				>						>

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

				Shallow	Aquifer O	Shallow Aquifer Off Site Wells and Piezometers	Is and Piez	ometers			
Analytes (1) Inorganics	RFI-34	RFI-35	RFI-36	RFI-37	RFI-38	RFI-39	RF1-40	RFI-41	RFI-42	RFI-43	RFI-44
CHLORIDE					×			×			
NITRATE/NITRITE NITROGEN	×				×						
Hd					×	×		X			X
SULFATE	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). 2 of 4

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

**DECEMBER 1998** 

			Sha	Shallow Aquifer Off Site Wells and Piczometers	er Off Site	Wells and	l Piezomet	ers		
Analytes (1)	RFI-45	RF1-46	RFI-47	RF1-48	RFI-49	RFI-50	RFI-51	PZ-17	PZ-18	61-Zd
Voletle		2	:	2	ì !					
Organic Compounds										
ACETONE										
BENZENE										
2-BUTANONE										
CHLOROBENZENE										
CHLOROFORM										
ETHYLBENZENE										
STYRENE										
TOLUENE		×								
M+P XYLENE										
O-XYLENE										
Semi-Volatile Organic Compounds										
BIS(2-ETHYLHEXYL)PHTHALATE								X		
1,2-DICHLOROBENZENE										
1,3-DICHLOROBENZENE										
1,4-DICHLOROBENZENE										
2-METHYL NAPHTHALENE										
NAPHTHALENE		X								
NITROPHENOL										
1,2,4-TRICHLOROBENZENE										
Metals		i							i	
ARSENIC				X			×			
CADMIUM	X	X	X	X						×
CHROMIUM										
COPPER				-						
IRON	X	X	X	X	×	×	×	×	×	×
LEAD	X			×					×	
MANGANESE	×	X	X	X	×	×	×	×	×	×
MERCURY										
NICKEL		×	X							
SELENIUM										
ZINC		×			×					

4 of 4

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

			Sh	allow Aqui	fer Off Sit	e Wells and	Shallow Aquifer Off Site Wells and Piezometers			
Analytes (1) Inorganies	RFI-45	RF1-46	RF1-47	RFI-48	RF1-49	RF1-50	RFI-51	PZ-17	RFI-51 PZ-17 PZ-18	PZ-19
CHLORIDE				×	X	X			X	
NITRATE/NITRITE NITROGEN	×	×	×							
Hd	X	×	×	×						×
SULFATE	×	×	×	×	×	×	×			×
TOTAL SULFIDE										

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). X = Exceedance of groundwater standards from the NYSDEC's part 703 "Ambient Water Quality Standards and Guidance

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

			Media		
Analytes	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			х	X	
1,1-DICHLOROETHANE			Х		
1,1-DICHLOROETHENE			X		
ETHYLBENZENE			X	X	X
METHYLENE CHLORIDE			X		
STYRENE				Х	
TETRACHLOROETHENE		х			
1,1,1-TRICHLOROETHANE		<del>                                     </del>	х		
			X	Х	X
TOLUENE M+P-XYLENE			$\frac{\lambda}{x}$	X	X
	<u></u>		X	X	X
O-XYLENE Semi-Volatile			X	Δ	
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			Х		
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		-	х		
2-NAPHTHYLAMINE			$\frac{\lambda}{x}$		
NAPHTHALENE	x		$\frac{1}{x}$	Х	
NITROBENZENE	x		X		<del> </del>
·-· ·· ·· · · · · · · · · · · · · · · ·	^-		^_	X	
NITROPHENOL			X	^	
N-NITROSODIPHENYLAMINE			X		<del>                                     </del>
O+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE	X	X	X	X	

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

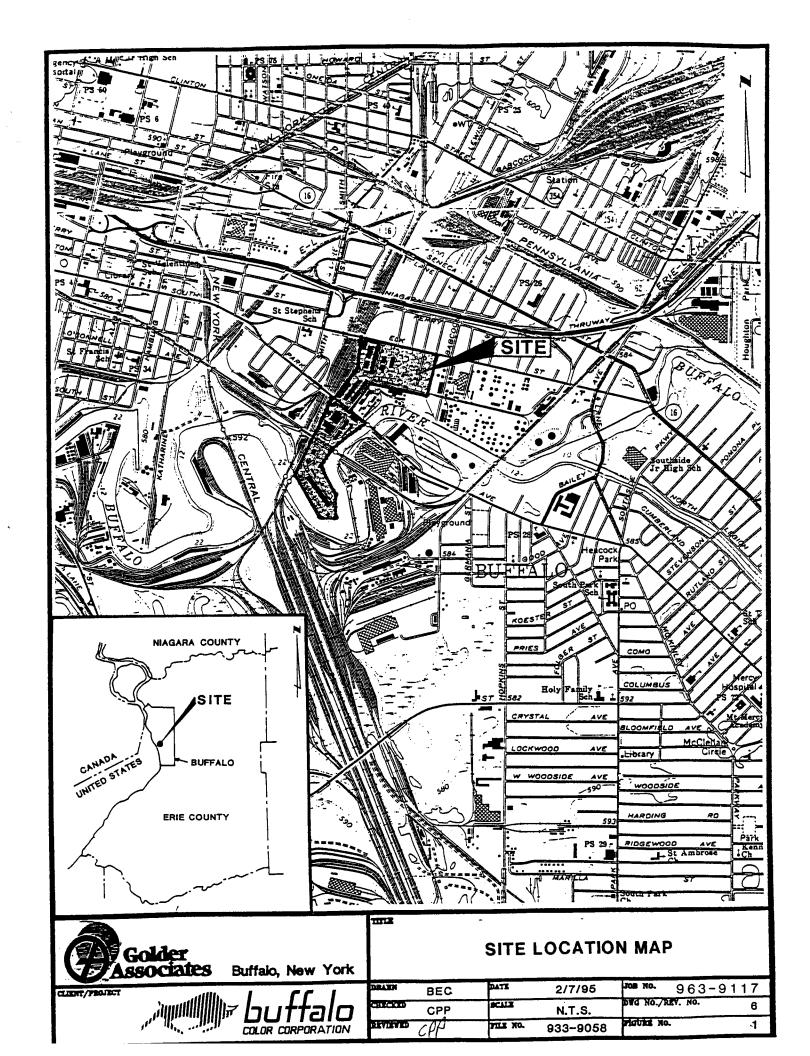
			Media		
Analytes	Area ABCE	Area ABCE	Area ABCE (1)	Off-Site	Area ABCE (1)
Metals					
ARSENIC	X		X	X	
BARIUM			X		
CADMIUM	X		X	X	
CHROMIUM	X	X	X	X	
COPPER	X		X	X	
IRON	X	X	X	X	X
LEAD		X	X	X	
MANGANESE	X	X	X	X	
MERCURY	X		X	X	
NICKEL	X		X	X	
SELENIUM	X		X	X	
VANADIUM			X		
ZINC		X	X	X	
Inorganics	Soil	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	
рН	NA	X	X	X	X
SULFATE	NA	X	X	X	X
TOTAL SULFIDE	NA		X	X	X
PCBs				NA	
Alcohols	. NA			NA	

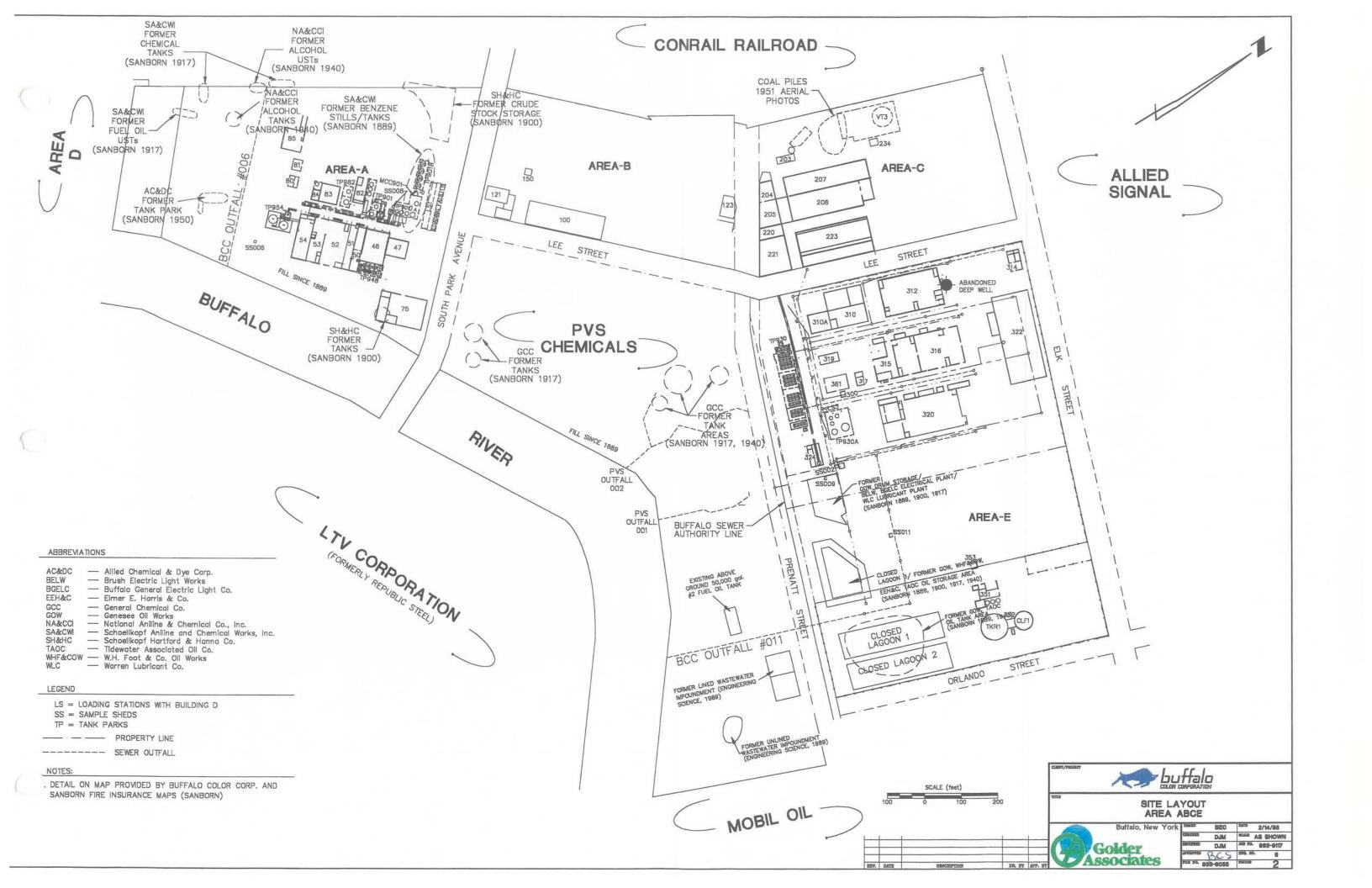
- X = Exceedance of groundwater standards from the NYSDEC's Part 703 "Ambient Water Quality Standards and Guidance Values", for Class GA groundwaters as amended, June 1998 or NYSDEC Contained-In Action Levels, Technical and Administrative Guidance Memorandum No. 3028 (8/26/97). Soil sample exceedances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





# APPENDIX A FIELD BORING LOGS

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

UNIT

#### GENERALIZED DESCRIPTION

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

 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.



TITLE

### STRATIGRAPHIC UNIT DESCRIPTION KEY

BUFFALO COLOR CORPORATION RCRA FACILITY INVESTIGATION (RFI)

DRAWN	BEC	DATE	11/19/98	JOB NO.	963-9117
CHECKED	DJM	SCALE	N/A	DWG NO.	BCC-020
REVIEWED		FILE NO.	963-9117	FIGURE NO.	KEY

			Fie	ld Bo			<del>,</del>
GEPTH GEPTH	11A	HER SUN	ORILLING ORILL RIG WT. SAMI	METHOD _ GOMPANY GCM1 PLER HAMMI	ER 140	B SERUCES INC. SURFACE ELEV. 583.  ORILLER D. BUTZER DATUM MSL  LBS DAOP 30 INCH STARTED 12:05, 7/20	.8
ST. SL.	E TYPES  GERSAMPLE  HING ALMPLE  HINGON SAMPLE  HINGON SAMPLE  COMER SAMPLE  COMER SAMPLE  COMER COMER  GOTTO TUBB  HINGON SAMPLE  AND SAMPLE  AND SAMPLE  AND SAMPLE  AND SAMPLE  AND SAMPLE  AND SAMPLE	SL SLACK SR SPOWN C CLARSE CL CASMG CL CLAF CLY CLAFE FRAG FRAGMENTS CL GANVEL UT UTFLE UTFLE	M MC MGT NP OG ORG PM PM R RES	VIATIONS MEDRUM MICLECOUS MICLECOUS MICLECOUS MICHAETIC ORANGE ORGANIC PRESSURE-MANUAL RESIDUAL ROCK ROCK ROCK ROCK ROCK ROCK ROCK ROCK		SOIL DESCRIPTION -RANGE OF PROPO TRACE 0 1- 3 June 11 are  SATURATED USERS 1 1-1	SLIMA N.7 IMFS IMDUNE
ELEY. OEPTH	DESCRIPTION	BLOW3		MAMM. BLOWS	REC	SAMPLE DESCRIPTION AND BORING NOTES	
	FILL					0-4 FT Augered without Sampling.	
ە ق ئىنىلىسلىسىلىسلىسلىسلىس			- ( 55	1 , 1	1.0	H-6 FT Loose, black to purple To brown, SAND with som gravel.	16
المسلميسل الاسلميسل			2 55	ын , <i>ы</i> н ын , <i>ы</i> н	1.4	6-8 FT V. loose hoose, SIL	
، <u>و</u>			3 55	шн, шн 2, 1	1.4	10-12 FT As above with trace infillings.	
E			34 55	WH , 1	2.0		
السيلسيا			-5 5	3,4	2.0	- of 1/8 " thick sand seams	<u> </u>
السلسلسلسلسلسلسلسلسلسلسلسلسلسلسلسلسلسلس	ALLUVIUM		-16 82	8,8	1.4 2.0	14-1h FT As above to 14.2 then loose reddish-brown - SAND and GRAVE) with trace clay.	
la de la constante de la const			7 55	WH, 2	1.0/2.0		GUCIA >
السلسلسية			8 55	1 2	0.9	18-20 FT As above.	
سىلىد			9 55	21	0.8	20-32 FT As above	
<u>⊏</u> 13	1	l I	<del></del>		T		

		Lield Doil	=	
NO. 015T. SA. O UO. SA. 18	GA INSP. D.WEHN WEATHER SUN TEMP. 85°F	ORILLING COMPANY	SJB SERUCES INC.  75 ORILLER D. BUTZI  140 LBS GROS 30 /NCII	BORING NO. RFI-44  SHEET 2 OF 2  SURFACE ELEV. 583:8  ER OATUM MS4  STARTED 2:05 , 720/98  COMPLETED 4:30 .700/91
SAMPLE TYPES  AS MIGER SAMPLE CS CHUMA SAMPLE OS ORNIGON SAMPLE PARTICLES SAMPLE AC MOCK CORE ST. SLOTTED THEM I'CL THEMMALLED, CORE I'CL THEMMALLED, CORE WES MASH SAMPLE	BL SLACK 98 MOWN C CDARSE CA CASING CA CLAPT CLY CLAPT F FINE FRACE F ARAGENTS CL GRAVEL LTO LATERED U LITLE	A 88 R E V I A T I O N S  H HEDRUM HIC HEACHTLED HAP HOPLASTIC OFF OFFACE OFF OFFACE O	SA SAMPLE TRANSPORTER  SA SAMPLE TRANSPORTER  SA SAME SALT  SALT AREATIVE OF THE COST OF T	1

	H SAMPLE U	UTTE	AES AX	30CX ≅€RIO(TYF			FELLOW AND IN MESONS (IMMEDIA
LEV.	DESCRIPTION	BLOW3	NO. TYPE	HAMM. BLOWS	REC	DEPTH	ZSTDH DNIROB DNA NDITHIRDESD SJAMAZ
	ALLOVIOM		- 10 55	1 , 1	1.2	_	and GRAVEL with some SIH
4			311 55	1,2	0/30	_	34-26 FT Loose Grown, SILT with some clay, 2-inch thick sand lens, little sitt.
. <b>b</b>			12 55	1,2	1.4 2.0	_	SILT and SAND with little
8			=13 S	WHWH	1.6/2.0	-	28.30 FT As above
30	·		14 55	1,2	1.6/2.0	-	then loose brown to gray- trown, SAND with little sitt
31	·		-15 S	ын, 2 15,17	1.7/20	-	32-34 FT Locse gray- brown SAND with track sitt ala to 31 FT then compact, red-orange sand and GRAL with track wood, clay and si
34			-116 5	49 ,4 5 3 ,4	2.0	-	34-34 FT Loce crown SAND and GRAVEL with trace
36 36.5	GLACIOLACUSTRINE CLAY	-	17 5	2 1 S WH 1	1.2		36-38 FT V sett, red-brown CLAY with little silt, trace
38 -	END OF AUGER BOREHOLE		- 18 S	s 1 , 1	1.9		38-40 FT As a'cove.
40-	END OF SAMPLING	3					No detections on Drager as
42			411111				gas tukes.
-44			1				

		Guider Masoc	ales	
		Field Borin	g Log	
DEPTH SOIL DRILL SO FT DA DEPTH ROCK CORE NA WE.	ATHER <u>SUN</u> 49 86°F 1. 2400. NIA	ORILLING COMPANY SOLUTION OF THE COMPANY SOLUTION OF THE COMPANY O	14 INCH ID HSA 5JB SERVCES INC.	adring no. RFI - 45  sheet of _ 2  surface elev. 583.5  R datum MSL  started 14:40 / 7/16/98  completed 9:00 .7/17/98
SAMPLE TYPES  A. ALGER SAMPLE C.L. CHUNN SAMPLE O.O. ORWE OPEN O.O. ORWESON SAMPLE P. PICHER SAMPLE P. COCK COPE S.T. SLOTTED TUBE T. DINNIMALED, OPEN T. DINNIMALED, PRITOR WES. WASH SAMPLE	SL SLICX SR SROWN C CDARSE CA CASING CL CLAY CUT CLAYET F FING FRAGENENTS GL GRAVEL UTO LEFRED U UITLE	A BBREVIATIONS  L. L	SA SAMPLE "FRACE LIFT.  SA SAMPLE "FRACE LIFT.  SAND "AMPLE LIFT.  THELOW	27"   G   10"   MARK   1   MARK
ELEY DESCRIPTION	BLOWS	NO. TYPE PERS IN ATT		25TOH DHIROB DHA HDI
FILL	-			nehrs of chicrete

.

.

ELEV	DESCRIPTION	BLOW3	NQ.	TYPE	PER SIN	REC	ОЕРТИ	SAMPLE DESCRIPTION AND BORING HOTES
GEPT	H .							
_		<del></del>	+	-	(FOHCE)		~	0-2 FT Augered through
<u>-</u>	T = 11 1		7 '					
<u>-</u>	FILL	1 1	1		_			
_		- I	<del>-</del>				_	then crushed stone
		1	7	ــــــــــــــــــــــــــــــــــــــ			, 1	
_			1					
ニシ	1	1 1	<del></del>	<del> </del>				2-4 FT Crushed limestone
		1	1   1   1	3,1	0.1		fragment blocked speen.	
F	i i	55 )	Tradition of order					
<u> </u>			- <u> </u>	ויכן			_	
E		1	4	1	2,3	2.0		
F		1	7		× 10	0	_	
E4			<del>+</del>					4-6 FT Soft, brown, SILTY
<b>ኒ</b> ነ		1 1	1	1 1	1 1	1.3	1	CLAY
E	1		12	SS	` 1	11/	١ _	
F-	1		コメ	37		1/		
Ľ.			1	1 1	7 7	20		
Ł.			+		4,4			
	<b>I</b>	. 1	7	1			1	16-8 FT Loose brown SILT and
Ė	1		1		1,2	1.5	ļ	SAND with several one to two-
٤	<b>.</b>	1 1	13	55	, -	">	1 _	Inch thick sand layers; little
E-	1	1	37		3 2		1	Cay
E		1 1	7		3,2	2.0	ì	
ياديديار چ		8-10 FT Set	8-10 FT Soft, gray to mattled					
F 2			8-10 FT Soft, gray To matter					
Ł			+ . 1		•	116		Grown SILTY CRAY with
F		1	44	SS	,		-	soveral one to two - inch thick
F		1	‡		3 3	2.0		sand layers.
مسلسسا			+		3,7	d.	1	Ran In Land
		1	1	+		+	+	10-12 FT As above with one
			1	1 .		1 .		No. 10 Telephone
			1 ~	ابريرا	1,2	1.6	1	one-inch thick sand layer.
-		1 1	45	SS	,		-	<u> </u>
F	<b>\</b>	1 1	1		3,3	100	1	
Ė			1	1	3,3	2.0	1	
Ela				+-		+	+	12-14 FT V. loose, brown - gray,
10	1	1 1	7		WH ,WH	1.0		12.14 FT V. loose, brown - gray, CLAYEY SILT grading to
F	ALLUVIUM		1.	1	,	2.0		
<u></u>			76	SS			-	- SAND with little sitt and clay
E			7	1	WH, WH	2.0	1	
	.		1		1 12m, 2m	d		
그	<b>f</b>		-	+			1	14-16 FT V. loose brown-gray
E''	<b>!</b>		7		HW, HW	1.7	ļ	
F	1	i l	15	SS	1 ,	1.	1	
<u></u>			<b>- 1</b> /		1		•	clay.
<u> </u>	i	l i	_ ∱ ′		WH, WH	1/2.0	1	
E		1 1	7	1	,	10	1	
EK	, 1		4					16-18 FT As above with trace
ļ ``			1		WH WH	10		leaves, 2-inch plug of wood
Ł		1 1	-18	SS	,	2.0	1.	——————————————————————————————————————
F	ł		70	125		1/		In space Tip.
F	1		<u>†</u>		WH, 2	1.0	ļ	
Ł			3		12	i		
EK	k i		7			1.8	1	18-20 FT V. 10058 Crown - gray
F	<b>,</b>		1	1	111	11.2		
E	1		10	1cc	1 ' ' '			SAND with trace gravel,
$\vdash$	1		77	SS	1	1.0		3111.)
F	1		1	1	1,2	2.0	1	
سيائيسانيس	[	.		$\perp$	<u>i '</u>			
<b>⊢</b> ,	c		4		1 1			20-22 FT As above with trace
F			1		22	1.6	1	wood.
E	1		- 412	SS	1	1/	1.	
_			710	دد ،	1	11.	1	
F			1		3 4	٥. لم	ļ	
E			4					
عسلسد	<b>以</b>	- }	7	$\neg$		T	T	
<b>—</b> -	ř l	] ]	İ					
-			,	1				

		3-011	7 -			20	C/A	FE	(NY BORING NO. RFT - 45
GEPTH H	OLE 36 FT JOB NO 91	)' (까드H <u>^^</u> . 시 II	L 27	BILL!	GT.		411	4	INCH ID HSA SHEET 2 OF 2
GEPTH S	OCX CORE NA WEATHER	SUN	a. a.	ALL LI	NG.	COMPANY	S	1 <u>B</u>	SERUCES INC. SURFACE ELEV. 583.5
DEPTH A	SA C US SA T TEMP 8	5°F		an i	BIG	CMI	<u>- 75</u>		ORILLER D. BUTZER GATUM MSL
Í	1114		~	T. 3.	AMP	ER HAMME	» 140	1 LB	5 GROP 30 INCI STARTED 14:40 , 7/11/98
DEPTH W	NA HAS DELA	TO N				RAMMER D		IA	OROP NIA COMPLETED 9:00 .7117/98
TIME WL	NIA HN3. DELX								
				488	REV	LATIONS			MOITROGORG OF SHARE MOITRIROZED LIDE
SAMPLE	TYPES ENSAMPLE EL	حصيد		M MIC	141	CYCEONR FORM	\$. 	A	SAMPLE UFTLE 3 -/
C.S. CHU	MASSAMPLE ST	Carae Carae Carae		wQ1	7 🛥	OTTLED OHALSTIC	Si Si		SANG SILI AMARIYE OMMETY MOWS CONSISTENCT FOIGLE PRESSUM
DE DEM	A CAMPLE ASK	CLAF		0G	3 O	range Rgamic	\$ \$	м .	SULTY VARY LOOSA VLS U.4. VARY SURT SUT VS. (ATHENUS SOME LOOSA LS 4.10 SOFT 3 MANUS LADALT
S.T. SLO	X COME FRAG	FRAGMENT	3	~	*	4472N44 MVMNV 4472N46MAQUM		~	TRACE COMMACT OF 10 30 YEARS STOR ST HOUSE AN ORDERS WEIGHT OF MANUAL ORDERS ON 10 YEARS STORE AN ORDERS WEIGHT OF MANUAL PROPERS ON 10 YEARS STORE AND THE MANUAL PROPERTY.
fp (Hu	MALLER PSTON GL IN SAMPLE LTO	GRAVEL LAYERED		A 463	, 4	ESIOUAL	Ť		VERY ORISE VON 30 THE PERSON'S DELEMBRACE
we was	ч	nurr		AX		ocx			
		BLOWS	Ţ.			MPLES	965	Ę	SAMPLE DESCRIPTION AND BORING MOTES
DEPTH	DESCRIPTION	FT		MQ. T	774	AMM. BLOWS PER 6 IN IFORCE	ויוגליי	06.4	122-24 FT V. lace crown-gray.
-	A CLUSTINA		7	-		1 ,	1,2		CCOSE SAND with little
E	ALLUVIUM		E	)  =	<<	75'		_	gravel trace silt and leaves
F			‡	"		1.1	2.0		
E			1				$\sigma$		24-26 FT As above to 24.8
E 24			‡	-		4 6	2.0		FT then compact, iren -
Ë '			E	12	SS	,		-	oxide orange-terous colored
Į.			‡	,		9 5	2.0		SAND with trace silt and pavel
£			1 3				0		21-98 FT As from 248 FT
Eal		1	1 3	i	ļ	1 1	1.6		above but loose.
Ę			=	13	SS	,	/	_	
E			1 3			3,3	2.0		
200			1 4						18-30 FT As above.
-38			1. ]			1 3	1,3		X1 50 11 AC X251
F		1	1 4	14	SS	```		-	
F						4,5	2.0		
E 30			-	-	-	8 18	ļ		30-32 FT Compact, Icon-oxide
E		ļ	1 3			3,18	1.0		colored orange trown, coarse
E			-	15	22	- 4	2.0	٠	trace sit.
E			1 3	1		19,23	12.0		
F 32				<del>                                     </del>			18		32-34 FT As acove to 32.3
231.3	GLACIOLACUSTRINE			16	SS	WH, WH	1.8		FT then V. soft, purple - gray  CLAY with little silt , fault
F39,	CLAY		-	1/6	ىدا		Ja.v		varying.
Ę				]		WH, WH	9.		7
E-34-	END OF AUGER	$\top$		1		WH WH	1.9		34-36 FT As from 32.3 FT
F	BOREHOLE	-		17	C				acove.
F	SOIREMOLL		-	3/ '	1		ag		
-				‡		WH, WH	0		
F-36-	END OF SAMPLIN	IC.		1					
F	END OF SYMPEH	•		†					
E .		Ī	•	Ŧ					
Ė				Ė					No detections on oum
F-38				1					No detections on our
E			1.	1	1	}			No detections on wrigger
. F				‡					acid gas tutes.
Ε			.	Ę					7
E 40			1	1	1				
Ę				4					
E				1					
E				4		1			
E-42	`			1					
142 142 144 144				Ξ.		ļ			
F				1					
F ,,,,				4					
E 44				3					
. E				_{	ᆚ	<u></u>			

		- 01.3	3-0117		101€0	. 7	30	C/A	=[	/ NY BORING NO. AFI - 4L
GEPTH H	OIL ORILL 36 FT 40	26 40 AC	17 EH	N 2	BILLIN	' - IG. W	ETHOD _	411		INCH ID HSA SHEET I OF a
DEPTH S	OCX CORE NA W	4 1835. <u>32</u>	SUN	a. a.	RILLIA	e c	OMPANY		1 <u>B</u>	SERUCES INC. SURFACE ELEV. 583.4
GEPTH A	SA. O UO. SA. T	Si	o°F		RILL !		4	=- 75		ORILLER D. BUTZER DATUM MSL
NO, 015 T.	1 NA H	A3. 2900.			T SA	MPL	ER HAMME	ER 140	LE	55 DAGP 30 INCH STARTED 12:20,7/13/18
GEPTH H	7. <u>- NIA -</u> H	HS. P400. HS. GELAYI	- NIÀ	_ ~	T. CA	9184		N	A	DROP N/A COMPLETED 16:30 .7/13/98
TIME WL	N/A *	HS. DELATI	eu 1411-							
					1 8 8 8	EVI	ATIONS			SOIL DESCRIPTION -RANGE OF PROPORTION
	TYPES ER SAMPLE		SLUCX.			×€0	жум	5.A		SAMPLE UPTLE S 1/m and 30 sum
C L CH	ing sample ve open	٠ .	erown Coarse		40T	wo	LCEOUS ITLEO LPLASTIC	در 20 12	1	SAND SALT MALETURE DEPOSITY BADWAS COMPANY FORCER PRESSURE
0 5 067	nson sample Ther sample	GL.	CLAY		96 96	QR.	MGE ZAMG	\$17 \$24		SELTY VEHT LOOSE VLS U. VERT LOOSE SELIMINGS SOME LOOSE LS LIG SOIL S WELLS-LASET
4 C 40	EX CORE		CLATET FRAGMENTS	ı	~		STURE MYDRAU	AUC TA		TRACE COMMONT OF 14 30 HAMM SAN HOLLIS HAFER LEVEL GENSE ON 31 50 STAF ST (HUMAN HOLLIS
LOT Last	H.WALLED, OPEN	GL,	GRAVEL		A AES		HOUME	7		WEIGHT OF MANMER VERY CENS VON 30 VERY STIF VST INCIDENCE, MORNT TELLOW MANU H MESCH'S INCIDENCE.
75 WA	SM SAMPLE	u	OULT		AX	**	<del></del>			
		le	LOWS				MPLES		Ξ	SAMPLE DESCRIPTION AND BORING HOTES
ELEV.	DESCRIPTIO	H	FT	Γ,	40. TY	PE   MA	MM. BLOWS	RES	DEPTI	SAMPLE DESCRIPTION
UEPIA			<del></del>	1	7	$\top$		1	_	0-2 FT Augered through
E	FILL			3						driveway - no sample.
<b>-</b>				7	ľ			ļ	_	
E				3		7				
Fa				+		1	20 1 2	- 0		2-4 FT Loose, almost black,
E				E		_	30,23	0.9		SILT and SAND (Slag) with
-				4	1	>			-	some clay, angular gravely
E			1	Ŧ	1	1	5,9	20		
ىسلىسىلىسلىدىلىدىلىدىلىدىلىدىلىدىلىدىلىد		1		7		十				4-6 FT As above to 5.6 FT
E			]	1		55	4,1	0.8		then V. Inose brown - gray,
<b>F</b>			1	7	2 5	7			_	SILT with little clay.
E			ì	3			1,1	2.0		
F-6			İ	7		1.	231			6-8 FT As above grading to
E				3	3	ss	એH, WH	1.8		Stiff brown - grain SIRI
				4	ع د	- 1	2 2	20	-	oxide colored motiling.
_				‡			2,2	2.0		
Fa		ı		4			1 1	1,7		8-10 FT Stiff to ticm, brown
E				4	4	ss	' > 1	1:7		trace ican-oxide colored
Ę-				1	, ,	_	2 4			mothing
È				1			<u>۵,4</u>	2.0		
- 10				F			1 4	1.7		10-12 FT As above
E				]	5	SS	( ) ¬			
F				1		احد	5,8	2.0		
tula La				1 3		_				12-14 FT As acove with
FIB				4			) i	1.8		
E				]	Ъ	SS	١,	'/		approx. 4 one-inch Thick
F			}	=			1,2	2.0		
Ε.,				=		[	,, &			IN-IL FT As from 8:10 FT above to
ساسساسساسساسیان به این یه			<del> </del>	-		1	} 1	1.7		14 H ET HOPE LOOSE COCK COWN-
F 14.4	ALLUVIUM	_		=	7	22	' , '	/		- gray, SILI with little clay, little
E		•			1	ŀ	1,2	20	İ	the to coarse sand seams approx.
F ,,				1			1,2	-	_	1- inch thick, trace leaves and wood.
F 16					1	. }	3,5	1.8		16-8 PT loose dark brown-gray SILT
Ę				-	8	22		1.8	ļ	- and SAND with little clay one
E				1 3	1		6,8	2.0		carse sand seam 3 inches there trace
Euc				-	-			+~-		leaves.
Eig				:	1 _	ايرا	1,2	2.0		18-20 FT As above with soveral
þ				-	9	SS	,			- small sand seams.
E					1		1,2	2.0		
F-30				-	‡_	ļ			_	20-22 FT Loose, dark brown-gray,
Fac					=		WH, WH	1 2.0		SIT to SIND and SIE DIT
ا الدارية الدارية				-	01	55	<b>'</b>		1	- little to some clay, trace leaves.
E					1		1) A	2.0		
F.	-			.	}	<u> </u>	,,	0	1-	
<u></u> ⊢ તત	- \		1	1	4	1	I	1	Į.	

		0-00-		20	ec / AF	
DEPTH H	OLE 36 FT JOS NO 91	7-4111	_ PROJEC		41/4	4 INCH ID HSA SHEET 2 OF 2
GEPTH S	OCX CORE NA WEATHER	SUN	_ 0816611	G COMPANY	5\	
DEPTH H	SA O UG SALT TEMP	v°F	DRILL	aid CH1		ORILLER D. BUTZER DATUMMSL
DEPTH W	11 A 2000	ALA	WT. SA	MPLER HAMM		LBS GROP 30 INCI STARTED 12:30 , 7/13/78
TIME WE	111A 251 LX	ED NA	_ wt. ca	SHE HAMME	- N	A OROP N A COMPLETED 15:30 7713/98
SAMPLE		wa	A 88 F	ENDITALVES MURCES	SA	
- C - C - C - C - C - C - C - C - C - C	ER SAMPLE INK SAMPLE PE OPEN G	HWORL	WIC WOT	WCACEOUS WOTTLED	امر 02	I SAFURATED DAMA
05 06H	INGR SAMPLE CL	CLAF	мР 0G 0 <b>г</b> а	HON-PLASTIC ORANGE ORGANIC	12 712 MG2	Y SELTY VERY LOOSE VES U.S. VERY SUP! VS (Allmines)
S.F. SLO	X CORE CLY ITED /USE WHALLED, OPEN FRAG	CLAYET FINE FRAGMENTS	~	AADTH-BRIEZBRA AIMAN-BRIEZBRA	, w.	TRACE COMMENT OF 10 10 THE ST FRANK MACHINES
T # 73-14	CL SAMALEN STOM	SAAVEL CAREFUL LITTLE	A 465 41	AGCX AGCX	7	M MERCHE OF TRAMMER VERY CENSE VON 16 VERY STATE VST INSTANCES, AN MESCH S INCOMPAND.  TELLOW
L						
ELEV.	HDITHINDESO	BLOWS	MQ. T	HAMMA BLOWS	REC	SAMPLE DESCRIPTION AND BORING HOTES
DEPTH						122-24 FT As above
ξ	ALLUVIUM		1	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	1.9	
는			711 5	5	2.C	
F. 1			1	' ' '	<i>a</i>	
는 3시			1	WH.WH	20	24-26 FT As above with med to
E			125	ss '	2.0	cears sand seam tran 23 6 FT
			10	ωH, 2	2.0	
Ezb			4		-	26.28 FT Leose dark brown -
F 246			]	- WH WH	1.9	aray, med to coarse SAND
E			713	SS ' ,	2.0	- to 27.6 FT, then wood.
E		] [	1	2,24	0	
E 28			114	SS 100/0.5	0.36.5	28-28.5 FT Loose dark brown,
E			1			SILT SAND and GRAVEL with
E	}		]		1	A III Say
£30			1			30-32 FT As above. Soft CLAY
E			7	4 1	1.8	stuck to outside lower halt
E	GLACIOLACUSTRINE	<del>                                     </del>		SS ,		not be representative of formation
£ 31.0	1		]	' , '	2.0	1761 50 15(15)
F32	CLAY		1	WH WH	0.4	COORSE SAND SOFT CLAY Stuck
Ē			- 16		10.7	100030
E			1	WH, WH	2.0	proceeds not representative of
E34-		<del>  </del>		1 22)		40 mation.
£ 3 .	END OF AUGER		7 1	1,1	1.8	34-36 FT V. satt grown-gray
Ę.	BOREHOLE		417	SS		
Ē			1	wH, WH	1 2.0	taint recaish varying.
F36-	END OF SAMPLINE	;				
E						
E			7			
-38			] ]			
مح						
Ę.			-			- No detections on OUM.
40			‡			No detections on Dräger
E-40			=			acid gas tubes.
Ė			]			
Ė			7			
Eila		.	]			
E-42						
E			4 .			-
=						
EUL	11		-			

		Field Boring	Lag	
DEPTH HOLE 32 FT JOB DEPTH SOIL DRILL 32 FT DA I DEPTH ROCK CORE NA WEARD, DIST. SA. Q. UO. SA. ID. TEM DEPTH WL. NA HRS	THER SUN  85°F  PAGG. NA	ORILLING METHOD 41	JB SERUCES INC.  ORILLER D. BUTZEI  LBS GROP 30 INCIL	EGRING NG. RFI-47  SHEET   GF 2  SURFACE ELEV. 583 6  CONTUM MSL  STARTED 8:00 /7 5 98  COMPLETED 12:40 7 6 98
SAMPLE TYPES  a.s. MUGER SAMPLE COL. CHIME SAMPLE OR. ORIVE OPEN O.S. ORIVE OPEN O.S. ORIVE OPEN SAMPLE R.C. ROCK CORE S.T. SAOTTES TUBE F.C. PRINCIPALLES, OPEN F.P. DINCIPALLES, PRITON W.S. WASH SAMPLE	BL SLACK 38 AROWN C CLARGE CA CLAIMG CL CLATE / FINA FRAGMENTS GL GANEL LTO LATELE U UITLE	A B B R E Y I A T I O N S  U HERRIM  MC HCACEOUS  MOT MOTTLED  OF ORBANGE  OR OPERATE  OR OPERATE  PRESSURE-HTRANUC  RESSURE-HTRANUC  RESSURE-	AT SALVANTED CITTLE  2 SAMO  3 SLT  3 SLT  4 SQUARE  5 COMMAN  5 COMMAN  6 C	3 1/2 mg 30 200 3 1/2 mg 11 mg
CLEY DESCRIPTION	BLOW3	SAMPLES MG. TTPR PROPERTY OF ATT	10-2 FT Loose	gmy, crushed

	SH SAMPLE	unu.	^AX	*OCX		
ELEV.	DESCRIPTION	BLOWS FT	NG, TYPE	HAMMA BLOWS REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
-	FILL		1 55	2,5 0.9 8,9 2.9		limestone GRAVEY with some sond and sitt. RR ballast.
-2			255	6,4 0.5	1 -	2-4 FT As above
4			- 3 ss	0-,		H-44 FT Concrete (trace
4					1	recovery) Barehale moved 5 feet west and augered to b FT.
: : - : :			= 4 SS	2, 2 2.	.	6-8 FT Loose dark yellowish- brown SILT with some clay several one to two inch thick sitt lenses, little clack mottling
-8 -			- 5 SS	2,2 1.8	<b>~</b>   .	8-10 FT As aloove.
- 10			1 5 SS	2210		10-12 FT As acove with ting sound segmenting indes thick near spean bottom.
138	ALLUVIUM		7 5	5 1 1 2		12-14 FT Loose brown-gray, fine to med. SAND with some silt, trace clay, trace 1/2 in thick tan sand seams.
14			385	WH, WH 1.	+	14-16 FT As above to 15.2 FT then loose brown-gmy, CLLY - SILT with trace sand Jeams approx. 1/2 inch thick
16			19	ωH , 1		16-18 FT As from 14-16 FT about to 17-2 FT, then as from 12-14 FT.
18 8			105	WH WH )		18-20 FT Lose, brown, med to coarse SAND with little sittle
الا مدالسياسياسياسيا مدالا			3115	3 1,1 1	3.0	20-22 FT Loose, brown grangers SAND with little sitt, clay.
Fax						

SAPPLE TYPES  SA	GEPTH S	1002 <u>007 1                                 </u>			LECT	D	$CC_{-}I$	FI	(NY BORING NO. RFI-47
OBPT H MODIST JA C JUG SALL TEMP SSOF  OBILL RIG CIME - 75  OBILL RIG CI	<b>GEPTH</b> 8	SOIL DRILL 32 FT GA INSP. 1	<u>), (사 래</u>	N ORIL	LLING	-			
OBETH WI. NIA HAS. PAGO. NIA  TIME WI. NIA HAS. DELAYED NIA WT CASHAD HAMMER NIA GOOD NIA COMPLETED TOOL  SAMPLE TYPES  1. MERITARY AND COMPLETED TOOL  STANDLE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  1. MERITARY AND COMPLETED TOOL  SOURCE TYPES  SOURC		TOCK CORE NA WENTHER	<u> </u>			A 15.4			
SAMPLE TYPES  SAMPLE TYPES  ABBREVIATIONS  ABBREVIATIONS  ASSET VIATIONS  ASSE	NG. 015 T.	37							
SAMPLE TYPES  SAMPLE TYPES  ABBREVIATIONS  ABBREVIA	OEPTH, Y							VA	1 A Price
SAMPLE STREET  SET STATES  SET	TIME W	NIA HAS. GELA	760 /4//	<u> </u>					3737
SELEY  OESCRIPTION  BLOWS  ALLUVIUM  LESS  GLACIOLACUSTRINE  24  SERVICE  S	SAMPLE	TYPES		A 6	3885	ENDITALV		,	SOIL DESCRIPTION -RANGE OF PROPORTIO
DESCRIPTION  BLOWS  BLO	. s	GER SAMPLE BL UNA SAMPLE SR	Succession 1		WIC .	MCACEOUS		SAI	STINUTED CITIES IN THE STATE STATES
SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SEEN OF SAMPLING  SEEN OF SEEN OF SEEN OF SEEN OF SEEN OF SEEN OF SEEN O	0 G. 0 M	nt OPEN G	CASING		ne.	MON-PUSTIC		SI	SIL! AMERITY DEPOSIT SEGME CONSISTENCY PROCESSION
The manufaction of the control of th	A C. AO	CX COME CLY	CLITET		076	ORGANIC MESSURE-HTORA		f pa	SOME LOSSE LS 6.10 SOFF S MILLIO LASET PRACE COMMACT CP 19.36 NAME AM MOLITS
SAMPLES  SAMPLES  SAMPLES  SAMPLES  SAMPLE DESCRIPTION AND BORING NOTE  ALLUVIUM  1255 1 2 10  1058 FT Loose reddish trawn D  1048 FT Loose reddish trawn D  1048 FT Loose reddish trawn D  1058 FT Loose reddish trawn D	F.Q. PHI	MALLED, OPEN PRACE MALLED, PISTON GL	GRAVEL		A	AEO		WEL WEN T	WEIGHT OF HAMMER VERY DENSE VON 10 VERY STAFF VSE INCOMMAN MOUNT
ALLUVIUM  -12 SS   2 100   22-34 FT As above with loss reddish from 7 10 for motion two 1.  -13 SS   2 3 0.9   24-36 FT Losse dark years sand and silt trace clay same sand and silt trace clay same sand and silt trace clay grave.  -14 SS   2 20   24-36 FT Losse dark years same sand and silt trace clay grave.  -30 GLACIOLACUSTRINE   15 SS   1 2 20   29-30 FT   15 Saft brown clay with some silt.  -30 END OF AUGER   16 SS   1 1 2 0   30-32 FT   45 above.  -30 END OF SAMPLING   10 SS   1 1 2 0   10 detections with out of the same silt.  -30 END OF SAMPLING   10 SS   1 1 2 0   10 detections with out of the same silt.	W 2 WA	3r 3 to			*I	*OCX			
ALLUVIUM  12 SS 1 2 10  10 SS reddish from 7  10 yet in bottom two 1.  13 SS 7 7 20  14 SS 1 2 20  14 SS 1 2 20  15 SS 7 7 2.0  16 SAND with trace clay grave.  15 SS 1 1 2 20  16 SAND with trace clay grave.  20 SAND with trace clay grave.  20 SAND with trace clay grave.  21 SS 1 2 20  22 SAND with trace clay grave.  23 SAND with trace clay grave.  24 SAND with trace clay grave.  25 SAND with trace clay grave.  26 SAND with trace clay grave.  27 SAND with trace clay grave.  28 SAND with trace clay grave.  29 SAND with trace clay grave.  20 SAND with trace clay grave.  20 SAND with trace clay grave.  20 SAND with trace clay grave.  21 SAND with trace clay grave.  20 SAND with trace clay grave.  21 SAND with trace clay grave.  20 SAND with trace clay grave.  20 SAND with trace clay grave.  21 SAND with trace clay grave.  22 SAND with trace clay grave.  23 SAND with trace clay grave.  24 SAND with trace clay grave.  25 SAND with trace clay grave.  26 SAND with trace clay grave.  27 SAND with trace clay grave.  28 SAND with trace clay grave.  29 SAND with trace clay grave.  20 SAND with trace clay grave.  21 SAND with trace clay grave.  24 SAND with trace clay grave.  25 SAND with trace clay grave.  26 SAND with trace clay grave.  27 SAND with trace clay grave.  28 SAND with trace clay grave.  29 SAND with trace clay grave.  20 SAND with trace clay grave.	#1 EV	0.6.1.6.7.1.0.11		<u> </u>			960	E	ZETON DNIRDE DNA NDITRIRDZED BURMAZ
ALLUVIUM  12 SS 2,5 20  13 SS 2,5 20  14 25 FT Loose dark yeard brown GRAVEL with some sand and sith, trace clay  14 SS 1, 2, 20  14 SS 1, 2, 20  21 38 FT Loose, brown, or SAND with trace clay  GRAVEL with some sand and sith, trace clay  GRAVEL with some sith, trace clay  GRAVEL with some sith, trace clay  GRAVEL with some sith.  15 SS 1, 1, 2, 0  END OF AUGER  BOREHOLE  16 SS WH, 1 O.2 CLAY with some sith.  17 30 SAND OF SAMPLING  18 SS WH, 1 O.2 CLAY with some sith.  No detections with over	DEPTH	DESCRIPTION	FT	.40.	. 7776	(FORCE)	~=×x++	DE	122-24 ET Ac above with
2,5 2.0  2,3 0.9  13 SS 7,7 2.0  14 SS 1,2 20  21 38 FT Loose, brown, clay, same sand and sit, trace clay, gravel.  28 GLACIOLACUSTRINE CLAY  15 SS 1, 1, 2, 0  END OF AUGER BOREHOLE  16 SS WH, WH 1.2  17 2.0  18 SS 2.0  21 38 FT Loose, brown, clay, gravel.  21 30 FT V saft, brown, clay, gravel.  21 30 FT V saft, brown, clay, gravel.  21 30 FT V saft, brown, clay, gravel.  29 30 FT V saft, brown, clay, gravel.  20 21 38 FT Loose, brown, clay, gravel.  21 32 SS 1, 1, 2, 0  21 32 FT As above.  No detections with OV	_	ALLUVIUM		₹.		1,2	1.0		loose, reddish-known Deddle
24  13 SS 7 7 20  14 SS 1 2 20  14 SS 8 7 20  21 38 FT Loose, brown, clay  SAND with trace clay  GRAVEL WITH  SOME SOUND TRINE  LAY  15 SS 1, 1, 20  END OF AUGER  BOREHOLE  16 SS WH, 1 0.7  CLAY WITH SOME SITH.  16 SS WH, 1 20  AS 30 FT 1 Soft brown.  CLAY WITH SOME SITH.  30 END OF SAMPLING  16 SS WH, 1 20  AS 30 FT AS above.  16 SS WH, 1 20  AND OF SAMPLING  17 SO 32 FT AS above.  No detections with OV	_		1	712	155	١		-	layer in bottom two linches
THE SS 7 7 2.0 TREATH SOME SOME SOME SOME SOME SOME SOME SOME	F ,			1		2,5	2.0		
The same sand and sitt, trace clay clay.  38 GLACIOLACUSTRINE CLAY  30 END OF AUGER BOREHOLE  30 END OF SAMPLING  16 SS WH, WH 1.2  30 END OF SAMPLING  16 SS WH, WH 1.2  30 AS 30 FT 1/20  30-32 FT As above.  No detections with OV	F24			1		1 2	<b>~</b> 9		
T, 7 2.0  SAND with trace clay  GLACIOLACUSTRINE  CLAY  SSO FT // Soft, Erown  CLAY with some sith.  SOME HOLE  16 SS WH, 1 0.7  CLAY with some sith.  30-32 FT As above.  No detections with av	Ę			1/3	55	4,7		_	
TH SS 1 2 20 21 28 FT Loose, brown of SAND with trace clay gravel.  28 GLACICLACUSTRINE CLAY  15 SS WH, 1 0.7 CLAY with some sitt.  30 END OF AUGER BOREHOLE  16 SS WH, WH 1.2 30-32 FT As above.  31 END OF SAMPUNG  19 SS WH, WH 1.2 30-32 FT As above.  No detections with OV	E			1		77	2.0		
SAND with trace clay  gravel.  38 GLACICLACUSTRINE CLAY  15 SS WH, 1 0.7  CLAY with some silt.  30 END OF AUGER BOREHOLE  16 SS WH, WH 1.7  17 20  30-32 FT As above.  18 SS WH, WH 1.7  19 30-32 FT As above.  No detections with OV	Ezb			1	+-			-	26-28 FT Loose, brown coarse
SOURCE STRINE SS WH, I O.T CLAY WITH SOME SITT.  30 END OF AUGER BOREHOLE  31 END OF SAMPLING  32 END OF SAMPLING  33 END OF SAMPLING  34 No detections with OV	E			<u> </u>	یم ا	1,2	2.0	l	SAND with trace clay and
GLACIOLACUSTRINE  CLAY  SO END OF AUGER  BOREHOLE  SO END OF SAMPLING  WH, I O. 2  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.  CLAY with some silt.	F			7 19	, 32	87		-	acavet.
END OF AUGER BOREHOLE  30 END OF SAMPLING  15 SS WH, 1 O.T CLAY with some silt.  30-32 FT As above.  16 SS WH, WH 1.2  17 J.0  No detections with OV	£ 15.					0,1	2.0		
END OF AUGER BOREHOLE  30-32 FT As above.  16 SS 1, 1 2.0  10 30-32 FT As above.  11 1 2.0  11 1 2.0  No detections with any or	E 22-	GLACIOLACUSTRINE	-	1		WH. I	0.2		28-30 FT / Satt & rown - grav
END OF AUGER BOREHOLE  16 SS WH, WH 1.2  1, 1 2.0  No detections with OV	E	CLAY		415	ilss		//	-	
END OF AUGER BOREHOLE  16 SS WH, WH 1.2  1, 1 2.0  No detections with OV	È			1		1 , 1	2.0		
BOREHOLE  32 END OF SAMPLING  No detections with OV	F30-	FND OF AUGER				1.34 (34			30-32 FT As above.
END OF SAMPLING  No detections with OV	E			JIE.	ss	, 3311	1.0	-	
END OF SAMPLING  No detections with QV	E					111	2.0		
No detections with ov	£ 32~	5.10 as sampled	-		+	<del>                                     </del>		-	
No detections with ov	E	END OF SAMPLING		1					
No detections with ov	E			7			}		
No detections with ov	Ezv	,		1 4					
	E 31								
	Ę.			-				-	No detections with our
The detections with win	E			‡					No detections with Draiger
= 36   acid - gas tubes.	E-3P			🗄				'	
	E			1				.	7
	E								
F-38	F.38			-				-	
	E						İ		
	E			=				'	
E-40	E dh			4				.	
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	ը Մասկասկասկա								

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GEPTH H	att 30 FT 100	*a 96	3-9117	PF	OJEO	.T_	BC	c/Af	F <u>L</u> 1	
	au sau 30 FT an 1	MSP D	<u>), ( )                                 </u>	<u>ki</u> oe	41CLIN	ig w	<b>ETHOO</b>	4 11. 5.		SERUCES INC. SURFACE ELEV. 583.5
06PTH A	OCX CORE NA WEA	THER	<b>50M</b>	or	RILLIM	•G C	OMPANY .		<u>10</u>	2 2.55
NG. 015 T.	3A. — UO. SAJIL TEM	کــــــ .م،	<u> </u>	05	AILL F	116	_CME		12	
06PTH W	n. <u>NA</u> HRS.	, PAQQ.	NA	*	T. SA	MPL	ER HAMME	R /TU	<u> </u>	7/1
TIME WL	NA HAS.	. DELAY	eo NIÇ	<u>t</u> w	T. CA	SINC	З НАММЕЯ	N	_	GROP NIA COMPLETED DIOC THOU
<u> </u>										SOIL DESCRIPTION -RANGE OF PROPORTION
	TYPES				R88A		ATIONS	S.A.		TRACE O THE SOME IT AND
CZ CHU	en Sample Ing Sample	56	SLACK EROWN COARSE		uic uor	WOT	LICEOUS TTUSE	10 10		AND
0 Q 2mm	ve open USON sample Cher sample	3 8	کمعصدت عمیت		MP.	OFA	MPLISTIC MIGE	SI 517	,	CHIMILE ET INICTALY & U EN AROUTHAN
AC 500	SLED LINE CX COME CHEW STIMES	CLT F	CLAYET		0 <b>745</b>	ME	FZZFWE-HADWYN FZZFWE-HADWYN GYMC		, ,	COME
T.Q. Peet	HMALLED, OPEN HMALLED, PISTON	GL.	FRAGMENTS GRAVEL LAYERED	1	A AES	A4O	SIGUAL	· · · · · · · · · · · · · · · · · · ·		WEIGH OF HAMMER VERY DENSE VON 10 VERY STOR VSE INCLUDENT HOUSE TOURS
W.S. WAS	IN SAMPLE		unce		44	*00				
			BLOW3				MPLES		Ξ	SAMPLE DESCRIPTION AND BORING HOTES
ELEV.	DESCRIPTION	[	FT	Γ,	NO. TY	PE HA	MM. BLOWS	RECATT	90	
GE				1	$\neg$			1		O-2 FT Avaeced through
F 1	FILL			‡						crushed stode. RK Ealfast.
F	i		i [	7					-	
£ 1	Í			1		1				
FJ	İ		į	7		$\Box$	12	0.8		2-4 FT LOOSE FROM - gray with
E	1	1		4	1 5	55	' 1		_	Pumple flecks CLAYER SILI
F	1		1	+	'	- 1	2,1	2.0		7
Ę ,,				1		'	<del></del>			4-6 FT As above.
F 4		ļ		#			22	1.3		4-6 FT As accue.
Ę		ļ		1	25	SS	۵,۵		-	
E		1		1 1			5,4	2.0		
Eb		I		1 +	$\longrightarrow$	+	,			6-8 FT LOOSE, white-gray to
E		!		. =	_		12	0.3		Mack-brown, coarse SAND
<u> </u>			1	4	3 \	SS	, ,		-	and GRAVEL.
E	}		!	]			1,1	2.0		
ES			'	📑		+	• ,			8-10 FT Loose, white -gray to
Ę			'	]			-1,1	1.0		Clack crushed, GRADEL
1					4	SS	,		-	trace glass.
Ē				1 ]			1,1	2.0		
F 10				]	1	7	Λ,	1.8		10-12 FT As above with no
Ę					15		2,1	0.8		glass, trace weed. Water
1					5	ادد		2.0	-	noted at approx. 11 Fl.
Ę				1 3			1, 1			11-14 FT WOOD with little
FIA				]		_	1 1	- 5		
E				] _:	<b> </b>	SS	\ \	0.5	١.	Silt and clay. Petroliteras
1					6		2,3	2.0		OCIOI
Ε,	1			1 3	<u>↓</u>		<del>, , , ,</del>	4.	ļ	dade and
ىسىلىسىلىسىلى كى كى				:	1	1	i į	1.3	ł	14-16 FT Loose dark gray, SAND to SILI with trace
E				=	17	SS	<u>'</u>		,	- brick clay. Petroliferous
Ė			,		ქ ՝ ነ		1,64	2.0		odor.
Ę "				-	1'	$\sqcup$		10	├	11-18 FT As above.
F 16					<u>†</u> '		WH, WH	0.9		16:10 [1 ]
E				-	8	SS	, ,			
F			ļ		1 "		1,1	2.0		
السيلسيلسيل ها				-	┼—	┼╌┤		10	┼	18-20 FT. As above grading
E 19					∄ _	1	2,2	0.8		to Sub-counded loose
E				-	9	55	'			GRAVEL and V. coarse JAMU.
E					]	1	4,5	2.0		Petrolitereus odor.
Eac				-	1-	┼~'	<del>                                     </del>	+ ,	$\vdash$	20-32 FT As above.
السيلسيليسل السيلسيليسل					4,_	ايرا	6,4	11.		
E				-	410	SS	ł	/		
	1		}	- 1	4	'	12,2	2.0		
Ē			1	1	7		,	1 1		

GEPTH S  GEPTH S  NG. DIST.  GEPTH W  TIME WL  SAMPLE  11. ACC  12. CM  00. ON  01. ON  15. SIC.  16. TM  17. TM	TYPES  ER SAMPLE INS S	).WEH 50N 50°F NA	ABBR	NG WETHOR _ NG COMPANY RIGCM !	= - 75 ER JHC N	H JB	ANY  BORING NO. RFT-48  INCH ID HSA SHEET 2 OF 2  SERUCES INC. SURFACE ELEV. 583.5  ORILLER D. BUTZER GATUM MSL  SOROP 30 INCH STARTED \$130.77   16   98  GROP NIA GOMPLETED 10:30.77   16   98  GROP NIA GOMPLETED 10:30.77   16   98  SOROP SOROP STARTED ST
ELEV.	U U U U U U U U U U U U U U U U U U U	BLOW3	AX	SAMPLES HAMM. BLOWS PER 6 IN IFORCE	REC	DEPTH	SAMPLE DESCRIPTION AND BORING HOTES
24 28- 30-	FILL  GLACIOLACUSTRINE  CLAY  END OF AUGER  BOREHOLE  END OF SAMPLING			3 3	0,6/20	30	22-24 FT Loose dark gray to black, GRAVEL, SAND and SILT with frace brick little yellow sulfuc. Petroliferous and sulfurous actor.  24-26 FT As above.  24-26 FT V. soft purple- gray, CLAY with some Silf, Faint mottling and varying.  28-30 FT As above
3 3 3							No detections on CUM  No detection on Draiger  acrici - gas tubes.

OEPTH S OEPTH M NO. DIST. GEPTH W TIME WL SAMPLE AS. MIGGE CS. CHM OS. ORR	TYPES  AN AMPL  AN OPEN  TYPES  AN AMPL  AN OPEN  GOPEN  G	D.WEHA  R SUN  RSOF  OG. NA  LAYED NA  INCOMING  CLAMPE  CLAMP	PROJE	DIR JAMA	CMPANY CMT CMT CMT CMT CMT CMT CMT CMT CMT CMT	C / A 4 // 5 - 75 - 75 N	FI 4 JB	NY BORING NO. RFI-49 INCH ID HSA SHEET I OF 2 SERUCES INC. SURFACE ELEV. 583.6  ORILLER D. BUTZER DATUM MSC  OROP 30 /NCH STARTED 10:00 / 7/21/98  OROP N/A COMPLETED 11.15 / 7/21/98  SOIL DESCRIPTION -RANGE OF PROPORTION AND STARTED 11.15 / 7/21/98  SOIL DESCRIPTION -RANGE OF PROPORTION AND STARTED 11.15 / 7/21/98  AND STARTED 11.15 / 7/21/98  AND STARTED 11.15 / 7/21/98
A.C. MOC S.T. SLO F.O. Free F.P. Free	COPE	HING CATERED  GRAVEL  GRAVEL  GRAVEL  GRAVEL	OPG	PR AE AC	SIQUAL ICX	99 UC 178 W	N .	CHARLE LOOSE IS 10 SOFF S WALLES LIGHT THROUGH THE COLLEGE COMMENT OF 100 DE NOME HER HOUSE CASER LEVEL ORIGINAL ON 313 DE STOP ST FINANCIAN COLLEGE CASER LEVEL OR 100 100 VERY STOP ST FINANCIAL MORNE VERY DENTS 1000 100 VERY STOP STOP WEST THROUGHOUSE CASER COLLEGE COL
ELEV. GEPTH	OESCRIPTION	BLOW3	MG. T		MPLES AMM. BLOWS PER & IN IFORCE	RECATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
السياسيليسل	FILL		111111111111111111111111111111111111111	1				Sampling RP ballast.  2.4 FT Locse, BRICK, crushed
ا مالىسىلىس			1	22	5,5	2.0	_	STONE, and Erown CLAYEY SILT.  4-L FT Loose gray to Erown
ھ لىنىيلىي			2	SS	2,3	2.0	_	GRAVEL, and CLAYEY SILT.
ىيىلىسىلى ھ			3	ss	3,3	2.0	-	GRAVEL SILT and GRAVEL SILT and GRAVEL SILT and
ىلىسىلىس ق			14	SS	2, 1	2.0	_	SILT and rinder GRAVEL.
السلساء			-5	SS	2,1	0.5	-	adac.  12-14 FT V. loose, black
سىلىس			-6	SS	1,1	2.0	-	CLAYEY SILT to SAND with little wood, trace gravel. Petroliferous oder.
المسلسلة المسلسلة	ALLUVIUM		1	SS	1,2	11/20	_	14-16 FT V. losse brown-gray SILT with trace gravel clay wood. Petroliferous odar.
E			8	55	ωн , ωн <sub></sub>	5/2	_	16-18 PT V. soft, brown-gray SILTY CLAY, Petroliferous addr
سرلسساس ه			1119		мн , и мн , и	<del> </del>	-	18-20 FT V. 1005 Organ- Gray CLAYEY SILT to SILT With little clay trace leaves and word Perpliferous odor.
اسىلىسىلىس پى			10	SS	1.14 1.1	2.0		20-27 FT As above.
Eη	1		1	$\vdash$	<del>'</del>	<del> </del>	<del> </del>	

## Golder Associates Field Boring Log

GEPTH S GEPTH M AG GIST. GEPTH W TIME WL SAMPLE AS, AGG CS ON OO, ON AGG AC AGG	. ДА няз. 2900. . НА няз. 06LA	50N 85°F NA	A BBR	POPTTO DE PROPERTO	= - 75 = 140 N	SAMPLE SALVES MALER TRACE	H ID HSA  ERUCES INC.  SURFACE ELEV. 583.6  DRILLER D. BUTZER DATUM  MSL  IROP 30 INCH STARTED 10:00, 7 2:198  IROP NIA COMPLETED 11:15, 7/2:198  SOURCE 3 12 MARY 12 MAY  LETTLE 3 12 MARY 12 MAY  LETTLE 3 12 MARY 12 MAY  LETTLE 3 14 MARY 12 MAY  LETTLE 3 14 MARY 12 MAY  LETTLE 3 14 MARY 12 MAY  LETTLE 12 MAY 12 MAY 12 MAY 12 MAY  LETTLE 12 MAY 12 MAY 12 MAY 12 MAY  LETTLE 12 MAY 12 MAY 12 MAY 12 MAY  LETTLE 12 MAY 12 MAY 12 MAY 12 MAY 12 MAY 12 MAY  LETTLE 12 MAY 12
ELEV.	DESCRIPTION	BLOW3	Ma, TY	SAMPLES HAMM, BLOWS PER 6 IN IFORCE	RECATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
OEPTH	ALLOVIUM		1 11 5	1, 1	2.0	24	SILT with little clay, trace leaves and wood.  Petroliferous coor.  -26 FI As above to 24,5 FT,
24.5	GLACIO LACUSTRINE CLAY		12/5		2.0		trace sit.
-26-	END OF AUGER BOREHOLE		-13 5	WH, WH	2.C 2.O	2	above.
	END OF SAMPLING						No detections on OVM  No detections on Drager acid gas tubes.

#### Golder Associates Field Boring Log

OEPT NO. O OEPT TIME	TH STH R	NA HAS. PAGG	50N 85°F NIA	11.1	DRILL NT. 3 NT. C	DMI PMI PMI PMI PMI PMI PMI PMI PMI PMI P	DONTBH  YMANDO  LUI  HAMM	INCH ID HSA SHEET I OF 2  SERVCES INC. SURFACE ELEV. 5RA. T  ORILLER D. BUTZER DATUM MSL  35 DROP 30 INCH STARTED 15/00 / 7/17/98  OROP N/A COMPLETED 15/00 / 7/17/98  SAMPLE SATURATED 15/00 / 7/17/98  SAMPLE SA		
ELE	V. TH	DESCRIPTION	BLOW3		NG. T		AMPLES HAMM, BLOWS PER 6 IN IFORCE	RECATT	DEPIN	SAMPLE DESCRIPTION AND BORING HOTES
سيليس		FILL				_			_	Crushed limestone driveway
السلسم ا					1	55	3,3	1.0		2-4 FT Locse black to Durple to known, CLAYEY SILT with trace gravel, wood, yellow sulfur.
<u> </u>					2	SS	3,44,5	12/2	_	H-6 FT Loose, brown, CLAYEY SILT with trace gravel, Durple Sitt.
سسلسسل		ALLOVIUM			3	SS	3,21,3	2/2	-	SILT with little day, trace Sandy zones.
بلسيلس					4	SS	2,1	ا ا ا ا ا ا ا	-	S-IC FT Lease brown-gray CLAYEY SILT with trace Llack flecks.
աև	0			larate.	5	SS	2,3	2.0		10-12 FT As above with hose 3-inch thick sandy zone.
E	2			.1	Ь	SS	ا , ك ك, 3	2.0		12-14 FT As from 8-10 FT
سىلىسىلىس				.11	7	SS	ω <sub>H</sub> , 1	1.9	-	14-16 FT Loose crown-gray CLAYEY SILT to SILT with Some Clay, approx 8 one to 1/2 - inch thick sand layers.
سلس	8				8	SS	1,1	1.8		16-18 FT As above to 16.3 FT, then Inose, brown gray, SAND with little silt, trace clay.
F					9	55	1,1	2.0		18-20 FT As from 16.3 FT above.
السيلسيلسيل	20		·		10	SS	1 2	2.0	   .	20.22 FT As above with faint petroliferous afor.

#### Golder Associates

	20 ET Cn	3-011		FIE TDBLD	10 BO		IFI.	/ NY
<b>QEPTH S</b>	NA HAS. PAGO	302 35°F 11A	1 <u>N</u> 0#: 0#: 0# 0#	ILLING ILLING ILL RIC '. SAMI	METHOD _ COMPANY CM ANA ANA ANA ANA ANA ANA ANA ANA ANA AN	4 / - 5 E - 7! €R J4	/4 53B 5	INCH ID HSA SHEET 2 OF 2
A.S. ALC C.S. CM O.Q. GM O.S. OEP P.S. M(I A.C. MOC S.T. SLC I C. The	TYPES  AR SAMPLE  AR SAMPLE  AR OPPH  G  GOPPH  G  GOPPH  G  CA  THER SAMPLE  CLI  THER CUSE  THER	SLACK AROWN CHARGE CLAFF CLAF CLAFET FRAGMENT GRAVEL LAFERED UITLE		M MC MOT MA OG OMG MA PM A A ES	VIATIONS  MEDRIN  MECACEOUS  MOTILSE  MOTILSE  MOTILSE  MOTILSE  MOTILSE  MESSURE  M	w.c	SA SAI SD SI SIY SM IR WOL	SAMPLE STREET O THE STREET STR
ELEV.	DESCRIPTION	BLOW3	AK		AMPLES HAMM. BLOWS PER 6 IN IFORCE	REC	DEPTH	SAMPLE DESCRIPTION AND BORING HOTES
	ALLUVIUM		1111		ωH , I	0.8 2.0	-	22-24 FT As above
E 24	GLACIOLA CUSTRINE CLAY		- <del>1</del>	2 55	MH' MH MH' MH	0/20		24-26 FT U. soft, Durple- gray, CLAY with trace Sall. Faint varying.
-26- - - - - - - - - -	END OF AUGER BOREHOLE		1111	3 55	10H, WH		-	21-28 FT As cibove.
پارساسیاسیاسیاسیاسیاسیاسیاسیاسیاسیاسیاسیاسی	END OF SAMPLING							No detections on Drager acid - gas tures.

## Golder Associates Field Boring Log

DEPTH S DEPTH R NG, DIST. DEPTH W TIME WL SAMPLE ALL MG	TYPES  EN SAMPLE  COMEN CONTROL  TO THE SAMPLE  EN SAMPLE  COMEN CONTROL  C	SUN SUN RSOF NA EB NI SACONING COARSE CLAUMO COARSE		ABB	DMI. SMA.	YNAPMDD YNAPMDD HIMMAH REJH REMANNER ZNOITAIN MINDER BURGELLEN BURGELLEN BURGELLEN BURGELLEN BURGEL	= 75 ER 14(	JB JA JA	ANY  INCH ID HSA  SHEET I OF I  SERUCES INC.  GRILLER D. BUIZER GATUM MSC  SAROP 30 INCH STARTED H:15,712198  DAOP N/A COMPLETED IB:10,712198  SOIL DESCRIPTION -RANGE OF PROPORTION  SOURCE OF THE COMPLETED IS OF THE COMPLETED
F Thus	X CORE CLI TEED TUBE / INVALLED, OPEN GL INVALLED, PRITON GL IN SAMPLE UTG	CLAYET ATTME STRAGMENT: GRAVEL LAYERED LATTLE	's	25 24 3 3 3	3	IRGANC  RESSURE HYDRAL  RESSURE HAMIA  RESCUA  ROCK  A M P L E S	iuc 1	FR :	COME LOGISE LS 1-10 SOFT S MEAUS 1-20-ET PACES COMMITTEE CF 111 SO STOME ST FINANCE MARKET LEVEL ORIGISE SHE ST 11-10 STOME ST FINANCE MARKET LEVEL ORIGISE VOM 30 VERT STOME ST FINANCE MOUNTE MARKET VERT STOME MARKET MA
ELEVITY A TO TO TO TO TO TO THE TOTAL THE TABLE TO THE TOTAL THE TABLE TO THE TOTAL THE TABLE TO THE TABLE TH	FILL	BL OW3			AS	PART SILOTES PER S	N/A	970	O-10 FT Augered without Sampling Jane moved Enrihole Javeral times, due to sursurface concrete. Callected auger cuttings Sample. Lease: putty white to acoun Silt and SAND with Some alay to approx. 7 FT, Then rrown CLAYEY SILT.
7 3 -	GLACIOL ACUSTRINE CLAY				55 55	5,4 5,5 2,2	1.8 / 2.0	-	CLAV with several 1/8- Inch thick Fine sand Partings, faint varving: 10-14 FT As above
	END OF AUGER BOREHOLE  END OF SAMPLING			4	55	wH,wH	1.9 2.0	-	No detections on OUM  No detections on Drager  acid - gas tutes:

# APPENDIX B MONITORING WELL INSTALLATION LOGS

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JOB NO. 963	-9117 Project BCC	<u> </u>	NA			w	eli No	KLT	44	Sheet1	_ ot _ 1
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Casing Type _	2 in.dla. 17.9 1. 5CH 40 PVC	_ Screen Type	SLCT	ED SCI	4 40 PUC	Installation Metho	HOO LBS.
Joint Type	FLUSH THREAD	_ Slot Size	0.010	1/0C11		Citer Pack Tyne	DNIMIN 2040
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11.8	ALLUVIUM	<u> </u>	12.8							<del></del>		
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E ac		ŧI				<u> </u>	į	,				
Ear				<del>                                     </del>	1 3	EL	_ w			Well	Development No	tes
- - -		<u> </u>		<del>                                     </del>	4		50	reen	-	SEE	ACCOMPANYI	NG
Ea4		Ě			:   =	<b>‡ </b> ;	-			WELL	DEVELOPME	
Esh			_	<del>                                     </del>	.   -	ET:	T			FIELD	RECORD	-
->8		-   -	10.5	<del> </del>			-	<u> </u>		<del> </del>		
28.0		NE !	28.5 30.0				1					
E-36	CLAY	-			7.	L	3-in	ch s	dia.	<u> </u>		
E 32		[ _	33.0	1	<u>-Ŀ</u>	$+\Gamma$	Sam	dle	nele_	<del> </del>		
33.0	END OF BORCH	مد [										
-34		<b> </b>								<b> </b>		
34		[]_					-			1		
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. = 38												
40		<u>[</u> ]				<del> </del>	<del> </del>	+	+	1		
F 19										1		
E42										<u> </u>		

	MOMITORIT	10 11					OET.	- 48	Sheet 1 at 1
JOB NO. 963	-9117 Project BCC DEHN Orilling Method 41/	1 RFI 1	TD TY	1727	\	Well NO Sound Fla	<u> </u>	3.5	Water Depth NA
GA Insp. 1. in	DEHN Orilling Method	R SEA	UICES	INC	<u> </u>	Collar Elev	. 583	3,00	Date/Time N/A
WeatherS	OF Drill Alg CME	75	Oriller 1	J. BUT	ZER	Started_IC	30	7/11/28	Completed 12:30 7/16/98
Temp. 80	Drill Rig. CHIE			C DIVE	UTOR	V	TIME /	CATE	Time / Unit
		MA	TERIAL	2 MAR			0	an Com Mi	ED PUREGOLD CHIPS
Well Casing _	2in.dla11.51.f.	Weil Screen	<u> 2</u>	in. dia. r = N = S		I.I.	Inetalla	tion Method	GRAUITY
Casing Type_	SCH 40 PVC	Screen Type	0.00	2 40/	• H	<u>U TUU</u>	Siter P	ack Otv	380 LBS.
Jaint Type	JO GAL.	Cantralizers	<u> </u>	NONE			Filter P	ack Type	UNIMIN 2040
Grout Quantity	20 GAL. 5% CEMENT /5% BENT.	Orilling Mud	 Type	NIA			Installa	ition Method	GRAVITY
Grout Type 1									
Elev./Depth	Sail / Rock Description			L SKET				ins	tallation Notes
C184.7 DOP411			8-inc	h dia.	Flush	d- meb			
1	<u>}</u>		Casing	3 Set	In C	EVICT &	- 1		
-	GROUND SURFACE			/_	1.01				
0.0.	FILL	0.5	3			Concre	to		
-2			1	4 1 1	1	1 1518			
E .			K	416	1	ent/ben	mite!		
<u>-</u> 4					300	7	1		
-					w	el na	ور ]		
- 	[	8,0	1-1	4-1	<u> </u>	1.1	4		
F. 3					- ber	torite			
Eic		30.9							
E 12		12.0		<del>- - - -</del>	. 8	neh	7		
E (**				·   Ŧ  .		ומ צפת			
F 14				] <u> </u>	-				
الم			+-+	+++	1 5	iend			
Ė			<u>                                     </u>	1 F	<del>.T f</del>	illerpa			
E 13.				[II]	$\left. \cdot \right $		-		
Eac			<del>                                     </del>	十主		2011			
Ē.,						screen		Weil	Development Notes
F 23				:[]丰[					
E-24				. [ ]				SEE	ACCOM PANYING DEVELOPMENT
- 26 <del></del>					+			FIFLE	
ماهار	GLACIOLACUSTRINE CLAY	27.0 28.0					\ <u>.</u>	1	
-38	<u> </u>				- 2-	inch of	dic.	]	
30 ===	END OF BOREHOLE	30	0		1 30	Αγ		·	
30.0	END OF BURE HOLE								•
F 32		[							
E-34		-							
<u>-</u> 3-							+	<del> </del>	
F		<u> </u>					<del> </del>		
- 5-38								1	
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E-H2								1	

	WICHTI OTH	lar l			144 15 14	OFT	- 49	Short 1 at 1
JOD NO. 963	-9117 Project BCC DEHN Orilling Method 41	Ju way	TO	154	Well No.	- <u>01 -</u>	33.6	Water Denth NA
GA Insp. D. L	OFHN Orilling Method 4	19 SED	UCES	TNC	Ground	ev. <u></u>	6.17	Date/Time NA
WeatherS	50F Orill Rig CME	<u> </u>	Oriller T	BUT Z	ER Started	11:30	7/21/98	Completed 13:00 7/21/9
Temp	50F Orill Rig CIALE	10	_ 0////			TIME	/ DATE	TIME / DATE
1.1		MA	THREE	INVER	IOHY		A 16	D DUJECOLD CHIDS
Well Casing	2in.dia16.7_1.f.	. Well Screen _	_2_	in. dia	10 1	f. Benton	nite Seal Mi	GRAUITY
i i				P 11 (3)	14 MI PU	(neralia	ITTOTAL AMERICANA	<u> </u>
	FLUSH THREAD  AS GAL.							
Grout Quantity	SACEMENT / SA BENT.	_ Centralizers _		NIA	<del>,</del>	Installa	ation Method	GRAVITY
Grout Type 1	29 CEMENT / 216 CENT.	_ Offining wide						
	Soil / Rock Description		WELL	SKET	H	1.5	Ins	tallation Notes
Elev./Depth	2011 Hock Describitor	ĺ			Locking 6	-ind		
Ė,	-	2.5			protective	casing -		
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0.0.	GROUND SURFACE		(A.)		الإنج	]		
2	FILL				Cencre	Te		
E ~	}							
<u> </u>	[				Cement/berr	enite		
<u> </u>					grout			
<u> </u>					- Well ris			
-3					<u> </u>	]		
						<del>  </del>		
E10	1	10.5			Bentonite			
<u> </u>		-			CINIC	1		
ŧ,		13.5	<del>                                     </del>			<del>                                     </del>		
14.0	ALLOVIUM	14.3	1	】 計:	- 8-inch	ancle		
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<u> </u>			-   ·	1 1	Sand	-		
E 13				1 = 1 :	- Sano Filterp	ack -		
Eac			1	+1.				
Ė 32		<u> </u>	<del>  -</del>	1-1-1-	1 1 1 6	creen	Well	Development Notes
[- ]] [				.  +   -	- Well 5	creer		
E-a4		24.3	1	+++			SEE	ACCOMPANYING DEVELOPMENT
E 24.5	GLACIOLA CUSTRINE	26.0		<del></del>	2-inch	6 dia	WELL	
	CLAY	28.0		<b>  : -</b>  -	Sample	nole		
28.0	END OF BOREHOLE						<b>}</b>	
-30	Class of Case		<del> </del>		<del>                                     </del>	+	<del>1</del>	
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GA Insp. D. K	DEHN Onlling	Method	<u> </u>	NCH S=0	1110 E	< -	TNC	G	ounc a	58	1.81	Oate/Time N/A	
WeatherS	Drilling No.	Company	<u> 75</u>	<u> </u>	Orillae	<u>D. 1</u>	3UT Z	ER S	arted S	3:05	760198	Completed 11:00 7/30	98
Temp80	Orill Ri	g CIVIE			Officer_		<u> </u>			ПМЕ	/ CATE	TIME / CAT	Œ
				MAT	ERIA	LSI	VVEN	TORY			····		
Mail Casing	2 in dia	14.8 1.1	Well S	creen _	2	is	1. dia	10	1.f.	. Bento	nite Seal <u>^</u>	IED. PUREGOLD CHIL	PS
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													$\dashv$
Grout Type	5% CEMENT.	5% BENT.	Orilling	Mud T	ype		NIA			_ instal	lation Method	GRAVITY	$\dashv$
Greek April 2			. —										=
Eley./Depth	Soil/Rock Di	escription					KETO				ln	stallation Notes	
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0.0.		ROUND SURFACE			JA:			A:/	Ť				{
<b> </b>	FILL			0.9	<u> </u>			× cd.	ncrette	-  -			$\dashv$
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F6 6.0	ALLUVIUM												
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t Lic		<u>}</u>				4							
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24.0	GLACIOLA	CUSTRINE		367		-	F]:				WELL	DEVELOPMENT	
اد	CLAY	İ		25.7				2-	nch	6	FIEL		
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JOB NO. 963	-9117 Project BCC DEHN Onliting Method 41	/H 121CU	TOI	15A	Ground	i.⊟ev5	35.0	Water Depth NA
		1 7 7 1 4	U K = -3		Cullat	CC7		Odici illio
Weather ONR	Orill Rig CME	75	Oriller 1	). BUTZ	ER Started	16:15	7/21/98	Completed 16:50 7/21/98
Tempaa	grill nig	BAA.	regial s	S INVEN	TORY	(Inde		
	2 in. dia		7	:- 414	5	Lf Sentor	ite Seal ME	D. PUREGOLD CHIPS
Well Casing	2 in. dia. 10, 7 l.f. 5CH 40 PVC	Screen Type	SLCT	ED SC	H 40 P	UC Install	ation Method _	GRAUITY
Casing Type	SCH 40 PVC FLUSH THREAD	Stat Size	0.010	INC	4 '	Filter	Pack City	700 LBS:
Grout Quantity	15 GAL.	Centralizers_		NONE		Filter	Pack Type <u>U</u>	NIMIN 2040
Grout Type 1	IS GAL. 56 CEMENT / 58 BENT.	Orilling Mud	Type	AIA		Install	ation Method _	GAZVII I
				L SKETC				allation Notes
Elev./Depth	Soil / Rock Description		WEL	SKEIC	Locking	6 inch		
F		ત્ર.મ	<u></u>		Locking Square protection	Stee!		
F-7					Brette 1.0			
0.0.	GROUND SURFACE			1 1	<u></u>	siziete :		
<b>!</b>	FILL		1		- Cement /1	zentanite		
-2		3.0	- <u> </u>		greet			
Eu					- Bentonite	chips -		
[		6.0			Well n	Sec -		
				$ \cdot $	8- nel	1 1.		
- 3 7.0	UPPER TILLS	8.3	-	主门	dia to	rehole		
E <sub>10</sub>				<del>                                     </del>	-Sand F	ilterpeck		
10.0	GLACIOLACUSTRINE			1 = 1:		'		
E (2	CLAY	13.3			-Well so	reen		
- - 14		14.0	-	T.   L	2-inch	d dia		
Ė		160			Sample	Hole		
16.0	END OF BOREHOLE							
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F-22							Well	Development Notes
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# APPENDIX C FIELD RECORDS OF MONITORING WELL DEVELOPMENT



JOB NAME DEVELOPED BY STARTED DEVEL W.L. BEFORE DEV WELL DEPTH: BEF STANDING WATER SCREEN LENGTH	DATE  YEL 9.17 /- DEPTH D.  FORE DEVEL.  R COLUMN (FT.)	370R	AFTER D AFTER D STANDIN	INSTALL TED DEVEL	760198 S - 7/23/99 9.58 /7 DEPTH D. 35.80 W	HEET  3 / 10  ATE TIME  ATE TIME	E <u>0:10</u> n) <u>2</u> gal.	
DATE/TIME	VOLUME REMOVED (GALS)	FIELD SPEC, COND. (umhos/cm)	PARAM TEMP. (C )	ρН	OTHER		REMARKS	
7/23/93 8:40	0	OR	13.6	3.7		Very	turbie	4
112313 0110	4.3	18800.	B.3	3.9		<u> </u>		
	8,6	13800	13.9	3.7	ļ			
	12.9	7400	13.7	3.9		<del></del>		
	17.2	16900	B.6	3.5		<del> </del>		
7/23/98 10:10	21.5	16400	13.5	3.6	-		<u> </u>	
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			L			1		
	21.5	= TOTAL V	OLUME F	REMOVED	(gal.)			
DEVELOPMENT M		Stainles  GE = > 1	7900	, , , , , , , , , , , , , , , , , , ,				
Spotly sl	heen on turbidity	water. F	First 1	bailer	foaming	at t	ορ. (	•



JOB NAME DEVELOPED BY STARTED DEVEL. W.L. BEFORE DEVEL WELL DEPTH: BEF STANDING WATER SCREEN LENGTH	DATE  EL 8.67 / DEPTH D  ORE DEVEL COLUMN (FT.)	EHN 10:40 TIME TIDD 98 / 10:40 ATE TIME 32.56 BT	cr.	DATE OF COMPLE AFTER D AFTER D STANDIN	INSTALL. TED DEVEL. EVEL.	7   1   1   1   1   1   1   1   1   1	WELL NO. SHEET  98 / ///50 DATE TIME  DATE TIME  WELL DIA. (In  3.9	/_OF_/ : :2/93
	VOLUME	FIELD	PARAM	ETERS				
DATE/TIME	REMOVED (GALS)	SPEC. COND.	TEMP.	ρН	OTHER		REMARKS	
=100100: 100:		2100	15.6	7.3	T	Very	tureid	
7/22/98 10:50	0	2400	15.1	6.5		1		
	8	2700	15.2	6.4				
	12	2900	15.0	6.3				
	1,	2800	15.1	6.3				
7/22/98 11:50	20	2900	14.9	6.2				
	20_	= TOTAL V	OLUME	REMOVED	(gal.)			
DEVELOPMENT M		Stainless						
NOTES: Gray	- brown ! not de	turbidity, no press water	level	of which	ch settle	es out	after a	n hour,



DEVELOPED BY STARTED DEVEL W.L. BEFORE DEVE WELL DEPTH: BEF STANDING WATER	STARTED DEVEL 7/32/98 / 12:40  DATE TIME  W.L. BEFORE DEVEL 8.52 /7/32/98/ 12:40  DEPTH DATE TIME  WELL DEPTH: BEFORE DEVEL 30.61 870  STANDING WATER COLUMN (FT.) 22.1 FT  SCREEN LENGTH 15 FT				963 INSTALL TED DEVEL EVEL EVEL 3 G WELL VO	7/14/99 - 7/22 - 8.52 - DEPTH 30.60 LUME	SHEET  POST / DATE  /7/22/9S  DATE  WELL I	13:40 TIME (1 13:40 TIME DIA. (In)	OF <u>1</u>
DATE/TIME	VOLUME REMOVED (GALS)	FIELD SPEC. COND. (umhos/em)			OTHER		REMA	ARKS	
-120 00 1010	0	6100	13.9	6.0			Dery	tureid	
7/22/98 12:40	3,6	5800	14.2	59		-		1	
	77	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				4	
	18	= TOTAL V	OLUME F	EMOVED	(gai.)		<del></del>		
NOTES: Gra	y brown -	Stain! turkidily, m press water	ost of	wh,	iler , n				min.



JOB NAME DEVELOPED BY STARTED DEVEL W.L. BEFORE DEVE WELL DEPTH: BEFO STANDING WATER SCREEN LENGTH	DATE TO DEPTH DATE DEVEL.  COLUMN (FT.)	100/98/13:55 TE TIME 28.19 BTO 19.7 FT	312	DATE OF COMPLE AFTER D AFTER D STANDIN	963- INSTALL TED DEVEL EVEL EVEL 2 IG WELL VOI	7/3/98 7/3/ 8.53 DEPTH 28.19 LUME	SHEET  2198 / DATE  /7/22/48  DATE  WELL C		OF <u> </u>
1	VOLUME REMOVED (GALS)	SPEC. COND.		pН	OTHER	-	REMA	ARKS	
7/22/98 13:55	0	2300	14.0				Very	turbid	
	3.1	2400	14.3	5.0 4.9				<del>}</del>	
	9.6	2300	14.2 H.9	4.9					
	12.8	2300	14.6	5.0				<del> </del>	
7/2/98 15:15	16,0	3200	14.2	4.9	<del> </del>			<u> 1</u>	
						ļ			
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									<u></u>
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	14.0	= TOTAL V	OLUME	REMOVED	(gal.)			. <del></del>	
DEVELOPMENT MI					iler , r				
NOTES: Brawn	n turkidil 1 not de	press wate	د به د به	shich Ele.	settles (	out (	atter	30	min.



¥ Y L., L., L.,	<u> </u>						
JOB NAME  DEVELOPED BY  STARTED DEVEL  DATE  W.L. BEFORE DEVEL  WELL DEPTH: BEFORE DEVEL  STANDING WATER COLUMN (FT.)  SCREEN LENGTH  DEVEL /2016/1986 / 10000/198	15:30 ME 12:48/ 15:30 TE TIME 26.67 BT		DATE OF COMPLET AFTER DE AFTER DE STANDIN	INSTALL FED DEVEL	7/16/98 7/22/ 8.30 DEPTH 26.67 LUME	SHEET 98 / 16 DATE TI 1-1/2/98/ DATE TIME WELL DIA.	ME   16:10
VOLUME DATE/TIME REMOVED (GALS)	FIELD SPEC. COND. (umhos/em)	PARAMI TEMP. (C )	pН	OTHER		REMARK	s
7132198 15:30 0 3 6 9 12 13 15	3300 3000 3000 3800 2800 2800 2800	N.J. 14.5 15.5 15.7 15.2 15.0	6.3 6.3 6.3 6.3	(gal.)		Very	red
DEVELOPMENT METHOD:  NOTES: Gray torbidit  Could not	Stainles	5 3	rel La	ilor,	nylon	Lobe	



DEVELOPED BY STARTED DEVEL W.L. BEFORE DEVI WELL DEPTH: BEF STANDING WATER	STARTED DEVEL 7/23/98 / 12:40  DATE TIME  W.L. BEFORE DEVEL 11.27 / 7/23/98/ 12:40  DEPTH DATE TIME  WELL DEPTH: BEFORE DEVEL 26.72 PT 8  STANDING WATER COLUMN (FT.) 15.5  SCREEN LENGTH 10 FT				INSTALL TED DEVEL EVEL	7/2/198 -7/23/ 14.5 DEPTH 26.72	SHEET 98 / DATE /7/23/98 DATE WELL C	TIME / 13:32 TIME
DATE/TIME	VOLUME REMOVED (GALS)	FIELD SPEC. COND. (umhos/cm)	PARAM TEMP. (C )	ρH	OTHER		REMA	RKS
7/23/98 12:55		2900	14.7	5.9			Very	tureid
7/23/98 12:55	2.5	2700	14.3	6.3				, <u> </u>
	5	2900	14.0	6.4				
	7,5	2900	13.7	6.4				
		3100	13.9	6.4				
7/23/98 13:30	10.5	3100	13.7	6.4	-			
1123(18 73.50	/4.5	3100						
		ļ	<del> </del>		ļ			<del></del>
	12.5	= TOTAL V	/OLUME I	REMOVED	(gal.)			
DEVELOPMENT M	ETHOD:	Stein	e3S	steel	Egiler	<u>, n</u>	ylon	rope.
NOTES: Petr	aliferous	odor. B	rown -	- grey	turbide	ſ <sub>γ</sub> .		



JOB NAME  DEVELOPED BY  STARTED DEVEL  T 23/98  DATE  TIME  W.L. BEFORE DEVEL  DEPTH  DATE  WELL DEPTH: BEFORE DEVEL  STANDING WATER COLUMN (FT.)  SCREEN LENGTH  DEVEL / REF / NY  10:30  DEPTH  DATE  TIME  WELL DEPTH: BEFORE DEVEL  24.80  FT BTOR  SCREEN LENGTH  10  FT.					DATE OF INSTALL 7/20/98 SHEET 1 OF COMPLETED DEVEL 7/23/98 / 11:33  DATE TIME  AFTER DEVEL 8:00 /7/23/98 / 11:33  DEPTH DATE TIME  AFTER DEVEL 24.80 WELL DIA. (In) 2-  STANDING WELL VOLUME 2.7  DRILLING WATER LOSS N/A				
DATE/TIME	VOLUME REMOVED	FIELD SPEC. COND. (umhos/cm)		pН	OTHER		REMA	ARKS	
	(GALS)	us			1	<u> </u>	41	+	1
7/23/98 10:40		6100	14.6	5.9			Very	ture	<u> </u>
	2.7	5800	14.3	59_		ļ		<del> </del>	
	5,4	5900	14.2	6.0	<del>                                     </del>			<del> </del>	——
	8.1	5800	14.1	6.0				<u></u>	
	10.8	5800	13.5	6.0	<del> </del>	ļ	+		
7/23/98 11:33	13.5	6000	3.4	5.9	<del> </del>		Ψ		
DEVELOPMENT M	⅓.≤ ETHOD:	= TOTAL V Stainless				ylon	rope		
NOTES: Pet	roli Peroos Id not de	odor epress water	· - t	ble.					



JOB NAME DEVELOPED BY STARTED DEVEL W.L. BEFORE DEVE WELL DEPTH: BEF STANDING WATER SCREEN LENGTH	D. L. 7/23/98 / DATE T EL 5./0 / DEPTH DATE ORE DEVEL. COLUMN (FT.)	14:30 THE 1/23/98/ 14:30 ATE TIME 15.69 FT B	JOR.	DATE OF COMPLE AFTER D AFTER D STANDIN	INSTALL. TED DEVEL EVEL  EVEL /	7/21/98 5 7/23 13.20 / DEPTH 0	SHEET  198 / 1  DATE  7 20 98/ DATE TIM  WELL DIA	TIME 15136 ME
	VOLUME		PARAME					40
DATE/TIME	REMOVED (GALS)	SPEC. COND.		pH (s.u.)	OTHER		REMARI	
7/23/98 14:40	0	1900	18.5	9.7		Mo	derate	turkidity
(123175 17.10	i.i.	2100	16.4					<u> </u>
	3.4	2200	15.3	8.2		<u> </u>		<del> </del>
	5.1	2100	15.4	8.2		ļ		<del> </del>
	6.8	2100	15.4	8.4	<u></u>	<del> </del>		
7 23 98 15:30	8.5	2000	15.8	8.4			<del></del>	<u> </u>
	<u></u>				1	<u> </u>		
DEVELOPMENT M	をら IETHOD:	= TOTAL V		_		lon s	<del>-</del> ъре.	
				{	c 1.4			
NOTES: Bro	wir turb	idity. Wel	1 <i>C</i> an	, ec	Palled	<i>ج</i> رد ۷ ،		

# APPENDIX D HYDRAULIC TESTING RESULTS

November 1998 963-9117

#### 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 CLO HR	OCK 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	HEAD
	TIME	RATIO
POINT 1	0.020	0.555
POINT 2	0.500	0.040

0.50 0.45 ₫ 0.40 0.35 0.30 ELAPSED TIME (MIN) RISING HEAD TEST WELL RFI-44 0.15 4 0.10 0.05 0.00 0.000.0 -1.6000 -1.4000 -1.0000 -1.2000 -0.4000 -0.2000 -0.8000 -0.6000 LOG HEAD RATIO

#### RISING HEAD TEST

WELL

RFI-45

DATE OF TEST:

7/24/98

STATIC WATER DEPTH =

8.70 FEET BELOW TOC

STANDPIPE DIAMETER = SANDPACK DIAMETER =

2.00 INCHES 8.00 INCHES

TOP OF SATURATED SAND =
BOTTOM OF SANDPACK =

16.80 FEET BELOW TOC

33.70 FEET BELOW TOC

			ELAPSED	DEPTH TO		HEAD	LOG
24 HOUR CLO	CK		TIME	WATER	HEAD	RATIO	HEAD
HR	MIN	SEC	(MIN)	(FT TOC)	(FEET)	(H/Ho)	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

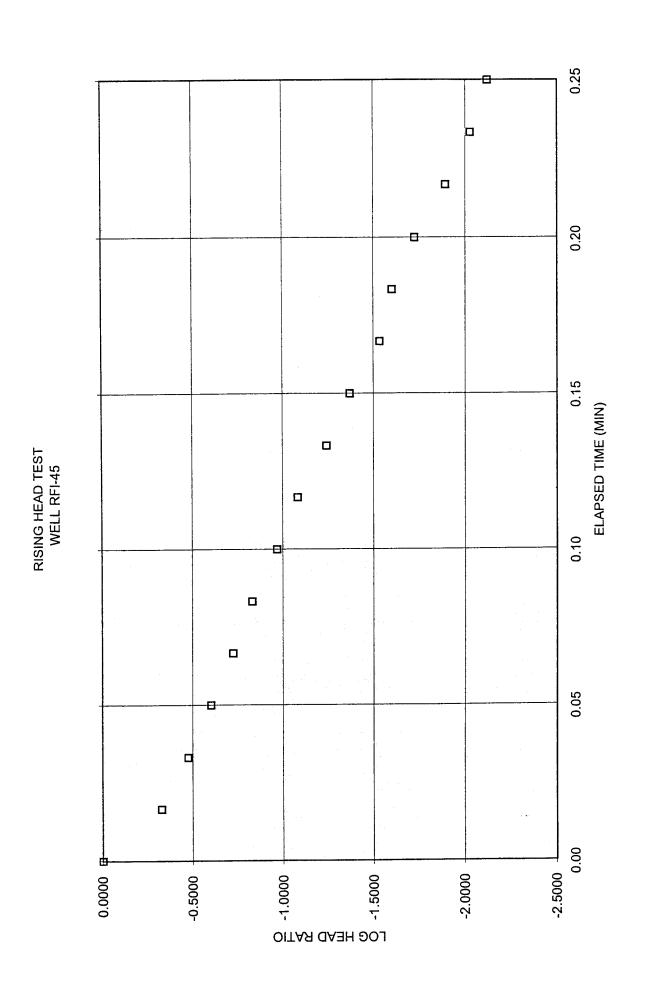
NOTES:

K= 7.27E-03

CM/SEC

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

<sup>1) \*</sup> INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY



963-9117 November 1998

#### **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 C	I OCK	•		ELAPSED TIME	DEPTH TO WATER	HEAD	HEAD RATIO	LOG HEAD
HR		MIN	SEC	(MIN)	(FT TOC)	(FEET)	(H/Ho)	RATIO
пк		IMILIA	SEC	(MIIIA)	(F1 10C)	(FEEI)	(1/110)	KATIO
	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	HEAD	
	TIME	RATIO	
POINT 1	0.050	0.393	
POINT 2	2.670	0.069	

2.5 2 ELAPSED TIME (MIN) FALLING HEAD TEST WELL RFI-46 0.5 -0.4000 | CB 0.000.0 -0.2000 -0.8000 -1.0000 -1.2000 -0.6000 LOG HEAD RATIO

November 1998 963-9117

#### RISING HEAD TEST

WELL

RFI-47

DATE OF TEST:

7/24/98

STATIC WATER DEPTH =

8.53 FEET BELOW TOC

STANDPIPE DIAMETER = SANDPACK DIAMETER =

2.00 INCHES 8.00 INCHES

TOP OF SATURATED SAND = 12.30 FEET BELOW TOC

BOTTOM OF SANDPACK =

29.50 FEET BELOW TOC

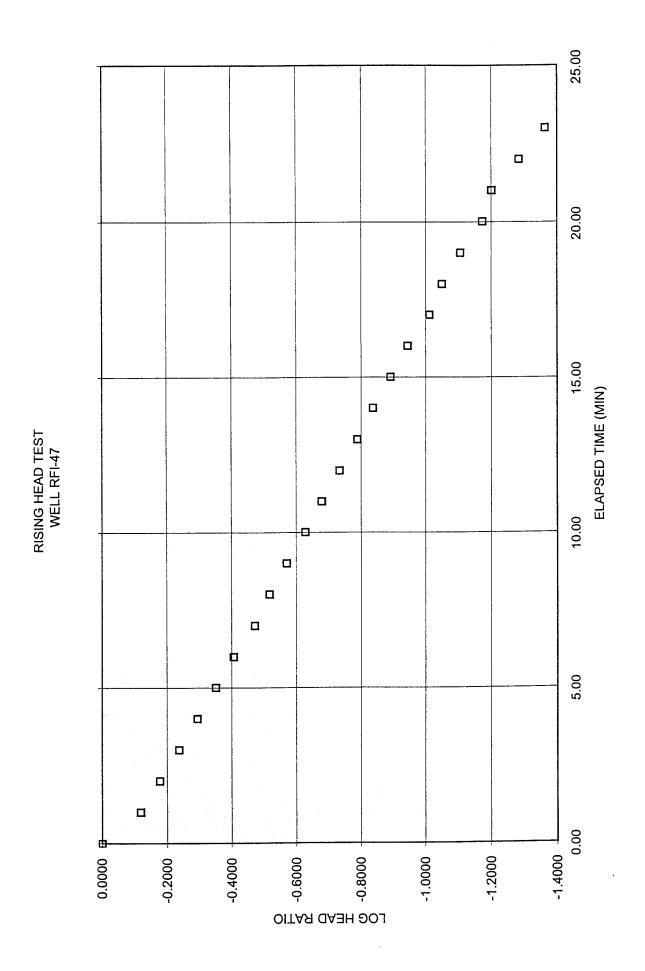
24 HOUR CLO			ELAPSED TIME	DEPTH TO WATER	HEAD	HEAD RATIO	LOG HEAD
HR	MIN	SEC	(MIN)	(FT TOC)	(FEET)	(H/Ho)	RATIO
400	4.5	47.070	2.22	7.000	4.00	1.000	2 2222
403	45	17.378	0.00	7.308	1.22	1.000	0.0000
403	46	17.667	1.00	7.597	0.93	0.764 *	-0.1172
403	47	17.787	2.01	7.717	0.81	0.665	-0.1770
403	48	17.892	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
404	O	10.547	20.02	0.411	0.00	0.070	-1.5020

NOTES:

<sup>1) \*</sup> INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

K= 5.28E-05 CM/SEC

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



November 1998 963-9117

#### 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 = TOP OF SATURATED SAND =

8.00 INCHES 10.40 FEET BELOW TOC

BOTTOM OF SANDPACK =

27.50 FEET BELOW TOC

			ELAPSED	DEPTH TO		HEAD	LOG
24 HOUR CL	OCK		TIME	WATER	HEAD	RATIO	HEAD
HR	MIN	SEC	(MIN)	(FT TOC)	(FEET)	(H/Ho)	RATIO
1	5 434	21	0.00	8.157	0.63	1.000	0.0000
	5 434	22	0.00	8.526	0.03	0.417	
	5 434	23	0.02	8.668	0.20	0.193	-0.7150
	5 434					0.193	-0.8929
		24	0.05	8.709	0.08		
	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:

K= 1.35E-02 CM/SEC

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

<sup>1) \*</sup> INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

0.20 0.18 0.16 0.14 0.12 ELAPSED TIME (MIN) RISING HEAD TEST WELL RFI-48 0.10 0.08 90.0 0.04 0.02 0.00 0.000.0 -2.0000 LOG HEAD RATIO -1.4000 -1.6000 -1.8000 -0.2000 -0.4000 -0.6000

November 1998 973-9117

### 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 8.00 INCHES

SANDPACK DIAMETER = TOP OF SATURATED SAND =

16.00 FEET BELOW TOC

BOTTOM OF SANDPACK =

28.50 FEET BELOW TOC

24 HOUR CLOC			ELAPSED TIME	DEPTH TO WATER	HEAD	HEAD RATIO	LOG HEAD
HR	MIN	SEC	(MIN)	(FT TOC)	(FEET)	(H/Ho)	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	<b>*</b> -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:

K= 1.31E-04

CM/SEC

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

<sup>1) \*</sup> INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY

8.00 7.00 6.00 5.00 ELAPSED TIME (MIN) RISING HEAD TEST WELL RFI-49 4.00 3.00 2.00 1.00 þ 0.00 0.000.0 -0.9000 -0.7000 -0.8000 -0.1000 -0.2000 -0.3000 -0.4000 -0.5000 -0.6000 LOG HEAD RATIO

November 1998 963-9117

### 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 = TOP OF SATURATED SAND =

8.00 INCHES
13.10 FEET BELOW TOC

BOTTOM OF SANDPACK =

25.10 FEET BELOW TOC

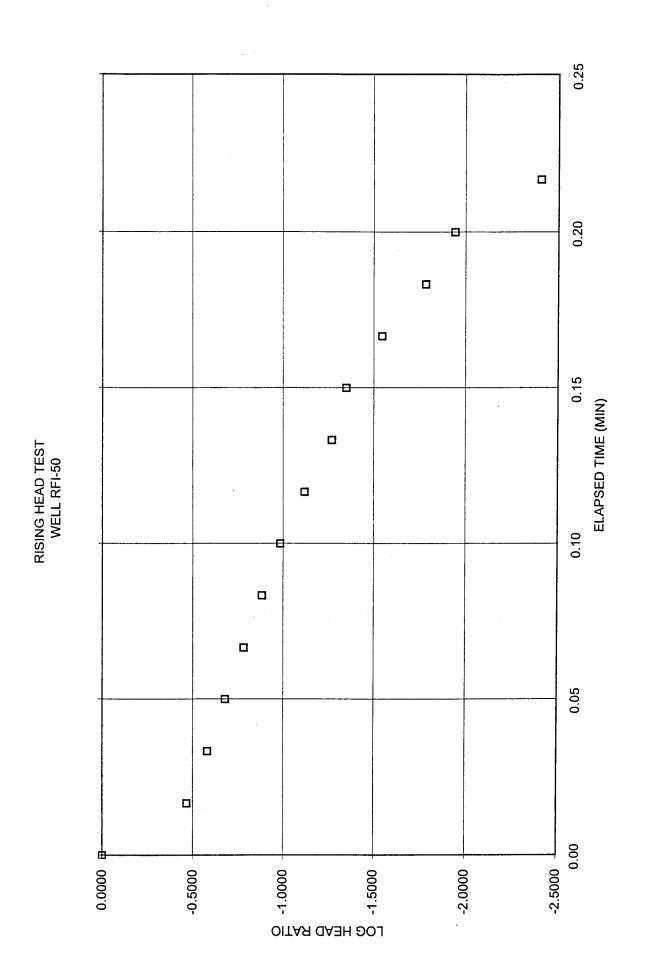
				ELAPSED	DEPTH TO		HEAD	LOG
24 HOUR	CLOC	K		TIME	WATER	HEAD	RATIO	HEAD
HR		MIN	SEC	(MIN)	(FT TOC)	(FEET)	(H/Ho)	RATIO
	5	451	23	0.00	4.427	3.57	1.000	0.0000
	5	451	24	0.02	6.778	1.22	0.342 *	-0.4660
	5	451	25	0.03	7.063	0.94	0.262	-0.5813
	5	451	26	0.05	7.253	0.75	0.209	-0.6797
	5	451	27	0.07	7.408	0.59	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:

K= 8.22E-03 CM/SEC

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

<sup>1) \*</sup> INDICATES THE BEST FIT LINE PASSES THROUGH THESE POINTS WHICH ARE USED TO CALCULATE HYDRAULIC CONDUCTIVITY



November 1998 963-9117

### 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 8.00 INCHES

SANDPACK DIAMETER = TOP OF SATURATED SAND =

8.41 FEET BELOW TOC

BOTTOM OF SANDPACK = 16.41 FEET BELOW TOC

24 HOUR CLOCK         TIME         WATER (FT TOC)         HEAD (FEET)         RATIO         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 <t< th=""></t<>
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       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       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       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       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       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     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       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     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 50 0 24.00 8.30 -3.38 0.428 -0.3687
9 55 0 20.00 7.79 2.96 0.202 0.4442
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	HEAD
	TIME	RATIO
POINT 1	1.000	0.932
POINT 2	39.000	0.273

00.09 50.00 40.00 ELAPSED TIME (MIN)  $\Box$ 30.00 20.00 П P 10.00 0000 0.00 0.0000.0 -0.8000 -0.7000 -0.6000 -0.4000 -0.2000 -0.3000 -0.5000 -0.1000 LOG HEAD RATIO

RISING HEAD TEST WELL RFI-51

# APPENDIX E FIELD INVESTIGATION AIR MONITORING LOGS

### Air Monitoring During Drilling

Sheet		of	
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	,	/ /		
PROJECT NAME	BCC-/	RET NY	BORING NUMBER	RFI - 44
PROJECT NUMBER	963	- 9117	AMBIENT TEMPERATURE	₹5°F
INSTRUMENT USED AND ID NO. Win : RIF PGM - 75		WIND SPEED	5-15 mpl	
CALIBRATION NUMBER N/A		WIND DIRECTION		
		· · · · · · · · · · · · · · · · · · ·		
DATE	TIME	DEPTH OF AUGER (FT)	INSTR	UMENT READING (PPM)
7/20/98	12:05	۷		0.0
	12:30	10		G (C
	13: 10	16		C. C
	13:20	22		c.0
	13:35	26		C. G
		·		
			-	
		·		
			<u> </u>	
				· · · · · · · · · · · · · · · · · · ·

Air Monitoring During Drilling

	t	1
Sheet	l of	1

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		N/A	WIND DIRECTION	E	
		,			
DATE	TIME	DEPTH OF AUGER (FT)	INSTR	UMENT READING (Ppm)	
7/16/98	15:00	4	;	<b>O.</b> O	
	15:10	6	•	C .C	
	15:40	16		0,0	
	16:05	20		0,0	
	16:30	26		0.0	
7/17/198					

Air Monitoring During Drilling

Sheet _	1	of	1	
Sneet _		01		_

PROJECT NAME	3cc/Ri	FI/NY	BORING NUMBER	RFI 46
PROJECT NUMBER	963-9	7117	AMBIENT TEMPERATURE	80°F
INSTRUMENT USED AN	ID 10 NO.	MiniRAE PGM-75	WIND SPEED	5-10 mph
CALIBRATION NUMBER	1		WIND DIRECTION	E
	T			
DATE	TIME	DEPTH OF AUGER	INSTE	RUMENT READING
7/13/98	12:30	ð '	0.0	ppm
	13:00	Ь	0.0	ppm
	13:55	12'	0.0	ppm
	14:15	18/	0.0	Ppn
	14:45	24'	0.0	Mr
	15:10	28 ′	0.0	ppn
	15:50	34	0.0	- ppm
				(1
			•	
	+			· · · · · · · · · · · · · · · · · · ·

### Air Monitoring During Drilling

Sheet \_\_\_\_\_ of \_\_\_\_\_/

PROJECT NAME	B	CC / RFI / NY	BORING NUMBER	RFI - 47
PROJECT NUMBER	96	3-9117	AMBIENT TEMPERATURE	85°F
INSTRUMENT USED A	ND 10 NO.	MiniRAE PGM-75	WIND SPEED	NE
CALIBRATION NUMBE	IR	N/A	WIND DIRECTION	5-10 mph
		,		
DATE	TIME	DEPTH OF AUGER ( Fr)	INSTAL	JMENT READING (PPIM)
7/15/98	8:15	4	O.O p	cu
	10:10	10	0.0	
	10:40	14	0.0	
	10:50	16	0.0	
	11:20	26	0.0	
	<del> </del>			
			,	

### Air Monitoring During Drilling

Sheet \_\_\_\_\_/ of \_\_\_\_/

PROJECT NAME	30	c/BFI/NY	BORING NUMBER	RFI-48 80°F
PROJECT NUMBER		963-9117	_	
INSTRUMENT USED AN	. סא סו סו	MiniRAE PGM-75	WIND SPEED	5-10 mph
CALIBRATION NUMBER	·	N/A	WIND DIRECTION	E
DATE	TIME	DEPTH OF AUGER (FT)	INSTRUI	MENT READING (PPM)
7/16/98	8:50	2	6.0	
	9:00	6	0.0	
	9:15	12	0.0	
	9:30	16	0,0	
	10:00	<i>ე</i> ე_	0.0	
	10:20	28	0.0	
			!	
	<u> </u>			
	+			

Air Monitoring During Drilling

Sheet \_\_\_\_(\_\_\_ of \_\_\_\_\_

PROJECT NAME PROJECT NUMBER INSTRUMENT USED A	9 ND ID NO.	CC / RFI / NY 163.9117 Mini RAE PGM-75 N/4	BORING NUMBER  AMBIENT TEMPERATURE  WIND SPEED  WIND DIRECTION	RFI - 4 85°F 0 - 5 E	ł 9
DATE	TIME	DEPTH OF AUGER (FT)	INSTRU	IMENT READING	(PPM)
7/21/98	10:05	2		0.0	
	p'20	8		0.0	
	10.45	20		0.0	
				, <u>.</u>	
-					
	-				
			··· - ··· - ·· - · · · · · · · · · · ·		
	_				
				·	

Air Monitoring During Drilling

Sheet \_\_\_\_\_ of \_\_\_\_/

PROJECT NAME	BCC/	eft/NY	BORING NUMBER	RFI-50	
PROJECT NUMBER		9117	AMBIENT TEMPERATURE	850F	
INSTRUMENT USED		Vini RAE DGW-75	WIND SPEED	NE	
CALIBRATION NUMB		N/A	WIND DIRECTION	2-10	
CALIBRATION					
DATE	TIME	DEPTH OF AUGER (FT)	INSTR	UMENT READING (	PPW1)
7/17/98	15:05	2		G. O	
	15:10	6		خ.ن	
	15:20	10		0.0	
	13:30	10		0.0	
	15155	20		0.0	
	b: 20	Z8		0,0	
				,	
ì	1	1	t		

### Air Monitoring During Drilling

Sheet \_\_\_\_\_\_ of \_\_\_\_\_

PROJECT NAME PROJECT NUMBER INSTRUMENT USED AN	9', '	: /RFI /NY 3 - 9117 Whini RAE PGM-75 N/A	BORING NUMBER  AMBIENT TEMPERATURE  WIND SPEED  WIND DIRECTION	RFI - 51 85°F 5-15 mph F
DATE	TIME	DEPTH OF AUGER (FT)	INSTR	UMENT READING (PPM)
7/21/98	15:50	Э.		0.0
7121110	16:00	8		0.0
	16:10	14		0.0
	<u> </u>			
			<u> </u>	
	<del>                                     </del>			

# APPENDIX F SAMPLE COLLECTION INFORMATION FORMS

# APPENDIX F-1 SAMPLE COLLECTION INFORMATION FORMS

Round 1

Groundwater



GAI PROJECT NAME BCC 1	RFI DY	GAI PROJECT NO.	765-21	<u> </u>			
SAMPLEID. RFI-PZ-	- 18	SOURCE CODES: RIVER (	OR STREAM, WEL	L)SOIL, OTHER (C	CIRCLE ONE)		
	PURGING IN	IFORMATION (IF APPLI	CABLE)		1628		
PURGE DATE (yy/mm/dd)  CASING VOL.(Gai.)  PURGING DEVICE (SEE BELOW)	08,05,98 1.0 E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE MATER	16.19 3.0 ADVE	ELAPSED HRS. FRATSA DEDICATED BON	1628		
	SAMPLE COLLECTION INFORMATION						
SAMPLING DEVICE (SEE BELOW	105,28 E HOPE	TIME (24 HR CLOCK) DEDICATED (AN) SAMPLE TYPE - GRABIO	<u>(629</u> OMPOSITE (CIRC	FILTERED (YA)	<u>Roder</u>		
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERIS			N D1 E1		(		
	WELL INF	ORMATION (IF APPLICA	ABLE)				
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)	TOR _N/4 _10 11BTOR _N/4	LAND ELEVATION (FT./MS WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (INCHES		5 6gs			
	FIELD MEASI	URMENTS (FOUR REPL	ICATES)	! Ho Sampl	ing		
SPEC. COND.(UMHOS/CM) TEMPERATURE (C) OTHER (SPECIFY)	-6.8 1610 20.3 clear/sit	6-9 1630 20.3 grey/turbed 6 trace steam	7.2 1640 20.6 Tool turbed	Jusuffic Volum grey/st	me 7		
	COM	MENTS/CALCULATIONS	5				
WEATHER CONDITIONS	75-80° OU	ercast			·		
SAMPLE APPEARANCE	Sight odor	, grey SLF.	turbuly				
2" DIA. CASING CONTAINS .163 Gai 4" DIA. CASING CONTAINS .652 Gai	./Ft. /	NSufficient Analyses	Vdlume	for T-Su	de ide		
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE	COLOR, BOTTLE MATERIAL, PRE	SERVATIVES AND ANALYTICAL METH	ODS ON LABORATORY C	CUSTODY FORMS.	<u> </u>		
SAMPLER SIGNATURE	Chufold	<u>~</u>		DATE 8/8/90	9		



GAI PROJECT NAME	CCIRFT NY	GAI PROJECT NO.	963-911	7	
SAMPLE ID	RFI-44	SOURCE CODES: RIVER OF	R STREAM, WELL, S	SOIL, OTHER (CI	RCLE ONE)
009	PURGING IN	NFORMATION (IF APPLIC	ABLE)	t	<del>د: ۶۴</del>
PURGE DATE (yy/mm/dd) CASING VOL.(Gal.) PURGING DEVICE (SEE BE	08106,98 -4.2 Lown E	TIME (24 HR CLOCK) GAL PURGED (Gal.) PURGING DEVICE MATERIA	<u> </u>	<del>APSED</del> HRS. FANSA EDICATED∕ØN)	1254_
The state of the s		COLLECTION INFORMAT	ION		
SAMPLING DATE (yy/mm/do SAMPLING DEVICE (SEE BI SAMPLING DEVICE MATER	ELOW <u>E</u> IAL <u>HDPE</u>	TIME (24 HR CLOCK) DEDICATED-(F/N) SAMPLE TYPE - ERABICO	FII	LTERED (Y/N)	bder_
(A) AIR-LIFT PUMP (B) SLADOER PUM	P (C) PERISTALTIC PUMP (D) SCOOP/SHOVE	EL (E) BAILER (F) OTHER (SPECIFY)			** *
	WELL INF	ORMATION (IF APPLICA	BLE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. P GW. ELEV.(FT. MSL.)	TOR M/A T.) 9.9IBTOR N/A	LAND ELEVATION (FT./MSL WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (INCHES)	)	<i>&amp;</i> 5	
pH (STD)  SPEC. COND.(UMHC)  TEMPERATURE (C)  OTHER (SPECIFY)	15T Ve 11 Vol 3.2 6.80 13.0 5.7. Tors. 1 Brown	URMENTS (FOUR REPLIC 2nd well (b) 3' 2,4 13.70 12.7 Tyrb 1 Tyrb 1 Tyrb 1 Tyrb 1	(3.0 (3.0)	13.70 14.0 Turbof	low
WEATHER CONDITIONS	75-80°F	duercast	<u> </u>		
SAMPLE APPEARANCE	Slight t	octurbed, bo	WN		
2" DIA. CASING CONTAINS 4" DIA. CASING CONTAINS	6.652 Gal./Ft.			1	
	Field Duplicate (	Edlected			
PLEASE INCLUDE SAMPLE BOTTLE S	SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRI	ESERVATIVES AND ANALYTICAL METHOD	OS ON LABORATORY CUST	ODY FORMS	
	Bi Coloral Os	le	n. DA	TE 8/6/98	9
SAMPLER SIGNATURE	500		. )		



Golder Associates			
<b>E</b> Associates	SAMPLE COLLE	CTION INFORMA	TION FORM
GAI PROJECT NAME BCC	RFI, NP	GAI PROJECT NO.	963-9117
SAMPLE ID	I-45	SOURCE CODES: RIVER OR	STREAM WELL, SOIL, OTHER (CIRCLE ONE)
QC †	PURGING IN	NFORMATION (IF APPLICA	ABLE)
PURGE DATE (yy/mm/dd) CASING VOL.(Gal.) PURGING DEVICE (SEE BELOW)	08,06,98 3.8 E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE MATERIA	1/:39 ELAPSED HRS. //58 1/:5 Filish L #DIE DEDICATED (AN)
	SAMPLE (	COLLECTION INFORMATI	ON
SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	1 8 0 6 1 9 8 HDPE	TIME (24 HR CLOCK) DEDICATED-(N) SAMPLE TYPE - GRABICON	1/:59 MATRIX Wades FILTERED (YM) MPOSITE (CIRCLE ONE)
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PEI			1.0
	WELL INF	ORMATION (IF APPLICAE	LE)
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)	TOR N/A 9.41BTOR N/A	LAND ELEVATION (FT./MSL) WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (INCHES)	
pH (STD)  SPEC. COND.(UMHOS/CM)  TEMPERATURE (C)  OTHER (SPECIFY)	FIELD MEAS 15Twell Vol _6.9_ _13.6 Slightly tubid	URMENTS (FOUR REPLIC 2 4 6 6 6 3.60 13.1 SCIJULIA 4	13,1 13.4 5.9 3,80 13,1 13.4 51.54
	СОМ	MENTS/CALCULATIONS	7000
WEATHER CONDITIONS	75-80°F	dvereast	<u> </u>
SAMPLE APPEARANCE	Slight	y tubirly know	W.
2" DIA. CASING CONTAINS .163 G 4" DIA. CASING CONTAINS .652 G	ial./Ft. ial./Ft.		
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE SI	TLE COLOR, BOTTLE MATERIAL, PRE	SERVATIVES AND ANALYTICAL METHOD	DATE 8/6/98



	CAMINE LE COLL			
GAI PROJECT NAME BCC	RFI NY	GAI PROJECT NO.	963-9	117
SAMPLE ID.	FI-46	SOURCE CODES: RI	VER OR STREAM, WEI	L, SOIL, OTHER (CIRCLE ONE)
001	PURGING	INFORMATION (IF A	PPLICABLE)	<del>731</del>
PURGE DATE (yy/mm/dd) CASING VOL.(Gal.) PURGING DEVICE (SEE BELOW)	08,05,98 -3.5 E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE M	10.5	ELAPSED HRS. 7338 Finish DEDICATED (ON)
	SAMPLE	ECOLLECTION INFO	RMATION	
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	HDPE		AB/COMPOSITE (CIRC	MATRIX <u>Vater</u> FILTERED (Y/O) LE ONE)
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) P	ERISTALTIC PUMP (D) SCOOPISHO	VEL (E) BAILER (F) OTHER (SPEC	CIFY)	
	WELL IN	IFORMATION (IF APF	PLICABLE) .	
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)		LAND ELEVATION (F WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (IN	ZL.3 2.4	
	FIELD MEA 157 Well Vol	SURMENTS (FOUR F 2 mg/well vol	REPLIGATES) Vol	stsupling,
pH (STD)  SPEC. COND. (UMHOS/CN	<u>5.5</u> 8.00	<u>5,6</u> <u>8.60</u>	<u>5,9</u> 7,40	7.40
TEMPERATURE (C)	13.1 SLT Torbid	BRN,SCT	13-3 BRNSET.	13.7 Ben yallow Set took of
OTHER (SPECIFY)		-TureBiD		
		MMENTS/CALCULAT	IONS	
WEATHER CONDITIONS	Overcust	75-80°F		7. / . /
SAMPLE APPEARANCE	- Strong B	went yeller	, stightly	V/5/7/,
2" DIA. CASING CONTAINS .163	Gal /Ft.			
4" DIA. CASING CONTAINS .652				
	SIMST) Coll	eiled		
	9/			
		DESERVATIVES AND ANALYTICAL	METHODS ON LABORATORY O	SUSTODY FORMS.
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BO	TTLE COLOR, BOTTLE MATERIAL, P	6		
SAMPLER SIGNATURE B.	Serefeld	en Sound &	nitall	DATE 8/5/98
▼	/ /	$\nu$		



GAI PROJECT NAME BCC	RFI , NY	GAI PROJECT NO.	963-90	117	
SAMPLE ID. RF1	r-47	SOURCE CODES: RI	VER OR STREAM, WEI	SOIL, OTHER (	CIRCLE ONE)
908	PURGING I	NFORMATION (IF A	PPLICABLE)		12:19
PURGE DATE (yy/mm/dd)  CASING VOL.(Gal.)  PURGING DEVICE (SEE BELOW)	<u>3.06</u> E	TIME (24 HR CLOCK GAL. PURGED (Gal.) PURGING DEVICE M	-355	ELAPSED HRS.  DEDICATED ON	1)
	SAMPLE	COLLECTION INFO	RMATION		
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW _ SAMPLING DEVICE MATERIAL	08105198 E HDPE	TIME (24 HR CLOCK DEDICATED (YN) SAMPLE TYPE - GF	12:23 RABICOMPOSITE (CIRC	MATRIX FILTERED (Y 🐠 CLE ONE)	Weder
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERIS	STALTIC PUMP (D) SCOOP/SHOV	EL (E) BAILER (F) OTHER (SPE	CIFY)		
	WELL IN	FORMATION (IF API	PLICABLE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)	TOR N/A 	LAND ELEVATION (F WELL DEPTH (FT.) ORSTICKUP (FT.) WELL DIAMETER (IN	<u>28</u> .5		
	FIELD MEAS	SURMENTS (FOUR 1	REPLICATES)	At Soupli	N6
pH (STD)  SPEC. COND. (UMHOS/CM)  TEMPERATURE (C)  OTHER (SPECIFY)	4.8 2.70 13.2 Sit. Turb.d	-4.5 -2.90 -13.4 SCT. Turb.d	4,5 2,90 13,0 BLN. Turbid	2.90 14.7 BW. SUT	2
	COM	MENTS/CALCULAT	TIONS		
WEATHER CONDITIONS	75-80°F, OU	ercest			
SAMPLE APPEARANCE	Scigat to	rbid, brown	<u> </u>		
2" DIA. CASING CONTAINS .163 Ga 4" DIA. CASING CONTAINS .652 Ga	I./Ft. I./Ft.				
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTL	E COLOR, BOTTLE MATERIAL, PR	RESERVATIVES AND ANALYTICA	L METHODS ON LABORATORY	CUSTODY FORMS.	
SAMPLER SIGNATURE	B.C. Surfel	In Sand	1- Witall	DATE 8/5/	98



	J, ((())			
GAI PROJECT NAME BCC	RFIJNY	GAI PROJECT NO.	963-9117	
SAMPLE ID.	<sup>2</sup> I - 48	SOURCE CODES: RIVER OF	R STREAM, WELL, SOIL, OTH	ER (CIRCLE ONE)
062	PURGING IN	IFORMATION (IF APPLIC	ABLE)	14:36
PURGE DATE (yy/mm/dd)  CASING VOL (Gal.) PURGING DEVICE (SEE BELOW)	08,05,98 2.8_	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE MATERIA	14:10 ELAPSED H 8:4 Final AL 40PE DEDICATED	^
	SAMPLE	COLLECTION INFORMAT	ION	
SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	08,05,98 E HDPE	TIME (24 HR CLOCK) DEDICATED-(7N) SAMPLE TYPE - GRAB/CO	MATRIX FILTERED (* MPOSITE (CIRCLE ONE)	Water (10)
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PER	IISTALTIC PUMP (D) SCOOP/SHOVE	L (E) BAILER (F) OTHER (SPECIFY)		
	WELL INF	ORMATION (IF APPLICAE	BLE)	
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)	TOR 	LAND ELEVATION (FT./MSL WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (INCHES)	)NA 27.0_865 0.50 2.00	
	IST WELL USL.	URMENTS (FOUR REPLIC	CATES) Well Vol. At Surp	oling
pH (STD) SPEC. COND. (UMHOS/CM)	<u>6.L</u> 3.50	3.50	6.5 3.20 3.10	6 10
TEMPERATURE (C)	15,0 Torb.d, BAN	14.1 Tarbid, BAN- 7	151 (Sen Tores	· Slach
OTHER (SPECIFY)	Black	196000	79.70	
	COM	MENTS/CALCULATIONS		
WEATHER CONDITIONS	75-80°F Overc		101	
SAMPLE APPEARANCE	Strept odor	Todaid B	now / Black	
2" DIA. CASING CONTAINS .163 G 4" DIA. CASING CONTAINS .652 G				
<del>+ bix. 6.16.1.6 56.1.</del>				
		THE TO AND AND VICAL METHOD	OS ON LABORATORY CUSTODY FORMS.	
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTT	LE COLOR, BOTTLE MATERIAL, PRE	SERVATIVES AND ANALYTHAN METHOD		/ ./ -
SAMPLER SIGNATURE	Colinfelder	Hand Mildrell	DATE 8/	5/98



GAI PROJECT NAME BCC, AFI, NY	GAI PROJECT NO.	963-9117
SAMPLE ID. <u>RFI-49</u>	SOURCE CODES: RIVER OR	STREAM WELL SOIL, OTHER (CIRCLE ONE)
	NFORMATION (IF APPLICA	ABLE)
PURGE DATE (yy/mm/dd)  CASING VOL.(Gal.)  PURGING DEVICE (SEE BELOW)	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE MATERIA	15:00 ELAPSED HRS. 15:14 7.5 FINISH L #DPE DEDICATED (IN)
SAMPLE	COLLECTION INFORMATI	ON
SAMPLING DATE (yy/mm/dd)  SAMPLING DEVICE (SEE BELOW E SAMPLING DEVICE MATERIAL #DPE	TIME (24 HR CLOCK)  DEDICATED-CIN)  SAMPLE TYPE - GRABICON	MATRIX  FILTERED (YM)  MPOSITE (CIRCLE ONE)
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVE	EL (E) BAILER (F) OTHER (SPECIFY)	
WELL INF	FORMATION (IF APPLICAB	LE)
REFERENCE POINT  REF. PT. ELEV.(FT. MSL.)  DEPTH TO WATER (REF. PT.)  GW. ELEV.(FT. MSL.)  TOR	LAND ELEVATION (FT./MSL) WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (INCHES)	NA
FIELD MEAS	SURMENTS (FOUR REPLIC	well Vol AT-Sampling
ph (STD)  SPEC. COND. (UMHOS/CM)  TEMPERATURE (C)  OTHER (SPECIFY)  G.6  3,10  13,4  SLT. Black  OYEY  TO TO TO TO TO TO TO TO TO TO TO TO TO T	-6,7 -3,60 -13.0 -13.0 	6.8 6.9 6.8 3,30 13.1 14.7 ey/Black Turbid
	IMENTS/CALCULATIONS	
WEATHER CONDITIONS  T5-80 F OVE	excest	
2" DIA. CASING CONTAINS .163 Gal./Ft. 4" DIA. CASING CONTAINS .652 Gal./Ft.		
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRE	ESERVATIVES AND ANALYTICAL METHOD:	S ON LABORATORY CUSTODY FORMS.
SAMPLER SIGNATURE & Cufelle	Many Mites	DATE 8/6/98



_					
GAI PROJECT NAME BEC J	RFI , NY	GAI PROJECT NO.	9639	117	
SAMPLE ID. R	FI-50	SOURCE CODES: AIV	VER OR STREAM, WE	), SOIL, OTHER (	CIRCLE ONE)
<i>50</i> 1	PURGING I	NFORMATION (IF AF	PPLICABLE)		45.55
PURGE DATE (yy/mm/dd)  CASING VOL.(Gal.)  PURGING DEVICE (SEE BELOW)	08,05,98 2.6 E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE MA	15:39 7.8_ ATERIAL _#DPE	ELAPSED HRS.  DEDICATED ØV	/555 1)
	SAMPLE	COLLECTION INFO	RMATION		
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW _ SAMPLING DEVICE MATERIAL _	08,05,98 E HDDE	TIME (24 HR CLOCK) DEDICATED (N) SAMPLE TYPE - GR	15:56 ABICOMPOSITE (CIRC	MATRIX FILTERED (YKY) CLE ONE)	water
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERI	STALTIC PUMP (D) SCOOP/SHOV	EL (E) BAILER (F) OTHER (SPEC	iFY)		
	WELL IN	FORMATION (IF APP	LICABLE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)		LAND ELEVATION (F WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (INC	2 <u>5</u> 0.	70865 9_ 20	
pH (STD)  SPEC. COND. (UMI HOS/CM)  TEMPERATURE (C)  OTHER (SPECIFY)	157 Well Vol _6.6 _6.90 _13.3 ET.BLN SET TURBID	SURMENTS (FOUR F 2 <sup>nd</sup> Well Vol 6,8 7,00 12,3 Grey Torbid	REPLICATES)  3" Well Vol  - Go. T.  7:30  12.1  Grey Turbon	At Sarple -6.7 7,30 13.5 Grey/Bi	B B B B B B B B B B B B B B B B B B B
	CON	MENTS/CALCULAT	IONS		
WEATHER CONDITIONS	75-80°F over				
SAMPLE APPEARANCE	Slighty Tur	Gray 130	DWN		
2" DIA. CASING CONTAINS .163 Ga 4" DIA. CASING CONTAINS .652 Ga	al./Ft. al./Ft.				
				TIMODY COSUS	
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTL	E COLOR, BOTTLE MATERIAL, PR	RESERVATIVES AND ANALYTICAL	METHODS ON LABORATORY		,
SAMPLER SIGNATURE	S Colenfeld	le		DATE 8/8/	, 98
	, i				



GAI PROJECT NAME BCC I	RFI, NY	GAI PROJECT NO.	963-9	117
SAMPLEID. RF	I-51	SOURCE CODES: RI	VER OR STREAM, WEI	), SOIL, OTHER (CIRCLE ONE)
₫ <b>ઈ</b> {	PURGING II	NFORMATION (IF A	PPLICABLE)	09:3/
PURGE DATE (yy/mm/dd)  CASING VOL.(Gal.)  PURGING DEVICE (SEE BELOW)	0 8, 0 5, 9 8 1.6 E	TIME (24 HR CLOCK GAL. PURGED (Gal.) PURGING DEVICE M	5.0	ELAPSED HRS. 0.33  DEDICATED (IN)
	SAMPLE	COLLECTION INFO	RMATION	
SAMPLING DATE (yy/mm/dd) ( SAMPLING DEVICE (SEE BELOW _ SAMPLING DEVICE MATERIAL _	) <u>8,05,98</u> E HDPE		RABICOMPOSITE (CIRC	MATRIX WATEL  FILTERED (YM)  CLE ONE)
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PER				
	WELL INF	ORMATION (IF AP	PLICABLE)	
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) 5.6 7 GW. ELEV.(FT. MSL.)	TOR NA- OTOR 5.6 BTOR NA-	LAND ELEVATION (I WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (II		3 BG-S 4_ 00
	FIELD MEAS	SURMENTS (FOUR		11
ph (STD)  SPEC. COND.(UMHOS/CM)  TEMPERATURE (C)  OTHER (SPECIFY)	1st Well Vol. - 8.2 3.50 mS 16.0 sut. turb.d Brown	2nd. Well Vol.  7.5  3.60  14.9  5CT Turbed 1810WN	3rd Wen Vol. 7.2 3,40 15.0 Very Turk of Brown.	At Sampling
	COM	IMENTS/CALCULA	TIONS	
WEATHER CONDITIONS  SAMPLE APPEARANCE  2" DIA. CASING CONTAINS .163 G	Slightly turb.	d, brown		
4" DIA. CASING CONTAINS .652 G	al./Ft.			
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTT	LE COLOR, BOTTLE MATERIAL, PR	ESERVATIVES AND ANALYTIC	L METHOOS ON LABORATORY	CUSTODY FORMS.
SAMPLER SIGNATURE	Chrefeldu	Jang J. V.	Total	DATE 8/8/98



GAI PROJECT NAME BCC	RFI, NY	GAI PROJECT NO.	<u>963-91</u>	117	
SAMPLEID. RF	I-44	SOURCE CODES: RIVER OR	STREAM, WEL	SOIL, OTHER (C	IRCLE ONE)
009	PURGING IN	FORMATION (IF APPLICA	ABLE)	•	10:40
PURGE DATE (yy/mho/dd) CASING VOL.(Gal.) PURGING DEVICE (SEE BELOW)	08,05,98 2,4 E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE MATERIA	10:07 7.27	ELAPSED HRS.  DEDICATED ØN)	0.6
, silano se	SAMPLE (	COLLECTION INFORMAT	ÓN		
SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	08,05,98 ADPE	TIME (24 HR CLOCK) DEDICATED (2N) SAMPLE TYPE - GRAB COM	10:36 APOSITE (CIRC	MATRIX FILTERED (Y 🕠 LE ONE)	Water
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PE	RISTALTIC PUMP (D) SCOOP/SHOVE	L (E) BAILER (F) OTHER (SPECIFY)			
	WELLINF	ORMATION (IF APPLICAB	LE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)		VAND ELEVATION (FT./MSL) WELL DEPTH (FT.) STICKUP (FT.) WELL BLAMETER (INCHES)	36.3 20.3	<u>_</u> '	
	1 St Well Vol.	URMENTS (POUR REPLIC 2nd Well Wi ) 3	CATES)	At Saplu-	<del>7</del> ·
pH (STD)  SPEC. COND.(CMHOS/CM)  TEMPERATURE (C)  OTHER (SPECIFY)	5:20 1/3,7 5t. Ben Turbid.	3.7 7.40 /3.3	3,5 11,2 3,1 2,0 3,8,0	3.7 11.90 14.7 BRN FURBIO	- - -
	сом	MENTS/CALCULATIONS			
WEATHER CONDITIONS	75°-80° Over	rest, Humid.		<u> </u>	
SAMPLE APPEARANCE	Brown, TUR	BO.			· · · · · · · · · · · · · · · · · · ·
2" DIA. CASING CONTAINS .163 C 4" DIA. CASING CONTAINS .652 C R; USA-TO	Sal./Ft.	lected. (RB)			
		- (			
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOT	TLE COLOR, BOTTLE MATERIAL, PRE	SERVATIVES AND ANALYTICAL METHOD	S ON LABORATORY (	CUSTODY FORMS.	
SAMPLER SIGNATURE	Colubel	Der Danf 2	whatel	DATE 8/8/9	<u> 18</u>
		/	1	<i></i>	)



Golder Associates			
SAMPLE COL	LECTION INFORMA	TION FORM	
GAI PROJECT NAME BCC RFI NY	GAI PROJECT NO.	963-9117	
SAMPLE ID. RFI-45	SOURCE CODES: RIVER O	R STREAM, (WELL) SOIL, OTI	HER (CIRCLE ONE)
∞7 PURGIN	IG INFORMATION (IF APPLIC	CABLE)	u:3 <b>6</b>
PURGE DATE (yy/mm/dd)  CASING VOL (Gal.)  PURGING DEVICE (SEE BELOW)	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE MATERI	CIT ELAPSED H	_
SAME	PLE COLLECTION INFORMAT	TION	
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	DEDICATED (MN) SAMPLE TYPE - GRABICO	11:38 MATRIX FILTERED OMPOSITE (CIRCLE ONE)	(YD)
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) CCOOP!	SHOVEL (E) BAILER (F) OTHER (SPECIFY) _ INFORMATION (IF APPLICA	.BLE)	
REFERENCE POINT  REF. PT. ELEV.(FT. MSL)  DEPTH TO WATER (REF. PT.)  GW. ELEV.(FT. MSL.)	LAND ELEVATION (FT./MS WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (INCHES	33.2_bqs	
ph (STD) SPEC. COND. (UMHOS/CM)  TEMPERATURE (C)  OTHER (SPECIFY)  15 Well vol 2.70  14.5  Class	3.70	3,90 _3 13.7 32N _BR	3,90 5,0
WEATHER CONDITIONS 75-80°F	Overcast		
SAMPLE APPEARANCE Brown	Voy wis.d.		
2" DIA. CASING CONTAINS .163 Gal./Ft. 4" DIA. CASING CONTAINS .652 Gal./Ft.			
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATER	AL, PRESERVATIVES AND ANALYTICAL METH	DOS ON LABORATORY CUSTODY FORMS	S
SAMPLER SIGNATURE SCALADO	In/David & Mitch	P DATE 4	198

# APPENDIX F-2

### SAMPLE COLLECTION INFORMATION FORMS

Round 2

Groundwater



	J 0 0				
GAI PROJECT NAME BCC	RFINY	GAI PROJECT NO.	963-9	117	
SAMPLEID. RF	I-PZ-18	SOURCE CODES: R	IVER OR STREAM, WE	L)., SOIL, OTHER (C	IRCLE ONE)
	PURGING I	NFORMATION (IF A	APPLICABLE)		
PURGE DATE (yy/mm/dd) CASING VOL.(Gal.) PURGING DEVICE (SEE BELOW)	08,20,98 0.85 E	TIME (24 HR CLOCK GAL. PURGED (Gal. PURGING DEVICE N	$-\frac{2\cdot5}{}$	ELAPSED HRS.  CAISA  DEDICATED (2/N)	1342
	SAMPLE	COLLECTION INFO	DRMATION		
SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	0 31 20198 E HDPE		RAPICOMPOSITE (CIRC	FILTERED (Y/10)	luster
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PER	STALTIC PUMP (D) SCOOP/SHOVE	EL (E) BAILER (F) OTHER (SPE	ECIFY)		
	WELL IN	FORMATION (IF AP	PLICABLE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)	TOR NA 11.24 BTOR NA NA	LAND ELEVATION (I WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (II		4	· · · · · · · · · · · · · · · · · · ·
	FIELD MEAS	SURMENTS (FOUR 2nd Well vol.		i. At Sample	. کمو
au (STD)	6.8	6.8	6,7	7.0	
pH (STD) u.5	1720	1710	1760_	1680_	
SPEC. COND.(UMHOS/CM)	70	20	20	22	_
TEMPERATURE (C) OTHER (SPECIFY)	<u>Clear</u>	St. Into Cong	St. Turbil Grey	Clear	_
	COM	IMENTS/CALCULAT	TIONS		
WEATHER CONDITIONS	70°F Cle	ar			
SAMPLE APPEARANCE					
		20.0			
2" DIA. CASING CONTAINS .163 G 4" DIA. CASING CONTAINS .652 G		009			
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTT	LE COLOR, BOTTLE MATERIAL, PRI	ESERVATIVES AND ANALYTICA	L METHODS ON LABORATORY (	CUSTODY FORMS.	
	2-110	· ,		DATE 8-20	-98
SAMPLER SIGNATURE	~and / /ho	tillet		DATE V	



,	SAMPLE COLLE	2011014 1141 01			
GAI PROJECT NAME BCC	RFI, NY	GAI PROJECT NO.	<u>963-9</u>	117	
	I-44	SOURCE CODES: AI	VER OR STREAM, WE	L), SOIL, OTHER (C	IRCLE ONE)
	PURGING I	NFORMATION (IF A	PPLICABLE)		
PURGE DATE (yy/mm/dd) CASING VOL.(Gal.) PURGING DEVICE (SEE BELOW)	08,20,98 _4.1_ E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE M	- <u>1 2.4</u>	ELAPSED HRS. FILIDA DEDICATED (ON)	1020
	SAMPLE	COLLECTION INFO	RMATION		
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	08,20,98 E HDPE		RABICOMPOSITE (CIR	MATRIX FILTERED (YM) CLE ONE)	Mater
(A) AIR-LIFT PUMP (B) BLADOER PUMP (C) PE	RISTALTIC PUMP (D) SCOOPISHOV	/EL (E) BAILER (F) OTHER (SPE	CIFY)		
	WELL IN	FORMATION (IF AP	PLICABLE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)		LAND ELEVATION (F WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (IN	<u>36</u>	3 5 0 0	
	FIELD MEA 15+ Well Vol.	SURMENTS (FOUR	REPLICATES)  FRE WELLVOL	At Sange	ng
pH (STD)	_5.0_	<u> 4.2</u>	3.9	3.9	_
SPEC. COND.(UMHOS/EM)	<u>4.70</u>	<u>6,30</u>	15.60	16.0	-
TEMPERATURE (C)	14	12	13	12	-
OTHER (SPECIFY)	V. St. Turbid	Turbid, br	Turbid, br	Turbia, b	
	CO	MMENTS/CALCULA	TIONS		
WEATHER CONDITIONS	65°F, Cl	265			<del></del>
SAMPLE APPEARANCE					
2" DIA. CASING CONTAINS .163 (	Sal/Ft.	<u> </u>			
4" DIA. CASING CONTAINS .652 (	Gal./Ft.				
				TOOY SOOUS	
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOT	TLE COLOR, BOTTLE MATERIAL, P	RESERVATIVES AND ANALYTICA	NL METHODS ON LABORATORY	Y CUSTOUT FORMS.	
SAMPLER SIGNATURE	Navy Mutes	EN		DATE 8-20	-98
SAIVIE CELL SIGNATIONE	1 10 1				



Golder					
<b>D</b> Associates	SAMPLE COLLE	CTION INFORM	1ATION FOR	RM	
GAI PROJECT NAME BCC	RFF, NY	GAI PROJECT NO.	963-9	117	
	I-45	SOURCE CODES: RIVER	OR STREAM, WEL	), SOIL, OTHER (CIR	RCLE ONE)
	PURGING IN	NFORMATION (IF APP	LICABLE)		
PURGE DATE (yy/mm/dd) CASING VOL.(Gal.) PURGING DEVICE (SEE BELOW)	08,20,98 -3.8 E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE MATE		ELAPSED HRS.  PART L  DEDICATED (IN)	0850_
	SAMPLE	COLLECTION INFORM	MATION		
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	08,20,98 E HDPE	TIME (24 HR CLOCK) DEDICATED-(IN) SAMPLE TYPE - GRAB	<u>0905</u> icomposite (circ	FILTERED (YD)	Seter
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PE					
	WELL INF	FORMATION (IF APPLI	CABLE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)		LAND ELEVATION (FT./) WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (INCH	33.3 2.3	2 <u>B</u> Gs 3 2 <u>0</u>	
		SURMENTS (FOUR RE	PLICATES)  3rd. Wen Vol.	At Sand	ine
PH (STD)  SPEC. COND.(UMHOS/CM)  M.S  TEMPERATURE (C)  OTHER (SPECIFY)	1sf 1se 4 Vo (	2nd Well (b).			- - -
	COM	IMENTS/CALCULATIO	NS		
WEATHER CONDITIONS	60°F, Cl	ear			
SAMPLE APPEARANCE					
2" DIA. CASING CONTAINS .163 ( 4" DIA. CASING CONTAINS .652 (	Gal./Ft. 007 Gal./Ft.				
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOT	TTLE COLOR, BOTTLE MATERIAL, PR	ESERVATIVES AND ANALYTICAL HE	THOOS ON LABORATORY	CUSTODY FORMS.	
SAMPLER SIGNATURE	my Witchell	2		DATE 8/20	<u> </u>
	- · · · · · · · · · · · · · · · · · · ·	`			



8	SAMPLE COLL	ECHOIT III OI		
GAI PROJECT NAME BCC	RFI, NY	GAI PROJECT NO.	<u>963-9</u>	(17
	I-46	SOURCE CODES: RI	VER OR STREAM WEL	SOIL, OTHER (CIRCLE ONE)
	PURGING	INFORMATION (IF A	PPLICABLE)	
PURGE DATE (yy/mm/dd)  CASING VOL.(Gal.)  PURGING DEVICE (SEE BELOW)	08,20,98 -3.5 E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE M	-1-0.5	ELAPSED HRS. 1/20 FRINK DEDICATED (9/N)
	SAMPLE	COLLECTION INFO	RMATION	
SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	08,20,98 E HDPE		RABICOMPOSITE (CIRC	MATRIX Hade, FILTERED (YM) CLE ONE)
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PER	IISTALTIC PUMP (D) SCOOP/SHO	VEL (E) BAILER (F) OTHER (SPE	CIFY)	
	WELL IN	IFORMATION (IF API	PLICABLE)	
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)	7.0.R: 	LAND ELEVATION (F WELL DEPTH (FT.) R STICKUP (FT.) WELL DIAMETER (IN	<u>3</u> <u></u> 2.8	
	FIELD MEA	SURMENTS (FOUR 2 not well vol	REPLICATES)  3 rd Weli Vol.	At Sampling
pH (STD)	5.8	5.8	5.7	5.6
	8.80_	8,90	8.80	8.60
SPEC. COND.(UMHQS/CM)	15	11	13	12
TEMPERATURE (C)		Mod Turbio	Mad Turbio	Mod Turbid
OTHER (SPECIFY)	V. St. Tic bid	1-108. 10000	1000	
	co	MMENTS/CALCULA	TIONS	
WEATHER CONDITIONS	70°F, Clea	.c		
SAMPLE APPEARANCE	· · · · · · · · · · · · · · · · · · ·			
2" DIA, CASING CONTAINS .163 G	Gal/Ft. Q10			
4" DIA. CASING CONTAINS .652 G	al./Ft.			
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOT	T S COLOR BOTTI E HATERIAL	PRESERVATIVES AND ANALYTICA	al methods on laboratory	CUSTODY FORMS.
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOT	1 CECOLOR CO. I CE MINOS CE			
SAMPLER SIGNATURE	id mitchell			DATE 8-20-98
	U			



GAI PROJECT NAME _	BCC, RFI, NY	GAI PROJECT NO.	963-90	117
SAMPLE ID.	RFI-47	SOURCE CODES: RI	VER OR STREAM, WEL	2, SOIL, OTHER (CIRCLE ONE)
	PURGING !	INFORMATION (IF A	PPLICABLE)	
PURGE DATE (yy/mm/do CASING VOL.(Gal.) PURGING DEVICE (SEE	<u>_3;</u>	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE M	<u>-40</u> _	ELAPSED HRS. / 200 FASA DEDICATED (AN)
	SAMPLE	COLLECTION INFO	RMATION	
SAMPLING DATE (yy/ma SAMPLING DEVICE (SE SAMPLING DEVICE MA	E BELOWE TERIAL#DPE		AB)COMPOSITE (CIRC	MATRIX WATER FILTERED (YIN) LE ONE)
(A) AIR-LIFT PUMP (B) BLADDER	PUMP (C) PERISTALTIC PUMP (D) SCOOPISHO	/EL (E) BAILER (F) OTHER (SPEC	RFY)	
	WELL IN	FORMATION (IF APP	PLICABLE)	
REFERENCE POINT REF. PT. ELEV.(FT. MS DEPTH TO WATER (RE GW. ELEV.(FT. MSL.)		LAND ELEVATION (F WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (IN	<u>28</u> .3	BG-S
	FIELD MEA IST Well Vol.	SURMENTS (FOUR I	REPLICATES)  3 rawe u Vol.	At Samping
pH (STD) SPEC. COND.(UI TEMPERATURE OTHER (SPECIF	<u>иноэ/см)</u> <u>2.90</u>	4.7 2.90 1.4 SL. TurbiO br.	4.8 2.90_ 1.3 Turbi0,bc	4.7 2.90 13 Ma Trb D.br.
	COI	MMENTS/CALCULAT	TONS	
WEATHER CONDITION	s 70°F, Clean			
SAMPLE APPEARANCE				
2" DIA. CASING CONT. 4" DIA. CASING CONT.	AINS .163 Gal./Ft. 0// AINS .652 Gal./Ft.			
			WETHOOS ONLY SECRETORY	CUSTODY FORMS.
PLEASE INCLUDE SAMPLE BOT	THE SIZE BOTTLE COLOR BOTTLE MATERIAL P	RESERVATIVES AND ANALYTICA	L METHOUS ON CABORATORY	DATE \$ 8-20-78
SAMPLER SIGNATURE	- Vine for			



	O/ 22 00 1			
GAI PROJECT NAME _	BCC, RFI, NY	GAI PROJECT NO.	963-9	LLZ
SAMPLE ID.	RFI-48	SOURCE CODES: R	IVER OR STREAM WE	L), SOIL, OTHER (CIRCLE ONE)
	PURGIN	IG INFORMATION (IF A	(PPLICABLE)	
PURGE DATE (yy/mm/do CASING VOL.(Gal.) PURGING DEVICE (SEE	<u> 2:7</u> _	TIME (24 HR CLOCK GAL. PURGED (Gal. PURGING DEVICE N	<u> </u>	ELAPSED HRS. <u>〈 夕 3 5</u> Fix 3 4 DEDICATED (N)
	SAMF	PLE COLLECTION INFO	NOITAMR	
SAMPLING DATE (yy/mr SAMPLING DEVICE (SE SAMPLING DEVICE MA	EBELOWE TERIAL#DPE	SAMPLETYPE - 2	RABICOMPOSITE (CIRC	MATRIX Liber FILTERED (YM) CLE ONE)
(A) AIR-LIFT PUMP (B) BLADOER	PUMP (C) PERISTALTIC PUMP (D) SCOOP!	SHOVEL (E) BAILER (F) OTHER (SPE	CIFY)	
	WELL	. INFORMATION (IF AP	PLICABLE)	
REFERENCE POINT REF. PT. ELEV.(FT. MSI DEPTH TO WATER (REI GW. ELEV.(FT. MSL.)	4 1 4 0 0	LAND ELEVATION (I WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (IN	<del>27</del> .	<u> </u>
		EASURMENTS (FOUR	REPLICATES)  3rd Well Vol.	At Simple
pH (STD)	1st Wed Vol, 6.3	6,4	<u> </u>	6.4
SPEC. COND.(UN	1110S/GM) 3,20	3,70	3.60_	3.60
TEMPERATURE (	*· 3   A/	13	15	14
OTHER (SPECIF)		Turbial, Grey	Turbid, Grey	Tur b. Q. Gray
<u></u>	(	COMMENTS/CALCULAT	TIONS	
WEATHER CONDITION	70°F	Clear		
SAMPLE APPEARANCE	· /			
2" DIA. CASING CONTA	INS .163 Gal./Ft. 00/	= RFT 48		
4" DIA. CASING CONTA		= Field Dup.		
E. 10	Taken			
	14871			
		AND ANALYTICA	USTHOOS ON LABORATORY	CUSTODY FORMS.
PLEASE INCLUDE SAMPLE BOTT	LE SIZE, BOTTLE COLOR, BOTTLE MATERIA	T PHESERVATIVES AND MORETINA	a majirioda diri diwarini diri	
SAMPLER SIGNATURE	Ward Mut	tell	<u>.</u>	DATE 8-20-98



0	DET IN		963-9	//2
GAI PROJECT NAME BCC		GAI PROJECT NO.	<u> </u>	<u></u>
SAMPLE ID. R	FI-49	SOURCE CODES: R	IVER OR STREAM, WE	ELL, SOIL, OTHER (CIRCLE ONE)
	PURGING	INFORMATION (IF A	APPLICABLE)	
PURGE DATE (yy/mm/dd) CASING VOL.(Gal.)	08,20,98	TIME (24 HR CLOCK	7,2	ELAPSED HRS. 1618 Fraisk
PURGING DEVICE (SEE BELOW)	A E	PURGING DEVICE	1/0/4	DEDICATED (IN)
	SAMPLE	COLLECTION INFO	PMATION	
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	HDPE		RAB/COMPOSITE (CIR	MATRIX <u>LOSTER</u> FILTERED (YI <b>S)</b> CLE ONE)
(A) AIR-LIFT PUMP (B) BLADOER PUMP (C) P	ERISTALTIC PUMP (D) SCOOP/SHOV	/EL (E) BAILER (F) OTHER (SPE	:CIFY)	
	WELL IN	FORMATION (IF AP	PLICABLE)	
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)		LAND ELEVATION (I WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (IN	24.	1 2 B6-5 5 00
	FIELD MEAS	SURMENTS (FOUR Ind We a Vol.	REPLICATES) 3.2 WZ/11061	At Sampling
pH (STD)	6.6	6.4	6.4	6.4
SPEC. COND.(WHITECHE	3.60	<u>3.60</u>	<u> 3.90                                   </u>	3.90_
TEMPERATURE (C)	12	12	13	/3
OTHER (SPECIFY)	Hig Torbid bc	MO Turbio br.	M.O. torbo br.	Hig. Turbid br.
	CON	MENTS/CALCULAT	TIONS	
WEATHER CONDITIONS	Clear, 75°	°F		
SAMPLE APPEARANCE				
2" DIA. CASING CONTAINS .163		\$ 49 and MS/	usb (005)	
4" DIA. CASING CONTAINS .652	3al./Ft	aboratory QC a	stained at sampl	ing point
		,		
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOT	TI F COLOR, BOTTLE MATERIAL, PR	ESERVATIVES AND ANALYTICA	L METHODS ON LABORATORY	CUSTODY FORMS.
- CLOSE HOLDE SAMPLE BUTTLE SEE, BUT		0.4		@ 20-98
SAMPLER SIGNATURE	David Mitch	tell		DATE 8-20-10



Golder					
1 Accordates	SAMPLE COLLE	ECTION INFOR	RMATION FOF	RM	
	RFIINY	GAI PROJECT NO.	963-91		
SAMPLEID. RFI	-50	SOURCE CODES: RIV	VER OR STREAM, WEL	L), SOIL, OTHER (C	IRCLE ONE
	PURGING I	NFORMATION (IF A	PPLICABLE)		
PURGE DATE (yy/mm/dd) CASING VOL.(Gal.) PURGING DEVICE (SEE BELOW)	18,20,98 -2.6 E	TIME (24 HR CLOCK) GAL. PURGED (Gal.) PURGING DEVICE M.	_7. <u>8</u> _	ELAPSED HRS. Fixish DEDICATED(YN)	<u> [530</u>
	SAMPLE	COLLECTION INFO	RMATION		
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	QBJ20J98 E 4DOE	TIME (24 HR CLOCK) DEDICATED-GÂN) SAMPLE TYPE - GR	1530 ABICOMPOSITE (CIRCI	MATRIX FILTERED (Y/数) LE ONE)	Wer
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PE					
	WELL INF	ORMATION (IF APP	LICABLE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)		LAND ELEVATION (F WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (IN	<u>25</u> .7	0 86-s	
		SURMENTS (FOUR F	REPLICATES)	L+ Carre	(in
pH (STD)  SPEC. COND.(UMHQS/CM)  M S  TEMPERATURE (C)  OTHER (SPECIFY)	1st well bol. 6.4 6.70 14 Clear	2 nd Well Vol. 6.4 7.30 13 Mod Turkil	3 ch win wol 6.4 7.80 12 Mod turbil	6.3 8.30 13 Mad. turb	iD
	COM	MENTS/CALCULAT	IONS		
WEATHER CONDITIONS	Close, 750	F			
SAMPLE APPEARANCE					
2" DIA. CASING CONTAINS .163 C 4" DIA. CASING CONTAINS .652 C		te Blank Taken - 50 (004)	(003)		- C
			ļē.		
	<u> </u>				
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOT	TLE COLOR, BOTTLE MATERIAL, PRE	ESERVATIVES AND ANALYTICAL	METHODS ON LABORATORY C	USTODY FORMS.	
SAMPLER SIGNATURE	and Whitehell	1		DATE 8-20-	-98



### SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC	RFI NY	GAI PROJECT NO.	963-9	117
SAMPLE ID.	AFI-51	SOURCE CODES: R	VER OR STREAM, WEL	SOIL, OTHER (CIRCLE ONE)
	PURGING IN	NFORMATION (IF A	PPLICABLE)	
PURGE DATE (yy/mm/dd) CASING VOL (Gal.) PURGING DEVICE (SEE BELOW)	08,20,98 	TIME (24 HR CLOCK GAL. PURGED (Gal.) PURGING DEVICE M	_4_7_	ELAPSED HRS. 1330 Fraish DEDICATED (IN)
	SAMPLE	COLLECTION INFO	PRMATION	
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	08,20,98 E HDPE	TIME (24 HR CLOCK DEDICATED-(3/N) SAMPLE TYPE - GF	AB/COMPOSITE (CIRC	MATRIX Weten FILTERED (YES) LE ONE)
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PER	RISTALTIC PUMP (D) SCOOP/SHOVE	L (E) BAILER (F) OTHER (SPE	CIFY)	
·	WELL INF	ORMATION (IF AP	PLICABLE)	
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)		LAND ELEVATION (F WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (IN	<u>/3</u> <u>a</u>	<u>B</u> 6-5 11_ 20_
	FIELD MEAS	URMENTS (FOUR 2nd Well Vol.	REPLICATES)  3 rd. Wollder	At Sangling
рН (STD)	_6.9_	6,90	6.9	7.6
SPEC. COND.(UMHOS/CM)	_3.70	3.60	<u> </u>	3.10
TEMPERATURE (C)	$\frac{-15}{1.710}$	17	Marturbid	Char
OTHER (SPECIFY)	SL. Turbid	1704,10161	178410500	<u> </u>
	СОМ	MENTS/ĆALCULAT	TIONS	
WEATHER CONDITIONS	76°F Clear			
SAMPLE APPEARANCE				
2" DIA. CASING CONTAINS .163 G	ial./Ft. 006			
4" DIA. CASING CONTAINS .652 G	ial./Ft.			
		CONTACTORS AND ANALYTICA	METHODS ON LABORATORY O	LUSTODY FORMS.
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTT	TLE COLOR, BOTTLE MATERIAL, PRE	SELIAVITACES VAID WAYELLING		DATE 8-20-98
SAMPLER SIGNATURE	and Intobel			DATE 0500 /



### SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME BCC	RFI, NY	GAI PROJECT NO.	962-9	<u> </u>	
SAMPLE ID. RF.	I-49	SOURCE CODES: R	IVER OR STREAM, WE	SOIL, OTHER (C	IRCLE ONE)
	PURGING I	NFORMATION (IF A	APPLICABLE)		
PURGE DATE (yy/mm/dd)  CASING VOL.(Gal.)  PURGING DEVICE (SEE BELOW)	08,31,98	TIME (24 HR CLOCK GAL. PURGED (Gal. PURGING DEVICE N	, , ,	ELAPSED HRS. FINES L  DEDICATED AN	<u> </u>
	SAMPLE	COLLECTION INFO	DRMATION		
SAMPLING DATE (yy/mm/dd) SAMPLING DEVICE (SEE BELOW SAMPLING DEVICE MATERIAL	08,31,98 E HDIE	TIME (24 HR CLOCK DEDICATED-ØN) SAMPLE TYPE - EI	) <u>// 3 0</u>	MATRIX FILTERED (YM) CLE ONE)	Water
(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERI					
	WELL IN	FORMATION (IF AP	PLICABLE)		
REFERENCE POINT REF. PT. ELEV.(FT. MSL) DEPTH TO WATER (REF. PT.) GW. ELEV.(FT. MSL.)	7.0.R. N/A_ 	LAND ELEVATION (I WELL DEPTH (FT.) STICKUP (FT.) WELL DIAMETER (II	24.3	<u>-</u>	
		SURMENTS (FOUR		. 44 c	6
-U (OTD)	1st Well Uol.	2nd Well Vol. 6.4	3 rd Well 131	At San 6.4	
pH (STD)  SPEC. COND.(UMHOS/CM)		Hery Dead -			_
TEMPERATURE (C)	14	/3	14		_
OTHER (SPECIFY)	V. S1, Tubid	_SI. Turbid	Sl. Turbid	57. Turk	<u>:</u> d
	COM	MENTS/CALCULA	TIONS		
WEATHER CONDITIONS	Clear 65°F				
SAMPLE APPEARANCE					
2" DIA. CASING CONTAINS .163 Ga 4" DIA. CASING CONTAINS .652 Ga	i./Ft. L	abordory QC	obtained		
4 DIA. CASING CONTAINS .002 GG					
PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTL	S COLOR BOTTLE MATERIAL PR	ESERVATIVES AND ANALYTICA	L METHODS ON LABORATORY	CUSTODY FORMS.	
	(110)	-11			1-98
SAMPLER SIGNATURE	land futch	elf			

# $\label{eq:appendix} \mbox{\sc appendix G}$ 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

Mark Wilson

Client Service Manager

Enc.



#### 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.

#### GOLDER 9807000319 Page 2

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

MA ID # in Rochester: M-NY032

Reported: 09/11/98

08/12/98

08/06/98

08/26/98

08/14/98

08/07/98

08/06/98

08/20/98

08/12/98

MG/L

MG/L

MG/L

MG/L

MG/L

MG/L

MG/L

MG/L

100.0

400.0

1.0

1.0

1.0

1.0

1.0

1.0

Sample Matrix: WATER

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID :RFI-46

NITRATE/NITRITE NITROGEN

TOTAL DISSOLVED SOLIDS

NITRITE NITROGEN

TOTAL CYANIDE

TOTAL SULFIDE

TOTAL HARDNESS

TOTAL PHOSPHORUS

SULFATE

Date Sampled: 08/05/98 Submission #:9807000319 Date Received: 08/06/98 DATE ANALYTICAL UNITS ANALYZED DILUTION ANALYTE PQL RESULT **METALS** 08/26/98 1.0 ALUMINUM 0.100 13.8 MG/L 1.0 0.0600 0.0600 U MG/L 08/26/98 ANTIMONY ARSENIC 0.0100 0.0100 U MG/L 08/26/98 1.0 08/26/98 1.0 BARIUM 0.0200 0.0622 MG/L 0.00957 MG/L 08/26/98 1.0 0.00500 CADMIUM 0.0138 MG/L 08/26/98 1.0 CHROMIUM 0.0100 08/26/98 1.0 MG/L COBALT 0.0500 0.122 08/26/98 COPPER 0.0200 0.123 MG/L 1.0 MG/L 304 09/04/98 10.0 IRON 0.100 08/26/98 1.0 LEAD 0.00500 0.0188 MG/L 0.0100 08/26/98 MG/L 1.0 MANGANESE 15.9 0.000300 0.000300 U MG/L 08/20/98 1.0 MERCURY 08/26/98 MG/L 1.0 NICKEL 0.0400 0.166 0.0300 U 08/26/98 1.0 SELENIUM 0.0300 MG/L 08/26/98 08/26/98 SILVER 0.0100 0.0100 U MG/L 1.0 1.0 VANADIUM 0.0500 0.0500 U MG/L MG/L 08/26/98 1.0 ZINC 0.0100 2.57 WET CHEMISTRY 10.0 MG/L 08/13/98 1.00 208 CHLORIDE 5.0 HEXAVALENT CHROMIUM 0.0100 0.0500 U MG/L 08/06/98 0.0500 76.6 MG/L NA NITRATE NITROGEN

76.7

5520

8070

2600

1.00 U

0.123

0.0723

0.0188

0.0500

0.0100

0.0100

0.0500

5.00

10.0

2.00

1.00

Order #: 226438

## **VOLATILE ORGANICS**METHOD 8260B TCL 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 Analytical Run 29556

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 08/18/98				
ANALYTICAL DILUTION: 1.				
ACETONE		20	20 U	UG/L
BENZENE		5.0	6.2	UG/L
BROMODICHLOROMETHANE		5.0	5.0 U	ŬĠ/L
BROMOFORM		5.0	5.0 บ	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
CHLOROT ONT CHLOROMETHANE		5.0	5.0 U	ŬĠ/L
DIBROMOCHLOROMETHANE		5.0	5.0 U	UG/L
		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 CIS-1,2-DICHLOROETHENE		5.0	5.0 U	UG/L
•		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	1.2 J	UG/L
ETHYLBENZENE		10	10 U	UG/L
2-HEXANONE		5.0	5.0 Ŭ	UG/L
METHYLENE CHLORIDE		10	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)		5.0	5.0 Ŭ	UG/L
STYRENE		5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE			5.0 U	UG/L
TETRACHLOROETHENE		5.0	6.7	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		UG/L
VINYL CHLORIDE		5.0	5.0 U 4.0 J	
O-XYLENE		5.0		UG/L
M+P-XYLENE		5.0	5.6	UG/L
SURROGATE RECOVERIES	QC LIMI	TS		
4-BROMOFLUOROBENZENE	•	.15 %)	109	8
TOLUENE-D8		.10 %)	98	%
DIBROMOFLUOROMETHANE	(86 - 1	.18 %)	105	%

#### 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			
ACENAPHTHENE	5.0	5.0 Ŭ	UG/L
ACENAPHTHYLENE	5.0	5.0 Ŭ	UG/L
ANILINE	5.0	5.0 Ŭ	UG/L
ANTHRACENE	5.0	5.0 Ŭ	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 Ŭ	UG/L
BENZO (A) PYRENE	5.0	5.0 Ŭ	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 Ŭ	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 Ŭ	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 UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U 10 U	UG/L
N, N-DIETHYLANILINE	10	5.0 U	UG/L
DIETHYLPHTHALATE	5.0 5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	20	20 U	UG/L
2,4-DINITROPHENOL	5.0	5.0 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	20	20 U	UG/L
N-ETHYLANILINE	5.0	5.0 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 U	UG/L
HEXACHLOROBUTADIENE	5.0 5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	٦.٠	3.0 0	JU, 11

#### 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 ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL MAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE MITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER 4-CHLOROPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 5.0 10 10 10 10 10 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
TERPHENYL-d14 (335 NITROBENZENE-d5 (357 PHENOL-d6 (1072-FLUOROBIPHENYL (4372-FLUOROPHENOL (2172-FLUOROPHENOL	LIMITS - 141 %) - 114 %) - 94 %) - 116 %) - 110 %) - 123 %)	61 1 * 16 51 18 * 35	مه مه مه مه مه

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 sion #:9807000319	Sample Matrix: WATER		
ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS		40.0	140 /7	00/06/00	1 0
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 1.0
ARSENIC	0.0100	1.17	MG/L	08/26/98	
BARIUM	0.0200	0.268	MG/L	08/26/98	1.0 1.0
CADMIUM	0.00500	0.0186	MG/L	08/26/98	
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 1.0
COPPER	0.0200	0.254	MG/L	08/26/98	
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 σ	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	$\mathtt{MG}/\mathtt{L}$	08/13/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.0100 U	$\mathtt{MG/L}$	08/06/98	1.0
NITRATE NITROGEN	0.0500	0.500 U	$\mathtt{MG/L}$		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	$\mathtt{MG/L}$	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

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

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-48

Date Sampled: 08/05/98 Order #: 226439 Sample Matrix: WATER Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

DATE ANALYZED : 08/18/98 ANALYTICAL DILUTION: 1.00  ACETONE	ANALYTE	PQ	Ĺ	RESULT	UNITS
ACETONE BENZENE 5.0 5.0 UG/L BROMODICHLOROMETHANE 5.0 5.0 UG/L BROMOFORM 5.0 5.0 UG/L BROMOMETHANE 5.0 5.0 UG/L BROMOMETHANE 5.0 5.0 UG/L CARBON DISULFIDE 10 10 UG/L CARBON DISULFIDE 10 10 UG/L CARBON TETRACHLORIDE 5.0 5.0 UG/L CHLOROBENZENE 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0	DATE ANALYZED : 08/18/98				
BENZENE BROMODICHLOROMETHANE BROMOFORM S.0 5.0 U UG/L BROMOFORM S.0 5.0 U UG/L BROMOFORM S.0 5.0 U UG/L BROMOMETHANE S.0 5.0 U UG/L BROMOMETHANE S.0 5.0 U UG/L CARBON DISULFIDE 10 10 U UG/L CARBON DISULFIDE S.0 5.0 U UG/L CARBON TETRACHLORIDE S.0 5.0 U UG/L CARBON TETRACHLORIDE S.0 5.0 U UG/L CHLOROBENZENE S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROMETHANE S.0 5.0 U UG/L CHLOROFORHANE S.0 5.0 U UG/L 1,1-DICHLOROETHANE S.0 5.0 U UG/L 1,2-DICHLOROFORHENE S.0 5.0 U UG/L CIS-1,2-DICHLOROFORHENE S.0 5.0 U UG/L CIS-1,3-DICHLOROFORHENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L CIS-1,2-PICHLOROFOROPENE S.0 5.0 U UG/L CIS-1,2-PICHLOROFOROPENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L CIS-1,1-DICHLOROFOROPENE S.0 5.0 U UG/L CIS-1,1-TRICHLOROETHANE SURROGATE RECOVERIES QC LIMITS  4-BROMOFLUOROBENZENE QC LIMITS  4-BROMOFLUOROBENZENE QC LIMITS  4-BROMOFLUOROBENZENE (88 - 115 %) 104 % TOLUENE-DS	ANALYTICAL DILUTION: 1.0	00			
BENZENE	ACETONE		20	20 U	
BROMODICHLOROMETHANE			5.0	5.0 U	UG/L
BROMOFORM			5.0	5.0 U	
BROMOMETHANE   5.0   5.0   U UG/L	_		5.0	5.0 U	•
2-BUTANONE (MEK)			5.0	5.0 Ŭ	UG/L
CARBON DISULFIDE CARBON TETRACHLORIDE CARBON TETRACHLORIDE CHLOROBENZENE 5.0 5.0 U UG/L CHLOROBENZENE 5.0 5.0 U UG/L CHLOROFORM 5.0 CHLOROFORM 5.0 CHLOROMETHANE 5.0 CHLOROPROPANE 5.0 CHLOROMETHANE 5.0 CHLOROMET			10	10 U	UG/L
CARBON TETRACHLORIDE			10	10 U	UG/L
CHLOROBENZENE			5.0	5.0 U	UG/L
CHLOROFTHANE CHLOROFTHANE CHLOROFTHANE CHLOROMETHANE DIBROMOCHLOROMETHANE S.0 S.0 UG/L CHLOROMETHANE S.0 S.0 UG/L CHLOROMETHANE S.0 S.0 UG/L CLITICHLOROFTHANE S.0 S.0 UG/L CLITICHLOROFTHENE S.0 S.0 UG/L CLITICHLOROFTHENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTOPENE S.0 S.0 UG/L CLITICHLOROFTHANE SURROGATE RECOVERIES CLITICHLOROFTHANE SURROGATE RECOVERIES CLITICHLOROFTHANE SURROGATE RECOVERIES CLITICHLOROFTHANE SURROGATE RECOVERIES CLITICHLOROFTHANE SURROGATE RECOVERIES CLITICHLOROFTHANE SURROGATE RECOVERIES CLITICHLOROFTHANE SURROGATE RECOVERIES CLITICHLOROFTHANE S.0 S.0 UG/L CLITICHLOROFTHANE S.0 S.0 UG/L CLITICHLOROFTHANE S.0 S.0 UG/L CLITICHLOROFTHANE S.0 S.0 UG/L CLITICHLOROFTHANE S.0 S.0 UG/L CLITICHLOROFTHANE S.0 UG/L CLITICHLOROFTHANE S.0 UG/L CLITICHLOROFTHANE S.0 UG/L CLITICHLOROFTHANE S.0 UG/L CLITICHLOROFTHANE S.0 UG/L CLITICHLOROFTHANE S.0 UG/L CLITICHLOROFTHANE S.0 UG/L CLITIC			5.0	5.0 U	UG/L
CHLOROFORM CHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHENE 1,2-DICHLOROETHENE 1,2-DICHLOROETHENE 1,2-DICHLOROETHENE 1,2-DICHLOROPROPENE 1,2-DICHLOROPROPENE 1,2-DICHLOROPROPENE 1,3-DICHLOROPROPENE 1,3-DICHLOROPROPENE 1,3-DICHLOROPROPENE 1,0-DICHLOROPROPENE 1,0-DI			5.0	5.0 U	UG/L
CHLOROMETHANE DIBROMCCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHENE 5.0 5.0 UG/L 1,1-DICHLOROETHENE 5.0 5.0 UG/L 1,1-DICHLOROETHENE 5.0 5.0 UG/L 1,1-DICHLOROETHENE 5.0 5.0 UG/L TRANS-1,2-DICHLOROETHENE 5.0 5.0 UG/L 1,2-DICHLOROPROPANE 5.0 5.0 UG/L 1,2-DICHLOROPROPENE 5.0 5.0 UG/L 1,2-DICHLOROPROPENE 5.0 5.0 UG/L 1,2-DICHLOROPROPENE 5.0 5.0 UG/L 1,2-DICHLOROPROPENE 5.0 5.0 UG/L 1,2-DICHLOROPROPENE 5.0 5.0 UG/L 1,2-DICHLOROPROPENE 5.0 5.0 UG/L 1,1,2-DICHLOROPROPENE 5.0 5.0 UG/L 1,1,1-TRICHLOROETHANE 5.0 5.0 UG/L 1,1,2-TRICHLOROETHANE 5.0 5.0 UG/L 1,1,1-TRICHLOROETHANE 5.0 5.0 UG/L 1,1,1-TRICHLOROETHANE 5.0 5.0 UG/L 1,1,1-TRICHLOROETHANE 5.0 5.0 UG/L 1,1,2-TRICHLOROETHANE 5.0 UG/L 1,1,2-TRICHLOROETHANE 5.0 UG/L 1,1,1-TRICHLOROETHANE 5.0			5.0	5.0 Ŭ	UG/L
DIBROMOCHLOROMETHANE			5.0	5.0 U	
1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE 1,1-DICHLOROETHENE 1,1-DICHLOROETHENE 1,1-DICHLOROETHENE 1,2-DICHLOROETHENE 1,2-DICHLOROETHENE 1,1-DICHLOROPROPANE 1,1-DICHLOROPROPANE 1,1-DICHLOROPROPANE 1,1-DICHLOROPROPENE 1,1-DICHLOROPENE 1,1-DIC			5.0	5.0 Ŭ	UG/L
1,2-DICHLOROETHANE			5.0	5.0 U	UG/L
1,1-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE 1,2-DICHLOROETHENE 1,2-DICHLOROPROPANE 5.0 5.0 UG/L 1,2-DICHLOROPROPANE 5.0 5.0 UG/L 1,2-DICHLOROPROPANE 5.0 5.0 UG/L CIS-1,3-DICHLOROPROPENE 5.0 TRANS-1,3-DICHLOROPROPENE 5.0 TO S.0 UG/L TRANS-1,3-DICHLOROPROPENE 5.0 TO UG/L TRANS-1,3-DICHLOROPROPENE 5.0 TO UG/L TRANS-1,3-DICHLOROPROPENE 5.0 TO UG/L TETHYLBENZENE 5.0 TO UG/L UG/L TETHYLBENZENE 5.0 TO UG/L TO UG/L TO UG/L TETHYL-2-PENTANONE (MIBK) TO UG/L TETRACHLOROETHANE 5.0 TO UG/L TETRACHLOROETHANE 5.0 TO UG/L TI,1,2-TRICHLOROETHANE 5.0 TO UG/L TRICHLOROETHANE 5.0 TO UG/L TRICHLOROETHENE 5.0	•		5.0	5.0 Ŭ	UG/L
CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE 1,2-DICHLOROPANE 1,2-DICHLOROPROPANE 5.0 5.0 U UG/L 1,2-DICHLOROPROPANE 5.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE 5.0 TRANS-1,3-DICHLOROPROPENE 5.0 5.0 U UG/L ETHYLBENZENE 5.0 5.0 U UG/L ETHYLBENZENE 5.0 5.0 U UG/L METHYLENE CHLORIDE 5.0 METHYL-2-PENTANONE (MIBK) 5.0 STYRENE 5.0 STYRENE 5.0 STYRENE 5.0 STYRENE 5.0 STOU UG/L TETRACHLOROETHANE 5.0 STOU UG/L TETRACHLOROETHENE 5.0 STOU UG/L TOLUENE 5.0 STOU UG/L TOLUENE 5.0 STOU UG/L TOLUENE 5.0 STOU UG/L TOLUENE 5.0 STOU UG/L TOLUENE 5.0 STOU UG/L TOLUENE 5.0 STOU UG/L TOLUENE 5.0 STOU UG/L TRICHLOROETHANE 5.0 STOU UG/L TRICHLOROETHENE 5.0 TOU UG/L TRICHLOROETHENE 5.0 TOU UG/L TRICHLOROETHENE 5.0 TOU UG/L TRICHLOROETHENE 5.0			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 VINYL CHLORIDE 5.0 5.0 U UG/L  VINYL CHLORIDE 5.0 5.0 U UG/L  SURROGATE RECOVERIES QC LIMITS 4-BROMOFLUOROBENZENE (86 - 115 %) 104 % TOLUENE-D8 (88 - 110 %) 101 %	•		5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE CIS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TOUE TRANS-1,3-DICHLOROPROPENE TOUE TETHYLBENZENE TOUE TOUE TOUE TOUE TOUE TOUE TOUE TOU			5.0	5.0 Ŭ	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 1,1,1-TRICHLOROETHANE 5.0 5.0 U UG/L 1,1,2-TRICHLOROETHANE 5.0 5.0 U UG/L VINYL CHLORIDE 5.0 5.0 U UG/L VINYL CHLORIDE 5.0 5.0 U UG/L  VINYL CHLORIDE 5.0 5.0 U UG/L  SURROGATE RECOVERIES QC LIMITS  4-BROMOFLUOROBENZENE (86 - 115 %) 104 % TOLUENE-D8 (88 - 110 %) 101			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 1,1,1-TRICHLOROETHANE 5.0 5.0 U UG/L 1,1,2-TRICHLOROETHANE 5.0 5.0 U UG/L 1,1,2-TRICHLOROETHANE 5.0 5.0 U UG/L 1,1,2-TRICHLOROETHANE 5.0 5.0 U UG/L VINYL CHLORIDE 5.0 5.0 U UG/L VINYL CHLORIDE 5.0 5.0 U UG/L VINYL CHLORIDE 5.0 5.0 U UG/L  SURROGATE RECOVERIES QC LIMITS  4-BROMOFLUOROBENZENE (86 - 115 %) 104 % TOLUENE-D8 (88 - 110 %) 101 %	•		5.0	5.0 U	UG/L
### STHYLBENZENE   5.0   5.0 U UG/L	·		5.0	5.0 U	UG/L
2-HEXANONE	· · · · · · · · · · · · · · · · · · ·		5.0	5.0 Ŭ	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         VINYL CHLORIDE       5.0       5.0 U UG/L         VINYL CHLORIDE       5.0       5.0 U UG/L         0-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 %)       104 %         TOLUENE-D8       (88 - 110 %)       101 %			10	10 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         0-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 %)       104 %         TOLUENE-D8       (88 - 110 %)       101 %			5.0	5.0 Ŭ	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         1,1,2-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       0			10	10 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 %) 104 %  TOLUENE-D8 (88 - 110 %) 101 %			5.0	5.0 Ŭ	UG/L
TOLUENE  1,1,1-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  5.0  5.0  UG/L  1,1,2-TRICHLOROETHANE  5.0  5.0  UG/L  UG/L  VINYL CHLORIDE  5.0  5.0  UG/L  VINYL CHLORIDE  5.0  5.0  UG/L  VINYL CHLORIDE  5.0  5.0  UG/L  UG/L  VINYL CHLORIDE  5.0  5.0  UG/L  VINYL CHLORIDE  5.0  5.0  UG/L  VIG/L  VINYL CHLORIDE  5.0  5.0  UG/L  VIG/L  M+P-XYLENE  5.0  5.0  UG/L  VIG/L  M+P-XYLENE  5.0  5.0  UG/L  VIG/L  M-P-XYLENE  5.0  5.0  UG/L  VINYL  SURROGATE RECOVERIES  4-BROMOFLUOROBENZENE  (86 - 115 %)  TOLUENE-D8  (88 - 110 %)  101	, , ,		5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 5.0 5.0 UG/L 1,1,2-TRICHLOROETHANE 5.0 TRICHLOROETHENE 5.0 UG/L VINYL CHLORIDE 5.0 UG/L VINYL CHLORIDE 5.0 UG/L 0-XYLENE 5.0 UG/L M+P-XYLENE 5.0 UG/L M-P-XYLENE 686 - 115 %) 104 % 101 %			5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE  TRICHLOROETHENE  VINYL CHLORIDE  O-XYLENE  M+P-XYLENE  SURROGATE RECOVERIES  4-BROMOFLUOROBENZENE  (86 - 115 %)  TOLUENE-D8  5.0  5.0  U UG/L  UG/L  5.0  5.0  U UG/L  UG/L  104  %  104  %  101  %			5.0	5.0 Ŭ	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 %) 104 % TOLUENE-D8 (88 - 110 %) 101 %			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 UG/L O-XYLENE 5.0 5.0 U UG/L UG/L O-XYLENE 5.0 5.0 U UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG	· · ·		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 %) 104 % TOLUENE-D8 (88 - 110 %) 101 %			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 %)       104 %         TOLUENE-D8       (88 - 110 %)       101 %			5.0		
4-BROMOFLUOROBENZENE (86 - 115 %) 104 % TOLUENE-D8 (88 - 110 %) 101 %			5.0	5.0 Ŭ	UG/L
TOLUENE-D8 (88 - 110 %) 101 %	SURROGATE RECOVERIES	QC LIMITS			
TOLUENE-D8 (88 - 110 %) 101 %	4-BROMOFLUOROBENZENE	(86 - 115 %)		104	
				101	
				103	8

#### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID: RFI-48

Date 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 Ŭ	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 Ŭ	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 Ŭ	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 Ŭ	UG/L
FLUORENE	5.0	5.0 U	UG/L
	5.0	5.0 U	UG/L
		-	•
HEXACHLOROBENZENE HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L

3

#### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-48

Date 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 ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER 4-CHLOROPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE	5.0 5.0 10 20 10 10 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 UU 5.0 UU UU UU UU UU UU UU UU UU UU UU UU UU	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 10 10	10 U 10 U	UG/L UG/L
SURROGATE RECOVERIES QC LIMI	TTS		
NITROBENZENE-d5       (35 - 1         PHENOL-d6       (10 - 9         2-FLUOROBIPHENYL       (43 - 1         2-FLUOROPHENOL       (21 - 1	.41 %) .14 %) .4 %) .16 %) .10 %) .23 %)	58 38 28 66 35 57	ক ক ক ক ক ক

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		rder #: 226440 sion #: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	$\mathtt{MG}/\mathtt{L}$	08/26/98	1.0	
BARIUM	0.0200	0.179	$\mathtt{MG/L}$	08/26/98	1.0	
CADMIUM	0.00500	0.00500 U	$\mathtt{MG/L}$	08/26/98	1.0	
CHROMIUM	0.0100	0.0296	$\mathtt{MG/L}$	08/26/98	1.0	
COBALT	0.0500	០.0500 ប	MG/L	08/26/98	1.0	
COPPER	0.0200	0.131	MG/L	08/26/98	1.0	
IRON	0.100	83.7	$\mathtt{MG/L}$	08/26/98	1.0	
LEAD	0.0100	0.188	$\mathtt{MG/L}$	08/26/98	1.0	
MANGANESE	0.0100	8.38	$\mathtt{MG/L}$	08/26/98	1.0	
MERCURY	0.000300	0.000310	$\mathtt{MG/L}$	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	$\mathtt{MG/L}$	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	០.500 ប	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 CIANIDE 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 HARDNESS TOTAL PHOSPHORUS	0.0500	0.947	MG/L	08/20/98	1.0	
	1.00	1.00 U	MG/L	08/12/98	1.0	
TOTAL SULFIDE	1.00	1.00 0	, -	~ <b>- ,</b>		

## **VOLATILE ORGANICS**METHOD 8260B TCL 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 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/18/98			
ANALYTICAL DILUTION: 1.0	0		
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	$\mathtt{UG}/\mathtt{L}$
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 Ŭ	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
	10	10 U	UG/L
2-HEXANONE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	10	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	5.0 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 Ŭ	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE		5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0 5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 0	09/1
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	106	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	104	8

#### EXTRACTABLE 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 #3 Date Received: 08/06/98 Submission #3		Sample Matrix: Analytical Run	
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 Ŭ	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 Ŭ	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 Ŭ	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 Ŭ	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
HEXACHLOROGYCLOPENTADIENE	5.0	5.0 U	UG/L

#### EXTRACTABLE 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: 1.0	0		
HEXACHLOROETHANE ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE 4-NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER 4-CHLOROPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE	5.0 5.0 10 20 10 10 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 U U U U U U U U U U U U U U U U U U U	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 10 10	5.0 U 10 U 10 U	UG/L UG/L UG/L
2-FLUOROPHENOL	QC LIMITS  (33 - 141 %) (35 - 114 %) (10 - 94 %) (43 - 116 %) (21 - 110 %) (10 - 123 %)	56 7 * 1 * 59 1 * 3 *	কাত কাত কাত কাত কাত কাত কাত

Reported: 09/11/98

Golder Associates

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

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

				DATE	ANALYTICAL
ANALYTE	PQL	RESULT	UNITS	ANALYZED	DILUTION
METALS					
ALUMINUM	0.100	16.5	$\mathtt{MG/L}$	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	$\mathtt{MG/L}$	08/26/98	1.0
CADMIUM	0.00500	0.00500 U	${ t MG/L}$	08/26/98	1.0
CHROMIUM	0.0100	0.0191	$\mathtt{MG/L}$	08/26/98	1.0
COBALT	0.0500	0.0500 U	$\mathtt{MG/L}$	08/26/98	1.0
COPPER	0.0200	0.0280	$\mathtt{MG/L}$	08/26/98	1.0
IRON	0.100	164	$\mathtt{MG/L}$	08/26/98	1.0
LEAD	0.0100	0.0200	MG/L	08/26/98	1.0
MANGANESE	0.0100	5.04	$\mathtt{MG/L}$	08/26/98	1.0
MERCURY	0.000300	0.000300 ប	$\mathtt{MG/L}$	08/20/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	08/26/98	1.0
SELENIUM	0.0300	0.0300 ប	$\mathtt{MG/L}$	08/26/98	1.0
SILVER	0.0100	0.0100 U	$\mathtt{MG/L}$	08/26/98	1.0
VANADIUM	0.0500	០.0500 ប	MG/L	08/26/98	1.0
ZINC	0.0100	0.124	$\mathtt{MG/L}$	08/26/98	1.0
· · · · · · · · · · · · · · · · · · ·					
WET CHEMISTRY	1.00	439	MG/L	08/13/98	10.0
CHLORIDE	0.0100	0.0400 U	MG/L	08/06/98	4.0
HEXAVALENT CHROMIUM	0.0500	0.500 U	MG/L	00/00/50	NA
NITRATE NITROGEN	0.0500	0.500 U	MG/L	08/12/98	10.0
NITRATE/NITRITE NITROGEN NITRITE NITROGEN	0.0100	0.0555	MG/L	08/06/98	1.0
	5.00	4960	MG/L	08/26/98	400.0
SULFATE TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL CIANIDE TOTAL DISSOLVED SOLIDS	10.0	8160	MG/L	08/07/98	1.0
TOTAL DISSOLVED SOLIDS	2.00	2740	MG/L	08/06/98	1.0
TOTAL HARDNESS TOTAL PHOSPHORUS	0.0500	1.24	MG/L	08/20/98	1.0
TOTAL PHOSPHORUS TOTAL SULFIDE	1.00	1.00 U	MG/L	08/12/98	1.0
TOTAL SOPETHE	1.00	1.000	110/11	,,	

## **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			<del></del>		
ANALYTICAL DILUTION: 1.	00				
				20. 11	TIC /T
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 5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE			5.0 5.0	5.0 U	UG/L 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			10	10 U	UG/L
2-HEXANONE			5.0	5.0 U	UG/L
METHYLENE CHLORIDE			10	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK) STYRENE			5.0	5.0 Ŭ	UG/L
			5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE TETRACHLOROETHENE			5.0	5.0 Ŭ	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 Ŭ	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	웅)	95	%
TOLUENE-D8	(88)	- 110		98	8
DIBROMOFLUOROMETHANE	(86	- 118		102	%
DIDKOMOL POOKOME LUANE	100		~ <i>)</i>	104	9

#### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-50

Date Sampled:	08/05/98	Order #		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 Ŭ	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 UG/L
2,4-DINITROPHENOL	20	20 Ŭ	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 UG/L
FLUORENE	5.0	5.0 U	UG/L UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L UG/L
HEXACHLOROBUTADIENE	5.0	5.0 Ŭ	UG/L UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	0.6/17

#### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-50

Date Sampled:	08/05/98	Order #:		Sample Matrix:	
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 Ŭ	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-WETHYLANILINE	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 Ŭ	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	10	10 U	UG/L
2-NITROANILINE	5.0	5.0 Ŭ	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 Ŭ	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	$\mathtt{UG}/\mathtt{L}$
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 Ŭ	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 RECOVERIES QC	LIMITS		
TERPHENYL-d14 (33	- 141 %)	55	%
NITROBENZENE-d5 (35		1 *	%
PHENOL-d6 (10	- 94 %)	33	%
2-FLUOROBIPHENYL (43	- 116 %)	60	8
2-FLUOROBIPHENIL (43 2-FLUOROPHENOL (21		40	8
2,4,6-TRIBROMOPHENOL (10		54	8
2,4,0-IRIDROPOPHENOL	122 0,		

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	

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS		0.00	\r.= /=	00/06/00	1 0
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 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 08/26/98	1.0
NICKEL	0.0400	0.0400 U 0.0300 U	MG/L	08/26/98	1.0
SELENIUM	0.0300 0.0100	0.0300 U	MG/L	08/26/98	1.0
SILVER		0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500 0.0100	0.312	MG/L	08/26/98	1.0
ZINC	0.0100	0.312	MG/L	08/28/98	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

**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	<del></del>			
ANALYTICAL DILUTION: 1.00				
ACETONE		20	20 U	UG/L
BENZENE		5.0	5.0 U	UG/L
BROMODICHLOROMETHANE		5.0	5.0 Ŭ	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 5.0 U	UG/L UG/L
TRANS-1,2-DICHLOROETHENE		5.0 5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE 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 Ŭ	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			99	%
TOLUENE-D8 (88			98	%
DIBROMOFLUOROMETHANE (86	- 118	%)	102	%

#### 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 Ŭ	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 Ŭ	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

#### 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	<b>5.</b> 0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
N-METHYLANILINE	50	50 Ŭ	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 4-NITROPHENOL	10 20	10 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	20 U 5.0 U	UG/L 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 Ŭ	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 Ŭ	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 Ŭ	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 RECOVERIES QC	LIMITS		
TERPHENYL-d14 (33	- 141 %)	38	%
	- 114 %)	53	ે
PHENOL-d6 (10	- 94 %)	20	૪
2-FLUOROBIPHENYL (43	- 116 %)	54	8
2-FLUOROPHENOL (21	- 110 %)	24	8
2,4,6-TRIBROMOPHENOL (10	<del>-</del> 123 %)	29	8

Reported: 09/11/98

Golder Associates

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

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

				DATE	ANALYTICAL
ANALYTE	PQL	RESULT	UNITS	ANALYZED	DILUTION
METALS					
ALUMINUM	0.100	1.09	$\mathtt{MG/L}$	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	$\mathtt{MG/L}$	08/26/98	1.0
COBALT	0.0500	០.0500 ប	MG/L	08/26/98	1.0
COPPER	0.0200	០.0200 ប	$\mathtt{MG/L}$	08/26/98	1.0
IRON	0.100	4.18	MG/L	08/26/98	1.0
LEAD	0.0100	0.0100 U	$\mathtt{MG/L}$	08/26/98	1.0
MANGANESE	0.0100	0.564	$\mathtt{MG/L}$	08/26/98	1.0
MERCURY	0.000300	0.000300 ប	${ t MG/L}$	08/20/98	1.0
NICKEL	0.0400	0.0400 U	$\mathtt{MG/L}$	08/26/98	1.0
SELENIUM	0.0300	0.0300 ប	$\mathtt{MG/L}$	08/26/98	1.0
SILVER	0.0100	0.0100 U	MG/L	08/26/98	1.0
VANADIUM	0.0500	0.0500 U	$\mathtt{MG/L}$	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
	-		•	• •	

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	RES	SULT	UNITS
DATE ANALYZED : 08/18/98				
ANALYTICAL DILUTION: 1.0	00			
ACETONE	2	.0 20	0 U	UG/L
BENZENE	5.	0 5.0	0 U	UG/L
BROMODICHLOROMETHANE	5.		O U	UG/L
BROMOFORM	5.	0 5.0	O U	UG/L
BROMOMETHANE	5.	0 5.0	0 U	UG/L
2-BUTANONE (MEK)	1	.0 10	O U	UG/L
CARBON DISULFIDE	1	.0 10	0 U	UG/L
CARBON TETRACHLORIDE	5.	0 5.0	O U	UG/L
CHLOROBENZENE	5.		U O	UG/L
CHLOROETHANE	5.		0 U	UG/L
CHLOROFORM	5.		O U	UG/L
CHLOROMETHANE	5.			UG/L
DIBROMOCHLOROMETHANE	5.			UG/L
1,1-DICHLOROETHANE	5.			UG/L
1,2-DICHLOROETHANE	5.			UG/L
1,1-DICHLOROETHENE	5.			UG/L
CIS-1,2-DICHLOROETHENE	5.			UG/L
TRANS-1,2-DICHLOROETHENE	5.			UG/L
1,2-DICHLOROPROPANE	5.			UG/L
CIS-1,3-DICHLOROPROPENE	5.			UG/L
TRANS-1,3-DICHLOROPROPENE	5.			UG/L
ETHYLBENZENE	5.			UG/L
2-HEXANONE				UG/L
METHYLENE CHLORIDE	5.			UG/L
4-METHYL-2-PENTANONE (MIBK)			o U	UG/L
STYRENE	5.			UG/L
1,1,2,2-TETRACHLOROETHANE	5.			UG/L
TETRACHLOROETHENE	5.	-		UG/L
TOLUENE	5.	-		UG/L
1,1,1-TRICHLOROETHANE	5.			UG/L
1,1,2-TRICHLOROETHANE	5.			UG/L
TRICHLOROETHENE	5.			UG/L UG/L
VINYL CHLORIDE	5.	=		UG/L
O-XYLENE	5.			UG/L
M+P-XYLENE	5.	U 3.3	3 J	00/1
SURROGATE RECOVERIES	QC LIMITS			
4-BROMOFLUOROBENZENE	(86 - 115 %)	108		%
TOLUENE-D8	(88 - 110 %)	97		%
DIBROMOFLUOROMETHANE	(86 - 118 %)	105	5	૪

#### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Golder Associates

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

Date	Sampled:	08/05/98	Order i	#:	226443	Sample Matrix: WATER
Date	Received:	08/06/98	Submission i	#:	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 Ŭ	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 Ŭ	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 Ŭ	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 Ŭ	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 Ŭ	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 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 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	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10 5.0	5.0 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE		10 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10 20	20 U	UG/L
2,4-DINITROPHENOL	5.0	5.0 Ü	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	20	20 U	UG/L
N-ETHYLANILINE	5.0	5.0 Ü	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 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	J.0 0	55/H

#### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

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 29411

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98 DATE ANALYZED : 08/21/98 ANALYTICAL DILUTION: 1.00			
HEXACHLOROETHANE ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER 4-CHLOROPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE	5.0 5.0 10 20 10 10 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	10 10	10 U 10 U	UG/L UG/L
SURROGATE RECOVERIES QC	LIMITS		
TERPHENYL-d14 (33 NITROBENZENE-d5 (35 PHENOL-d6 (10 2-FLUOROBIPHENYL (43 2-FLUOROPHENOL (21 2,4,6-TRIBROMOPHENOL (10	- 141 %) - 114 %) - 94 %) - 116 %) - 110 %) - 123 %)	54 60 29 63 33 61	৯০ ৯০ ৯০ ৯০ ৯০ ৯০

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		rder #: 226444 sion #:9807000319	Sample Matrix: WATER		
ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	12.1	$\mathtt{MG}/\mathtt{L}$	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	$\mathtt{MG}/\mathtt{L}$	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	$\mathtt{MG/L}$	08/26/98	1.0
BARIUM	0.0200	0.0611	$\mathtt{MG/L}$	08/26/98	1.0
CADMIUM	0.00500	0.0324	$\mathtt{MG}/\mathtt{L}$	08/26/98	1.0
CHROMIUM	0.0100	0.0161	$\mathtt{MG}/\mathtt{L}$	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
	0.0100	0.0100 U	MG/L	08/26/98	1.0
SILVER	0.0500	0.0500 U	MG/L	08/26/98	1.0
VANADIUM 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 NITROGEN NITRATE/NITRITE NITROGEN	0.0500	59.3	MG/L	08/12/98	100.0
NITRATE/NITRIE NITROGEN	0.0100	0.0191	MG/L	08/08/98	1.0
	5.00	1700	MG/L	08/26/98	100.0
SULFATE TOTAL CYANIDE	0.0100	0.0100 U	MG/L	08/14/98	1.0
TOTAL CIANIDE TOTAL DISSOLVED SOLIDS	10.0	3700	MG/L	08/11/98	1.0
	2.00	2340	MG/L	08/20/98	1.0
TOTAL HARDNESS	0.0500	0.259	MG/L	08/20/98	1.0
TOTAL PHOSPHORUS	1.00	1.00 U	MG/L	08/12/98	1.0
TOTAL SULFIDE	1.00	1.00 0	/	,,	

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

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 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 Ŭ	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 Ŭ	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		109	%
TOLUENE-D8 (88		101	%
DIBROMOFLUOROMETHANE (86	· - 118 %)	103	8

#### 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 Ŭ	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 Ŭ	UG/L
BENZO (A) PYRENE	5.0	5.0 Ŭ	UG/L
BENZO(B) FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G, H, I) PERYLENE	5.0	5.0 Ŭ	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 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 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	5.0 Ŭ	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	5.0	5.0 Ŭ	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	20	20 U	UG/L
2,4-DINITROPHENOL	5.0	5.0 Ü	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	20	20 U	UG/L
N-ETHYLANILINE BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L
	5.0	5.0 Ŭ	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE HEYA CHI ODODENIZENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE HEXACHLOROBUTAD I ENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
UPVWCUPOKOC ICHOŁEM IWD IEME	5.0	5.0 5	•

### 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 ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 5.0 10 20 10 10 10 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
TERPHENYL-d14 ( NITROBENZENE-d5 ( PHENOL-d6 ( 2-FLUOROBIPHENYL ( 2-FLUOROPHENOL (	QC LIMITS  33 - 141 %) 35 - 114 %) 10 - 94 %) 43 - 116 %) 21 - 110 %) 10 - 123 %)	56 56 0 * 65 1 * 3 *	ماه ماه ماه ماه ماه

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	O Submis	rder #: 226445 sion #:9807000319		Sample Matr	ix: WATER
ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS				22/26/22	
ALUMINUM	0.100	31.4	$\mathtt{MG}/\mathtt{L}$	08/26/98	1.0
ANTIMONY	0.0600	0.0600 U	$\mathtt{MG}/\mathtt{L}$	08/26/98	1.0
ARSENIC	0.0100	0.0100 U	$\mathtt{MG/L}$	08/26/98	1.0
BARIUM	0.0200	0.0556	$\mathtt{MG}/\mathtt{L}$	08/26/98	1.0
CADMIUM	0.00500	7.77	$\mathtt{MG/L}$	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
	0.0300	0.0300 U	MG/L	08/26/98	1.0
SELENIUM	0.0100	0.0100 U	MG/L	08/26/98	1.0
SILVER	0.0500	0.0500 U	MG/L	08/26/98	1.0
VANADIUM	0.0100	1.04	MG/L	08/26/98	1.0
ZINC	0.0100	1.04	, -	,,	
WET CHEMISTRY				/ /	10.0
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	$\mathtt{MG/L}$	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	$\mathtt{MG}/\mathtt{L}$	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
TOTAL SOURTON		-			

**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
	5.0	5.0 U	UG/L
STYRENE 1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 Ŭ	UG/L
	5.0	5.0 U	UG/L
TOLUENE 1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	1.9 J	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	3.0		•
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 <del>-</del> 115 %)	105	8
TOLUENE-D8	(88 - 110 %)	101	8
DIBROMOFLUOROMETHANE	(86 - 118 %)	102	%

### 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 Ŭ	UG/L
ANTHRACENE	5.0	5.0 Ŭ	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 Ŭ	UG/L
BENZO(A) PYRENE	5.0	5.0 U	UG/L
BENZO(B) FLUORANTHENE	5.0	5.0 Ŭ	UG/L
BENZO(G, H, I) PERYLENE	5.0	5.0 Ŭ	UG/L
BENZO(K) FLUORANTHENE	5.0	5.0 Ŭ	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 Ŭ	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 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 UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L 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 5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	3.0 0	00/11

### 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 ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL MAPHTHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 5.0 10 20 10 10 10 5.0 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES QC	LIMITS		
TERPHENYL-d14 (33 NITROBENZENE-d5 (35 PHENOL-d6 (10 2-FLUOROBIPHENYL (43 2-FLUOROPHENOL (21 2,4,6-TRIBROMOPHENOL (10	- 141 %) - 114 %) - 94 %) - 116 %) - 110 %) - 123 %)	57 70 0 * 68 1 * 3 *	১০ ১০ ১০ ১০ ১০ ১৫

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	100,00,30		Sample Mat	rix: 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	$\mathtt{MG/L}$	08/20/98	1.0
NICKEL	0.0400	9.10	$\mathtt{MG/L}$	08/26/98	10.0
SELENIUM	0.00300	0.0189	MG/L	09/09/98	3.0
SILVER	0.0100	0.100 U	$\mathtt{MG/L}$	08/26/98	10.0
VANADIUM	0.0500	0.500 U	$\mathtt{MG/L}$	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 Ŭ	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

**VOLATILE ORGANICS**METHOD 8260B TCL
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 29556

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/18/98			
ANALYTICAL DILUTION: 1.00			
		4.60	ric / r
ACETONE	20	460	UG/L UG/L
BENZENE	5.0	110	
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L UG/L
BROMOFORM	5.0	5.0 U 5.0 U	UG/L
BROMOMETHANE	5.0	5.0 0	UG/L
2-BUTANONE (MEK)	10		UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U 1.9 J	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0		UG/L
CHLOROFORM	5.0	160 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 Ŭ	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	40	UG/L
ETHYLBENZENE	5.0	10 U	UG/L
2-HEXANONE	10	2.8 J	UG/L
METHYLENE CHLORIDE	5.0	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 0	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	69	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		UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	69	UG/L
M+P-XYLENE	5.0	140	03/1
SURROGATE RECOVERIES QC L	IMITS		
	- 115 %)	115	8
TOLUENE-D8 (88	- 110 %)	102	%
	- 118 %)	103	8

### 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			
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

### 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	$\mathtt{UG}/\mathtt{L}$
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 RECOVERIES QC L	IMITS		
TERPHENYL-d14 (33	- 141 %)	D	%
	- 114 %)	D	용
	- 94 %) ´	D	ક
	- 116 %)	D	8
·	- 110 %)	, D	ક
	- 123 %)	D	. %

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	Or Submiss	der #: 226447 ion #:9807000319		Sample Matr	cix: WATER
ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS				106 100	10.0
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	$\mathtt{MG/L}$	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
	0.100	3880	MG/L	09/04/98	100.0
IRON	0.0100	0.354	MG/L	08/26/98	10.0
LEAD	0.0100	41.7	MG/L	08/26/98	10.0
MANGANESE	0.000300	0.00130	MG/L	08/20/98	1.0
MERCURY	0.0400	8.90	MG/L	08/26/98	10.0
NICKEL	0.00300	0.0148	MG/L	09/09/98	3.0
SELENIUM	0.0100	0.100 U	MG/L	08/26/98	10.0
SILVER	0.0100	0.500 U	MG/L	08/26/98	10.0
VANADIUM	0.0100	36.9	MG/L	08/26/98	10.0
ZINC	0.0100	30.7	, 2	, - ,	
WET CHEMISTRY				00/10/00	10.0
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 10 0
NITRATE/NITRITE NITROGEN	0.0500	0.998	$\mathtt{MG}/\mathtt{L}$	08/12/98	10.0
NITRITE NITROGEN	0.0100	0.132	$\mathtt{MG}/\mathtt{L}$	08/08/98	4.0
SULFATE	5.00	24400	$\mathtt{MG}/\mathtt{L}$	08/26/98	1000.0
TOTAL CYANIDE	0.0100	0.0238	$\mathtt{MG}/\mathtt{L}$	08/14/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	31900	$\mathtt{MG}/\mathtt{L}$	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
TOTAL SOURTER	2.00	_	•		

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

Golder 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 29556

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 08/18/98				
ANALYTICAL DILUTION: 1.0	0			
		20	420	UG/L
ACETONE		5.0	110	UG/L
BENZENE		5.0	5.0 Ŭ	UG/L
BROMODICHLOROMETHANE		5.0	5.0 U	UG/L
BROMOFORM		5.0	5.0 U	UG/L
BROMOMETHANE		10	54	UG/L
2-BUTANONE (MEK)		10	10 U	UG/L
CARBON DISULFIDE		5.0	5.0 U	UG/L
CARBON TETRACHLORIDE		5.0	1.8 J	UG/L
CHLOROBENZENE		5.0	5.0 U	UG/L
CHLOROETHANE		5.0	160	UG/L
CHLOROFORM		5.0	5.0 U	UG/L
CHLOROMETHANE		5.0	5.0 U	UG'/L
DIBROMOCHLOROMETHANE		5.0	5.0 Ŭ	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	38	UG/L
ETHYLBENZENE		10	10 U	UG/L
2-HEXANONE		5.0	3.0 J	UG/L
METHYLENE CHLORIDE		10	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)		5.0	9.9	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	65	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	68	UG/L
O-XYLENE		5.0	130	UG/L
M+P-XYLENE		3.0	200	•
SURROGATE RECOVERIES	QC LIMIT	'S 		
4-BROMOFLUOROBENZENE	(86 - 11	.5 %)	110	8
TOLUENE-D8	(88 - 11	.0 %)	100	*
DIBROMOFLUOROMETHANE		.8 %)	101	8

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Golder 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 Ŭ	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 Ŭ	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 50 H	UG/L
1,3-DICHLOROBENZENE	5.0	50 U	UG/L
1,2-DICHLOROBENZENE	5.0	50 U	UG/L UG/L
1,4-DICHLOROBENZENE	5.0	50 U	•
3,3'-DICHLOROBENZIDINE	5.0	50 U 100 U	UG/L
2,4-DICHLOROPHENOL	10		UG/L UG/L
N, N-DIETHYLANILINE	10	100 U	UG/L
DIETHYLPHTHALATE	5.0	50 U	•
DIMETHYL PHTHALATE	5.0	50 U	UG/L
N, N-DIMETHYLANILINE	10	100 U	UG/L UG/L
2,4-DIMETHYLPHENOL	10	100 Ü	UG/L
2,4-DINITROPHENOL	20	200 U	UG/L
2,4-DINITROTOLUENE	5.0	50 บ 50 บ	UG/L
2,6-DINITROTOLUENE	5.0	200 Ŭ	UG/L
N-ETHYLANILINE	20 5.0	200 U 50 U	UG/L
BIS (2-ETHYLHEXYL) PHTHALATE		50 U	UG/L
FLUORANTHENE	5.0		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	06/11

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Golder 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			
Mindillom billotton			
HEXACHLOROETHANE	5.0	50 U	UG/L
ISOPHORONE	5.0	50 Ŭ	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 RECOVERIES	QC LIMITS		
	33 - 141 %)	82	%
	33 - 141 %) 35 - 114 %)	24 *	%
	•	55	%
	•	77	%
	13 - 116 %)	48	%
	21 - 110 %)	91	. %
2,4,6-TRIBROMOPHENOL (1	LO - 123 %)	91	<b>⁻</b> 0

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 Sample Matrix: WATER

Submission #:9807000319

					· · · · · · · · · · · · · · · · · · ·
		D. 2007 W		DATE	ANALYTICAL
ANALYTE	PQL	RESULT	UNITS	ANALYZED	DILUTION
ÆTALS					
ALUMINUM	0.100	0.100 U	MG/L	08/26/98	1.0
ANTIMONY	0.0600	0.0600 ti	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 ປ	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 ΰ	$\mathtt{MG/L}$	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	០.0100 ប	MG/L	08/26/98	1.0
WET CHEMISTRY					
CHLORIDE	1.00	1.00 U	$\mathtt{MG/L}$	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	$\mathtt{MG/L}$	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 TOTAL SULFIDE	0.0500 1.00	0.0500 U 1.00 U	MG/L MG/L	08/20/98 08/12/98	1.0 1.0

**VOLATILE 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
DATE ANALYZED : 08/19/9	18			
	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 Ŭ	UG/L
BROMOMETHANE		5.0	5.0 Ŭ	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 Ŭ	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 Ŭ	UG/L
1,1,1-TRICHLOROETHANE		5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE		5.0	5.0 Ŭ	UG/L
TRICHLOROETHENE		5.0	5.0 U	UG/L
VINYL CHLORIDE		5.0	5.0 Ŭ	UG/L
O-XYLENE		5.0	5.0 Ŭ	UG/L
M+P-XYLENE		5.0	5.0 Ŭ	UG/L
M+P-XILENE		3.0	3.0 0	00/1
SURROGATE RECOVERIES	QC LIMI	TS		
4-BROMOFLUOROBENZENE		15 %)	102	%
TOLUENE-D8	•	.10 %)	98	% %
	(86 - 1	.18 %)	95	

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

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 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 Ŭ	UG/L
ANILINE	5.0	5.0 Ŭ	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 Ŭ	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 Ŭ	UG/L UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U 5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	10 U	UG/L
2-CHLOROPHENOL	10	5.0 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	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 Ŭ	UG/L
3,3'-DICHLOROBENZIDINE	10	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	5.0	5.0 Ŭ	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	10	10 U	UG/L
N, N-DIMETHYLANILINE 2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DIMETRIPHENOL	20	20 U	UG/L
2,4-DINITROFILENCE 2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE 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
	5.0	5.0 บ	UG/L
FLUORENE HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
UEVWCUTOKOC I CTOL EN INDIENE			

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

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 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 Ŭ	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 Ŭ	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 Ŭ	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 Ŭ	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 Ŭ	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 Ŭ	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L
SURROGATE RECOVERIES QC	LIMITS		
TERPHENYL-d14 (33	- 141 %)	53	8
NITROBENZENE-d5 (35	· ·	60	%
PHENOL-d6 (10	<b>-</b> 94 %)	28	%
2-FLUOROBIPHENYL (43	- 116 %)	61	ક
2-FLUOROPHENOL (21	- 110 %)	32	%
2,4,6-TRIBROMOPHENOL (10	- 123 %)	68	· %

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

Golder Associates

Project Reference: BUFFALO COLOR Client Sample ID : TRIP BLANK

Date Sampled: 08/05/98 Order #: 226449 Sample Matrix: WATER Date Received: 08/06/98 Submission #: 9807000319 Analytical Run 29556

ANALYTE				PQL		RES	JLT	UNITS
DATE ANALYZED : 08/19/98								
ANALYTICAL DILUTION: 1.00	)							
ACETONE				20		20		UG/L
BENZENE				5.0		5.0		UG/L
BROMODICHLOROMETHANE				5.0		5.0		UG/L
BROMOFORM				5.0		5.0		UG/L
BROMOMETHANE				5.0		5.0		UG/L
2-BUTANONE (MEK)				10		10		UG/L
CARBON DISULFIDE				10		10		UG/L
CARBON TETRACHLORIDE				5.0		5.0		UG/L
CHLOROBENZENE				5.0		5.0		UG/L
CHLOROETHANE				5.0	•	5.0		UG/L
CHLOROFORM				5.0		5.0		UG/L
CHLOROMETHANE				5.0		5.0		UG/L
DIBROMOCHLOROMETHANE				5.0		5.0		UG/L
1,1-DICHLOROETHANE				5.0		5.0		UG/L
1,2-DICHLOROETHANE				5.0		5.0		UG/L UG/L
1,1-DICHLOROETHENE				5.0		5.0 5.0		UG/L
CIS-1,2-DICHLOROETHENE				5.0		5.0		UG/L
TRANS-1, 2-DICHLOROETHENE				5.0		5.0		UG/L
1,2-DICHLOROPROPANE				5.0		5.0		UG/L
CIS-1,3-DICHLOROPROPENE				5.0		5.0		UG/L
TRANS-1,3-DICHLOROPROPENE				5.0 5.0		5.0		UG/L
ETHYLBENZENE				10		10		UG/L
2-HEXANONE				5.0		5.0		UG/L
METHYLENE CHLORIDE				10		10		UG/L
4-METHYL-2-PENTANONE (MIBK)				5.0		5.0		UG/L
STYRENE				5.0		5.0		UG/L
1,1,2,2-TETRACHLOROETHANE				5.0		5.0		UG/L
TETRACHLOROETHENE				5.0		5.0		UG/L
TOLUENE				5.0		5.0		UG/L
1,1,1-TRICHLOROETHANE				5.0		5.0		UG/L
1,1,2-TRICHLOROETHANE				5.0		5.0		UG/L
TRICHLOROETHENE				5.0		5.0		UG/L
VINYL CHLORIDE				5.0		5.0		UG/L
O-XYLENE				5.0		5.0		UG/L
M+P-XYLENE				3.0				,
SURROGATE RECOVERIES	QC	LIN	MITS					
	(86		115	•		101		% 0.
			110			94		% %
DIBROMOFLUOROMETHANE	(86	-	118	る)		96		6

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

Golder Associates

Project Reference: BUFFALO COLOR Client Sample ID: TRIP BLANK

Date Sampled: 08/06/98 Order #: 226450 Sample Matrix: WATER Date Received: 08/07/98 Submission #: 9807000319 Analytical Run 29556

Date Received: 08/07/98 Submis	ssion #:	980/000319 MI	aryticar kun	
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 Ŭ	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 Ŭ	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 UG/L
TRANS-1,3-DICHLOROPROPENE		5.0	5.0 Ŭ 5.0 Ŭ	UG/L
ETHYLBENZENE		5.0	10 U	UG/L
2-HEXANONE		10	5.0 U	UG/L
METHYLENE CHLORIDE		5.0	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)		10	5.0 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	5.0 U	UG/L
1,1,1-TRICHLOROETHANE			5.0 U	UG/L
1,1,2-TRICHLOROETHANE		5.0	5.0 U	UG/L
TRICHLOROETHENE		5.0 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	3.0 0	33, =
SURROGATE RECOVERIES	QC LIM	ITS		
4-BROMOFLUOROBENZENE	•	115 %)	104	% %
TOLUENE-D8	•	110 %)	100	%
DIBROMOFLUOROMETHANE	(86 <del>-</del>	118 %)	96	70

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

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order #: Submission #:		Sample Matrix: Analytical Run	
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 03 ANALYTICAL DILUTION:	3/18/98 1.00			
ACETONE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE 2-BUTANONE (MEK) CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE THYLBENZENE 2-HEXANONE METHYLENE CHLORIDE 4-METHYL-2-PENTANONE (M STYRENE 1,1,2,2-TETRACHLOROETHA TETRACHLOROETHENE TOLUENE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE TRICHLOROETHENE	NE IBK)	20 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	20 5.0 5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
VINYL CHLORIDE O-XYLENE M+P-XYLENE		5.0 5.0 5.0	5.0 U 5.0 U 5.0 U	UG/L UG/L UG/L
SURROGATE RECOVERIES	QC LIN	MITS		
4-BROMOFLUOROBENZENE TOLUENE-D8 DIBROMOFLUOROMETHANE	(88 –	115 %) 110 %) 118 %)	100 100 100	એ એ એ

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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order Submission	#: 234862 #:	Sample Matrix: V Analytical Run 2	VATER 29556
ANALYTE		PQL	RESULT	UNITS
	08/19/98			
ANALYTICAL DILUTION:	1.00			
ACETONE		20	20 U	UG/L
BENZENE		5.0	5.0 Ŭ	UG/L
BROMODICHLOROMETHANE		5.0	5.0 Ŭ	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 Ŭ	UG/L
CHLOROBENZENE		5.0	5.0 Ŭ	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 Ŭ	UG/L
1,2-DICHLOROETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHENE		5.0	5.0 Ŭ	UG/L
CIS-1,2-DICHLOROETHEN	₹.	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETH		5.0	5.0 Ŭ	UG/L
1,2-DICHLOROPROPANE		5.0	5.0 Ŭ	UG/L
CIS-1,3-DICHLOROPROPE	VE.	5.0	5.0 Ŭ	UG/L
TRANS-1,3-DICHLOROPRO		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	(MTBK)	10	10 U	UG'/L
STYRENE	(112011)	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROET	HANE	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
		5.0	5.0 U	UG/L
O-XYLENE M+P-XYLENE		5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC :	LIMITS		
4-BROMOFLUOROBENZENE	(86	- 115 %)	102	8
TOLUENE-D8	(88	- 110 %)	99	8
DIBROMOFLUOROMETHANE	(86	- 118 %)	96	8
PIDEOMOFIOOROMETHANE	(00)			

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled: Order Date Received: Submission		233671	Sample Matrix: Analytical Run	WATER 29411
ANALYTE	<u> </u>	PQL	RESULT	UNITS
DATE EXTRACTED : 08/07/98 DATE ANALYZED : 08/20/98 ANALYTICAL DILUTION: 1.00				
ANALYTICAL DILUTION: 1.00  ACENAPHTHENE ACENAPHTHYLENE ANILINE ANTHRACENE BENZO(A) ANTHRACENE BENZO(B) FLUORANTHENE BENZO(B) FLUORANTHENE BENZO(K) FLUORANTHENE BENZO(K) FLUORANTHENE BENZYL ALCOHOL BUTYL BENZYL PHTHALATE DI-N-BUTYLPHTHALATE CARBAZOLE INDENO(1,2,3-CD) PYRENE 4-CHLOROANILINE BIS(-2-CHLOROETHOXY) METHANE BIS(2-CHLOROETHYL) ETHER 2-CHLOROPHENOL 2,2'-OXYBIS(1-CHLOROPROPANE) CHRYSENE DIBENZO(A, H) ANTHRACENE DIBENZOFURAN 1,3-DICHLOROBENZENE 1,4-DICHLOROBENZENE 1,4-DICHLOROBENZENE 3,3'-DICHLOROBENZIDINE 2,4-DICHLOROPHENOL N,N-DIETHYLANILINE DIETHYLPHTHALATE		5.000000000000000000000000000000000000	00000000000000000000000000000000000000	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
N, N-DIMETHYLANILINE 2, 4-DIMETHYLPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROTOLUENE 2, 6-DINITROTOLUENE		10 20 5.0 5.0	10 U 20 U 5.0 U 5.0 U 20 U	UG/L UG/L UG/L UG/L UG/L
N-ETHYLANILINE BIS (2-ETHYLHEXYL) PHTHALATE FLUORANTHENE FLUORENE HEXACHLOROBENZENE HEXACHLOROBUTADIENE HEXACHLOROCYCLOPENTADIENE HEXACHLOROETHANE		5.0 5.0 5.0 5.0 5.0 5.0	5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U	UG/L UG/L UG/L UG/L UG/L UG/L UG/L

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled: Date Received:	Order # Submission #	233671	Sample Matrix: Analytical Run	WATER 29411
ANALYTE		PQL	RESULT	UNITS
<b>2</b>	3/07/98 3/20/98 1.00			
ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHEN 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETH 4-CHLOROPHENYL-PHENYLETH N-NITROSO-DI-N-PROPYLAM PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE	ER HER	5.0 10 20 10 10 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 U U U U U U U U U U U U U U U U U U U	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL		10	10 U	UG/L
SURROGATE RECOVERIES	QC L1	MITS		
TERPHENYL-d14 NITROBENZENE-d5 PHENOL-d6 2-FLUOROBIPHENYL 2-FLUOROPHENOL 2,4,6-TRIBROMOPHENOL	(35 - (10 - (43 - (21 -	- 141 %) - 114 %) - 94 %) - 116 %) - 110 %) - 123 %)	58 64 66 68 56 65	ক ক ক ক ক ক

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled: Order # Date Received: Submission #	233673	Sample Matrix: Analytical Run	
ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/12/98 DATE ANALYZED : 08/20/98 ANALYTICAL DILUTION: 1.00			
ACENAPHTHENE ACENAPHTHYLENE ANILINE ANTHRACENE BENZO(A) ANTHRACENE BENZO(A) PYRENE BENZO(B) FLUORANTHENE BENZO(G, H, I) PERYLENE BENZO(K) FLUORANTHENE BENZYL ALCOHOL BUTYL BENZYL PHTHALATE DI-N-BUTYLPHTHALATE CARBAZOLE INDENO(1,2,3-CD) PYRENE 4-CHLOROANILINE BIS(-2-CHLOROETHOXY) METHANE BIS(2-CHLOROETHYL) ETHER	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.0 UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2,2'-OXYBIS(1-CHLOROPROPANE) CHRYSENE DIBENZO(A, H) ANTHRACENE DIBENZOFURAN 1,3-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,4-DICHLOROBENZENE 3,3'-DICHLOROBENZIDINE	5.0 10 5.0 5.0 5.0 5.0 5.0 5.0	10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
2,4-DICHLOROPHENOL N,N-DIETHYLANILINE DIETHYLPHTHALATE DIMETHYL PHTHALATE N,N-DIMETHYLANILINE 2,4-DIMETHYLPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE N-ETHYLANILINE BIS(2-ETHYLHEXYL)PHTHALATE	10 10 5.0 5.0 10 10 20 5.0 5.0 20 5.0	10 U 10 U 5.0 U 5.0 U 10 U 10 U 20 U 5.0 U 20 U 5.0 U	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
FLUORANTHENE FLUORENE HEXACHLOROBENZENE HEXACHLOROBUTADIENE HEXACHLOROCYCLOPENTADIENE HEXACHLOROCTHANE	5.0 5.0 5.0 5.0 5.0	5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U	UG'L UG/L UG/L UG/L UG/L UG/L

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/11/98

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled: Date Received: Sul	Order #: 233673 bmission #:	Sample Matrix: W Analytical Run 2	ATER 9412
ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/12 DATE ANALYZED : 08/20 ANALYTICAL DILUTION:			
ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 50 10 20 10 10 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14 NITROBENZENE-d5 PHENOL-d6 2-FLUOROBIPHENYL 2-FLUOROPHENOL 2,4,6-TRIBROMOPHENOL	(33 - 141 %) (35 - 114 %) (10 - 94 %) (43 - 116 %) (21 - 110 %) (10 - 123 %)	71 47 24 51 32 61	৩৫ ৩৫ ৩৫ ৩৫ ৩৫

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

ALUMINUM

ANTIMONY

ARSENIC

	LIMITS		- 125		- 125	- 125		- 125	- 125		- 125		- 125		- 125		- 125
			75		75	75		75	75		75		75		75		75
'CX	% REC.		119		8.7	 0 N		68	 87		97		8 9	-	92		93
ACCURACY	ADDED		2.00		0.500	0.0400		2.00	0.0500		0.200		0.500		0.250		0.500
	FOUND		16.2		0.435	0.0100 U		1.42	0.0529		0.208		0.566		0.352		0.482
	RPD		5		NC	NC		2	Н		7		٦		4		20
PRECISION	DUPLICATE		14.6		0.0600 U	0.0100 U		0.0635	0.00947		0.0148		0.121		0.128		0.0154
PRI	ORIGINAL		13.8		0.0600 U	0.0100 U		0.0622	0.00957		0.0138		0.122		0.123		0.352
9070		3	L	1	<b>L</b>	<u> </u>	_	<b>.</b>		•		<b>-</b>		-		-	

CHROMIUM

COBALT

COPPER

LEAD

CADMIUM

BARIUM

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

MANGANESE

SELENIUM

NICKEL

SILVER

VANADIUM

ZINC

R.G.	PRECISION			ACCURACY	ACY	
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
15.9	15.8	Н	16.1	0.500	Ω	75 - 125
0.166	0.169	2	0.633	0.500	- £6 -	75 - 125
0.0300 U	0.0300 U	NC	1.13	1.01	112	75 - 125
0.0100 U	0.0100 U	NC	0.0585	0.0500	117	75 - 125
0.0500 U	0.050 U	NC	0.488	0.500	-86	75 - 125
2.57	2.60	1	3.06	0.500	46	75 - 125
	The second secon					

## 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

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

LEAD

## 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

IRON

PRECIBION

ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
304	291	4	307	1.00	Q	75 - 12

ACCURACY

-125

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

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

MERCURY

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

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ρ,

ACCURACY

- 130 LIMITS 70 % REC. 86 ADDED 250 FOUND 453 RPD ω DUPLICATE 225 ORIGINAL

CHLORIDE

208

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

HEXAVALENT CHROMIUM

PRECISION

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

# 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.	LIMITB
76.7	76.1	П	122	50.0	91	70 - 130

NITRATE/NITRITE NITROGEN

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

NITRITE NITROGEN

PRECISION

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

## 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

SULFATE

PRECISION

	ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
1							
	5520	5400	2	9260	4000	93	70 - 130

INORGANIC QUALITY CONTROL SUMMARY

Report Date CAS Order # Client

09/11/98 226438 - RFI-46 Golder Associates BUFFALO COLOR

Reported Units: MG/L Run # : 29151

TOTAL CYANIDE

PRECISION

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

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

TOTAL DISSOLVED SOLIDS

PRECISION

RPD 0 DUPLICATE 8080 ORIGINAL 8070

INORGANIC QUALITY CONTROL SUMMARY

09/11/98 226438 - RFI-46 Golder Associates BUFFALO COLOR Report Date CAS Order # Client

Reported Units: MG/L Run # : 2895

28959

PRECISION

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

ACCURACY

TOTAL HARDNESS

# INORGANIC QUALITY CONTROL SUMMARY

CAS Order # : 226438 - RFI-46
Client : Golder Associates
BUFFALO COLOR
Reported Units: MG/L
Run # .

PRECISION

ORIGINAL

0.123

150 LIMITS į 20 % REC. 83 ADDED 2.00 FOUND 1.79 RPD Н DUPLICATE 0.124

ACCURACY

TOTAL PHOSPHORUS

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

TOTAL SULFIDE

PRECIBION

RPD	NC
DUPLICATE	1.00 U
ORIGINAL	1.00 U

CAS Submission #: 9807000319 Client: Golder Associates BUFFALO COLOR

			BLANK	K SPIKES			
	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITE
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	66	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	66	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

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9807000319 Client: Golder Associates BUFFALO COLOR

			BLANK	SPIKES			
	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITB
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	66	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

## INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9807000319 Client: Golder Associates BUFFALO COLOR

### BLANK SPIKES

			Mand	DURIN DETINED			
	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITB
NITRITE NITROGEN	0.0100 U	0.248	0.250	66	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	98	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

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

	İ	i i	MATRIX	SPIKE	MATRIX S	SPIKE D	UP.	į	QC LIMITS
ANALYTE	SPIKE	SAMPLE  -	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

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

		<u> </u>	MATRIX	SPIKE	MATRIX S	SPIKE D	UP.		QC LIMITS
ANALYTE	SPIKE	SAMPLE -	FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.
ACENAPHTHENE	100	10 1	75.0	75	67.0	67	11	31	46 - 118
2-CHLOROPHENOL	200	io i	96.0	48	39.0	20*	84 *	40	27 - 123
1.4-DICHLOROBENZENE	100	io i	58.0	58	48.0	48	19	28	36 - 97
2,4-DINITROTOLUENE	100	io i	0.000	0 *	0.000	0 *	1	38	24 - 96
4-CHLORO-3-METHYLPHENOL	200	io i	91.0	46	20.0	10*	128	42	23 - 97
4-NITROPHENOL	200	io i	12.0	6 * 1	24.0	12	67 *	50	10 - 80
PENTACHLOROPHENOL	200	io i	110	55	100	50	10	50	9 - 103
PHENOL	200	10 i	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

VOLATILE ORGANICS METHOD: 8260B TCL

### LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 234864	ANALYT	ICAL 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 <b>-</b> 151
BROMODICHLOROMETHANE	20	99	35 <b>-</b> 155
BROMOFORM	20	86	45 - 169
BROMOMETHANE	20	119	10 - 242
2-BUTANONE (MEK)	20	115	25 <del>-</del> 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 <b>-</b> 138
CHLOROMETHANE	20	110	10 - 273
DIBROMOCHLOROMETHANE	20	92	53 - 149
1,1-DICHLOROETHANE	20	108	59 <b>-</b> 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

UALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No.: 226438

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 29411

			BLANK S	PIKE	QC LIMITS
ANALYTE	SPIKE  ADOED	SAMPLE CONCENT.	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	j o j	66.0	66	26 - 127
1,2,4-TRICHLOROBENZENE	100	0	73.0	73	39 - 98

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

COLUMBIA ANALYTICAL SERVICES, INC.
1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859
(716) 288-5380 • FAX (716) 288-8475

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(800) 695-7222

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COMPANY/ADDRESS Golder Associates INC	Pall Blul S. 709 430		S	S09/109 🗆	8021 VOA's TCLP	AOVS OTSE TCLP	1□ s'AOV	ACTERIZAT orros. 🗆 lg			30		1-	20120		5531		
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Signature	Signature							1										
Printed Name	Printed Name	SPECIAL	SPECIAL INSTRUCTIONS/COMMENTS:	ONS/C	OMMEN	<u>;;</u>			0	7								
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Date/Time	Date/Time	MAHWA	MAHWAH, NJ 07430	<u> </u>	)	FAX	201-5	FAX 201-512-3362		RIDLEY PARK, PA 19078	PAR	, PA	19078		4.	FAX 610-521-4589	0-521	-458

1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM! (800) 695-7222

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PAGE

81/2/8

DATE

**PRESERVATION** Submission No: 98-7-319 I Wouthing the Bulling for RFI-PZ18 (005) Other FAX 610-521-4589 610-521-3083 St < Hq Shipping Via: FED EX SAMPLE RECEIPT: 7 Temperature: 309 WEST RIDLEY AVE. RIDLEY PARK, PA 19078 INVOICE INFORMATION: **ANALYSIS REQUESTED** □ Special List See prozect los for of METALS, DISSOLVED (LIST BELOW) P.O. #: Bill To: METALS, TOTAL (LIST BELOW) 201-512-3292 FAX 201-512-3362 □ BN Only WASTE CHARACTERIZATION REPORT REQUIREMENTS 5. NY ASP/CLP Deliverables TCLP | METALS d/H □ 1. Routine Report 2. Routine Rep. w/CASE Deliverables Level IV Validatable Package \_ 6. Site specific QC. STAR'S LIST 8270 SVOA's ☐ AE Only 4. N.J. Reduced 3. EPA Level III SPECIAL INSTRUCTIONS/COMMENTS: Narrative STAR'S LIST 8021 VOA's ☐ 8080 ☐ 608 PESTICIDES/PCB's 65 RAMAPO VALLEY ROAD MAHWAH, NJ 07430 ☐ 8010/8020 GC VOA's C09/109 🗆 TURNAROUND REQUIREMENTS Provide Verbal Preliminary Results Provide FAX Preliminary Results \_\_\_ 5 day Standard (10-15 working days) 2+2 GC/MS SVOA's □ TCL □ 625 48 hr. X 85e0 CC/WS Requested Report Date □ 624 2'AOV **ORGANICS**: METALS  $\mathcal{O}$ *9*0 # OF CONTAINERS \_\_ 24 hr. SAMPLE MATRIX 420 4,0 天の ES91-186 Suite9 14304 Associates TWC 2490 Signature Toning Hawk 226440 726442 226441 RECEIVED BY: RECEIVED BY: RECEIVED BY: LAB I.D. Coma Haur 6 98 0 Printed Name CH & FAX (2/6) Printed Name Printed Name 15:15 15:56 Date/Time Date/Time 6/5/18 16:29 Firm-3 / Date/Time TIME Signature Signature Laved RFI Firm Firm É 81/2/8 - 50 (004) 8/5/90 DATE 18.09 ENEFELDER PROJECT MANAGER/CONTACT. TEL (7/6) 731-1560 2221 Niagena Falls BE/ RELINGUISHED BY: RELINQUISHED BY: RELINQUISHED BY: -PZ 1810g1 SAMPLER'S SIGNATURE 2FI-49 (003) COMPANY/ADDRESS SAMPLE I.D. PROJECT NAME Date/Time 6/5/ Printed Name Printed Name Date/Time Date/Time Signature Signature RFI E Film

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM"

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**PRESERVATION** 610-521-3083 Other 7-319 FAX 610-521-4589 G) 21 < Hq 7,B1 SAMPLE RECEIPT: Submission No:  $98^{-}$ Feb 0.2 > Hq 3 SS3MONOH Shipping Via: Temperature: X Shipping #: Q ZOV4 タ ゙゙゚゙゙゙゙゙ 309 WEST RIDLEY AVE. RIDLEY PARK, PA 19078 50 メ X X INVOICE INFORMATION: × ANALYSIS REQUESTED See メ 3012705 X ☐ BN Only ☐ Special List R Crt6+ orther motals por parct. (LIST BELOW) P.O. Bill To: METALS, TOTAL (LIST BELOW) 201-512-3292 FAX 201-512-3362 X WASTE CHARACTERIZATION ☐ Ignit. REPORT REQUIREMENTS 5. NY ASP/CLP Deliverables TCLP | METALS 2. Routine Rep. w/CASE Deliverables Level IV Validatable Package 6. Site specific QC. STAR'S LIST 8270 SVOA's 1. Routine Report ☐ AE Only 4. N.J. Reduced 3. EPA Level III Narrative SPECIAL INSTRUCTIONS/COMMENTS: STAR'S LIST 8021 VOA's 809 🗆 0808 🗆 65 RAMAPO VALLEY ROAD MAHWAH, NJ 07430 PESTICIDES/PCB's ☐ 8010/8020 Provide Verbal Preliminary Results TURNAROUND REQUIREMENTS C09/109 🗆 Provide FAX Pretiminary Results 5 day Standard (10-15 working days) GC/MS SVOA's SSS ORGANICS: TCL X 48 hr. Requested Report Date GC/MS VOA's D 624 × × METALS # OF CONTAINERS 00  $\boldsymbol{\omega}$  $\infty$ 24 hr. SAMPLE MATRIX HO 40 420 7 り 5460 4 9 Jana Harro MITCHELL 226445 226448 Ssocially INC. 226443 731-RECEIVED BY: RECEIVED BY: RECEIVED BY: (.AB I.D. Some Hawk Suite 9  $\mathcal{G}_{i}$ Firm S (e | 9 & Date/Time Printed Name <u>\_</u> FAX (7/6) Printed Name Printed Name Signature 22:21 86/5/8 10:36 Date/Time TIME Signature Date/Time Signature RFI PROJECT MANAGEN/CONTACT **Lean** C Firm Firm 8/2/38 DATE 8/2/48 Firm Boldle Associates 440 COMPANY/ADDRESS GOLD 13cc/ Jagun falls Complete UFR RELINQUISHED BY: RELINQUISHED BY: RFT-47(008) SAMPLER'S SIGNATURE RFI-51 (006 Dale/Time 8/5/98 SAMPLE I.D. PROJECT NAME つじく紫 TEL (**7/6**) . Printed Name Printed Name Date/Time Signature Date/Time RB 턘 Firm

1 Mustard St., Sulte 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM PAGE 9 19/8 (800) 695-7222

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PRESERVATION FAX 610-521-4589 Other Submission No: 7-319 21 < Hq SAMPLE RECEIPT: Felle 0.2 > Hq FAL CN ANALYSIS 7 SSBNOTO 807 Shipping Via: femperature: 309 WEST RIDLEY AVE. RIDLEY PARK, PA 19078 INVOICE INFORMATION: **ANALYSIS REQUESTED** SPECIAL INSTRUCTIONS/COMMENTS: No preserun fires provided Bettles Special List Wetash pur Prosect METALS, DISSOLVED Bill To: P.O. #: METALS, TOTAL (LIST BELOW) 201-512-3292 FAX 201-512-3362 Ben ☐ BN Only WASTE CHARACTERIZATION ☐ Ignit. REPORT REQUIREMENTS 5. NY ASP/CLP Deliverables TCLP | METALS | SVOA's **⊿/H** □ 2. Routine Rep. w/CASE Deliverables Level IV メナア本 Validatable Package SED STAR'S LIST 8270 SVOA'S 1. Routine Report ☐ AE Only 4. N.J. Reduced 3. EPA Level III Narrative STAR'S LIST 8021 VOA's 1+6+071el ☐ 8080 ☐ 608 besticides/pcb's m 65 RAMAPO VALLEY ROAD MAHWAH, NJ 07430 □ PPL アクトラ ☐ 8010/80S0 TURNAROUND REQUIREMENTS Provide Verbal Preliminary Results C09/109 🗆 Provide FAX Preliminary Results 5 day Standard (10-15 working days) Returned GC/MS SVOA's GC/MS SVOA's 1 1 2 1 48 hr. Requested Report Date € 8560 □ 624 GC/MS VOA's ORGANICS: METALS # OF CONTAINERS ð Q 24 hr. SAMPLE MATRIX 14300 420 40 ら 450 CHA SEC RECEIVED BY: RECEIVED BY: 226 446 RECEIVED BX AB 1.D. HAH ICC Blid. Suteg Pave Mitchel 455acintes KFI/N/ 300 1987 7198 FAX (716 Printed Name Printed Name Date/Time 12:54 Date/Time TIME RFI-45(00)8/0/8/11:59 ps:21 -14/000/)8/0/21/ 15:21 Signature Signature File Figure 26/3/8 8/6/98 DATE 10:01 5000000 Nagara Fall ないというない BCC PROJECT MANAGER/CONTACT. TEL (7/1/2) 231-1560 RELINOUISHED BY RELINGÚISHED BY: RELINQUISHED BY: SAMPLER'S SIGNATURE COMPANY / ADDRESS SAMPLE I.D. PROJECT NAME Tield 2221 Printed Name Printed Name Date/Time Signature Date/Time Signature F E

### 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 OA 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.

### GOLDER 9808000118 Page 2

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

NJ ID # in Rochester:

73004

CT ID # in Rochester: MA ID # in Rochester: PH0556 M-NY032 RI ID # in Rochester:

158

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

DATE ANALYZED  L 09/09/98	ANALYTICAL DILUTION
	1.0
L 09/09/98	1.0
	1.0
	1.0
	1.0
	1.0
	1.0
	1.0
L 09/16/98	1.0
L 09/16/98	1.0
'L 09/09/98	1.0
L 09/04/98	1.0
'L 09/09/98	1.0
'L 09/15/98	5.0
	1.0
	1.0
'L 09/09/98	1.0
	10.0
	10.0
	NA 1000
	10.0
	10.0
	100.0
	1.0
	1.0
	1.0
	1.0
'L 08/26/98	1.0
	L 09/09/98 L 09/09/98 L 09/09/98 L 09/09/98 L 09/09/98 L 09/16/98 L 09/16/98 L 09/16/98 L 09/16/98 L 09/09/98 L 09/09/98 L 09/09/98 L 09/09/98 L 09/09/98 L 09/09/98 L 09/09/98 L 08/25/98 L 08/25/98 L 08/26/98 L 08/27/98 L 08/27/98 L 09/03/98

### VOLATILE ORGANICS METHOD 8260B TCL

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 30005

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 08/31/98				
ANALYTICAL DILUTION: 1.0	0			
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 Ŭ	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 UG/L
ETHYLBENZENE	•	5.0	5.0 U 10 U	•
2-HEXANONE		10		UG/L UG/L
METHYLENE CHLORIDE		5.0	5.0 U 10 U	UG/L UG/L
4-METHYL-2-PENTANONE (MIBK)		10		UG/L
STYRENE		5.0	5.0 U 5.0 U	UG/L UG/L
1,1,2,2-TETRACHLOROETHANE		5.0	5.0 U	UG/L
TETRACHLOROETHENE		5.0		UG/L
TOLUENE		5.0	5.0 U 5.0 U	UG/L
1,1,1-TRICHLOROETHANE		5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE		5.0 5.0	5.0 U	UG/L
TRICHLOROETHENE		5.0	5.0 U	UG/L
VINYL CHLORIDE		5.0	5.0 Ŭ	UG/L
O-XYLENE		5.0	5.0 U	UG/L
M+P-XYLENE		5.0	3.00	00/1
SURROGATE RECOVERIES	QC LIMITS	5		
4-BROMOFLUOROBENZENE	(86 - 115		105	%
TOLUENE-D8	(88 - 110		98	%
DIBROMOFLUOROMETHANE	(86 - 118	3 %)	105	%

### 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

Date Received: 08/21/98 Submission #	: 9808000118 <b>An</b>	alytical 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 Ŭ	UG/L
BENZO (G, H, I) PERYLENE	5.0	5.0 U	UG/L
BENZO (K) FLUORANTHENE	5.0	5.0 Ŭ	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 Ŭ	UG/L
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 Ŭ	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 Ŭ	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

### 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

Date Received: 08/21/98 Sub	mission #: 9808000118 An	alytical Run	29540
ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/DATE ANALYZED : 08/25/ANALYTICAL DILUTION:			
ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 50 10 10 10 10 10 10 5.0 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14 NITROBENZENE-d5 PHENOL-d6 2-FLUOROBIPHENYL 2-FLUOROPHENOL 2,4,6-TRIBROMOPHENOL	(33 - 141 %) (35 - 114 %) (10 - 94 %) (43 - 116 %) (21 - 110 %) (10 - 123 %)	61 60 27 64 29 57	ماه ماه ماه ماه ماه

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

				DATE	ANALYTICAL DILUTION
ANALYTE	PQL	RESULT	UNITS	ANALYZED	DIROTION
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	$\mathtt{MG/L}$	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	$\mathtt{MG/L}$	09/09/98	1.0
WET CHEMISTRY	1.00	471	MG/L	08/25/98	10.0
CHLORIDE	0.0100	0.100 U	MG/L	08/21/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.500 U	MG/L	,, -	NA
NITRATE NITROGEN	0.0500	0.500 U	MG/L	08/26/98	10.0
NITRATE/NITRITE NITROGEN	0.0300	0.100 U	MG/L	08/21/98	10.0
NITRITE NITROGEN	5.00	1290	MG/L	08/26/98	100.0
SULFATE	0.0100	0.0100 U	MG/L	08/28/98	1.0
TOTAL CYANIDE	10.0	3050	MG/L	08/27/98	1.0
TOTAL DISSOLVED SOLIDS		1650	MG/L	09/03/98	1.0
TOTAL HARDNESS	2.00	0.637	MG/L	08/27/98	1.0
TOTAL PHOSPHORUS	0.0500	1.00 U	MG/L	08/26/98	1.0
TOTAL SULFIDE	1.00	1.00 0	, 1	,,	

### VOLATILE ORGANICS METHOD 8260B TCL

Reported: 09/18/98

Golder Associates

Project Reference: BUFFALO COLOR Client Sample ID : FIELD DUP

Order #: 230838 Sample Matrix: WATER Date Sampled: 08/20/98 Order #: 230838 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			
- GDMOVE	20	20 Ŭ	UG/L
ACETONE	5.0	5.0 Ŭ	UG/L
BENZENE	5.0	5.0 Ŭ	UG/L
BROMODICHLOROMETHANE	5.0	5.0 Ŭ	UG/L
BROMOFORM	5.0	5.0 Ŭ	UG/L
BROMOMETHANE	10	10 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	5.0	5.0 Ŭ	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 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 Ŭ	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 Ŭ	UG/L
TRANS-1, 3-DICHLOROPROPENE	5.0	5.0 Ŭ	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 Ŭ	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 Ŭ	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 Ŭ	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 Ŭ	UG/L
SURROGATE RECOVERIES QC	LIMITS		
4-BROMOFLUOROBENZENE (86		106	ૄ
10101111 20	- 110 %)	100	8
DIBROMOFLUOROMETHANE (86	;	106	<b>ે</b>

### 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

DATE EXTRACTED : 08/24/98 DATE ANALYZED : 08/25/98 ANALYTICAL DILUTION: 1.00  ACENAPHTHENE	ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/25/98 ANALYTICAL DILUTION: 1.00  ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHYLENE S.0 5.0 U UG/L ANLLINE S.0 5.0 U UG/L ANLLINE S.0 5.0 U UG/L ANLLINE S.0 5.0 U UG/L BENZO(A) ANTHRACENE BENZO(A) ANTHRACENE BENZO(A) PYRENE S.0 5.0 U UG/L BENZO(B) FLUORANTHENE S.0 5.0 U UG/L BENZO(G, H, I) PERYLENE S.0 5.0 U UG/L BENZO(G, H, I) PERYLENE S.0 5.0 U UG/L BENZYL ALCOHOL S.0 5.0 U UG/L BUTL BENZYL PHTHALATE S.0 5.0 U UG/L BUTL BENZYL PHTHALATE S.0 5.0 U UG/L CARBAZOLE S.0 5.0 U UG/L UTL BENZYL PHTHALATE S.0 5.0 U UG/L UTL BENZYL PHTHALATE S.0 5.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L UTL BENZYL PHTHALATE S.0 S.0 U UG/L S.C-CHLOROPHONOL S.C-CHLOROPHONOL S.C S.C U UG/	DATE EXTRACTED : 08/24/98			
ACENAPHTHENE ACENAPHTHENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE ACENAPHTHYLENE BENZO (A) ANTHRACENE BENZO (B) FRENE BENZO (CA) PYRENE BENZO (B) FLUORANTHENE BENZO (B, T) PERYLENE BENZO (CB				
ACENAPHTHENE  ACENAPHTHYLENE  ACENAPHTHYLENE  ACENAPHTHYLENE  ACENAPHTHYLENE  ACENAPHTHYLENE  ANTERACENE  BENZO (A) ANTHRACENE  BENZO (A) ANTHRACENE  BENZO (B) FYRENE  BENZO (B) FLUORANTHENE  BENZO (B) FLUORANTHENE  BENZO (C) H, I) PERYLENE  BENZO (C) H, I) ANTHRACENE  BENZO (C) H, I) ANTHRACENE  BENZO (C) H, I) ANTHRACENE  BENZO (C) H, I) ANTHRACENE  BENZO (C) H, I) ANTHRACENE  BENZO (C) H, I) ANTHRACENE  BENZO (C) H, I) ANTHRACENE  BENZO (C) H, I) ANTHRACENE  BENZO (C) H, II ANTHRACENE  BENZO (C) BENZENE  BENZO (C) H, II ANTHRACENE  BENZO (C) BENZENE  BENZO (C				
ACEMAPHTHYLENE ACEMAPHTHYLENE ACEMAPHTHYLENE ACEMAPHTHYLENE ANTLINE ANTHRACENE BENZO (A) ANTHRACENE BENZO (A) ANTHRACENE BENZO (A) PYRENE BENZO (A) PYRENE BENZO (B) FLUORANTHENE BENZO (C) H, I) PERYLENE BENZO (K) FLUORANTHENE BENZO (C) H, I) PERYLENE BENZO (C) H, I) PERYLENE BENZO (C) H, I) PERYLENE BENZYL ALCOHOL BUTZL BENZYL PHTHALATE BENZYL ALCOHOL BUTZL BENZYL PHTHALATE BEN				/-
ACEMAPHTHYLENE 5.0 5.0 U UG/L NITHIANCENE 5.0 5.0 U UG/L OUG	ACENAPHTHENE			
ANTHRACENE				
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 (B) FLUORANTHENE 5.0 5.0 U UG/L BENZO (B, T) 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 BENZYL ALCOHOL 5.0 5.0 U UG/L BENZYL ALCOHOL 5.0 5.0 U UG/L BENZYL PHTHALATE 5.0 5.0 U UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG	ANILINE			
BENZO (A) PYRENE  5.0 5.0 U UG/L  BENZO (B) FLUORANTHENE  5.0 5.0 U UG/L  BENZO (K) FLUORANTHENE  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  BENZYL ALCOHOL  5.0 5.0 U UG/L  BENZYL PHTHALATE  5.0 5.0 U UG/L  BUTYL BENZYL PHTHALATE  5.0 5.0 U UG/L  BUTYL BENZYL PHTHALATE  5.0 5.0 U UG/L  BUTYL BENZYL PHTHALATE  5.0 5.0 U UG/L  CARBAZOLE  1.0 5.0 U UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.0 UG/L  1.1 UG/L  1.1 UG/L  1.2 UG/L  1.3 UG/L  1.3 UG/L  1.4 DICHLOROBENZENE  5.0 5.0 U UG/L  1.4 DICHLOROBENZENE  5.0 5.0 U UG/L  1.5 UG/L  1.5 UG/L  1.5 UG/L  1.6 UG/L  1.6 UG/L  1.7 UG/L  1.8 UG/L  1.9 UG/L  1.9 UG/L  1.9 UG/L  1.0 UG/L  1.1 UG/L  1.1 UG/L  1.2 UG/L  1.3 UG/L  1.3 UG/L  1.4 UG/L  1.5 UG/L  1.5 UG/L  1.5 UG/L  1.6 UG/L  1.6 UG/L  1.7 UG/L  1.8 UG/L  1.9 UG/L  1.9 UG/L  1.9 UG/L  1.9 UG/L  1.0 UG/L  1.1 UG/L  1.1 UG/L  1.2 UG/L  1.3 UG/L  1.4 UG/L  1.5 UG/L  1.5 UG/L  1.5 UG/L  1.6 UG/L  1.6 UG/L  1.7 UG/L  1.8 UG/L  1.9				
BENZO (B) PLUORANTHENE  BENZO (G, H, I) PERYLENE  BENZO (K, H, LUORANTHENE  BENZO (K, H, LUORANTHENE  BENZO (K, H, LUORANTHENE  BENZU ALCOHOL  BUTYL BENZYL PHTHALATE  S.O. 5.O U UG/L  BUTYL BENZYL PHTHALATE  5.O. 5.O U UG/L  BUTYL BENZYL PHTHALATE  5.O. 5.O U UG/L  BUTYL BENZYL PHTHALATE  5.O. 5.O U UG/L  BUTYL BENZYL PHTHALATE  5.O. 5.O U UG/L  LUDENO (1, 2, 3 - CD) PYRENE  5.O. 5.O U UG/L  LUDENO (1, 2, 3 - CD) PYRENE  5.O. 5.O U UG/L  BIS (2-CHLOROSTHOXY) METHANE  BIS (2-CHLOROSTHOXY) METHANE  BIS (2-CHLOROPHYL) BTHER  5.O. 5.O U UG/L  2-CHLOROPHYLD BTHER  5.O. 5.O U UG/L  2-CHLOROPHYLD BTHER  5.O. 5.O U UG/L  2-CHLOROPHYLD BTHER  5.O. 5.O U UG/L  2-CHLOROPHYLD BTHER  5.O. 5.O U UG/L  2-CHLOROPHYLD BTHER  5.O. 5.O U UG/L  2, 1-OXYBIS (1-CHLOROPROPANE)  5.O. 5.O U UG/L  2, 2-OXYBIS (1-CHLOROPROPANE)  5.O. 5.O U UG/L  DIBENZO (A, H) ANTHRACENE  5.O. 5.O U UG/L  DIBENZO (B, H) ANTHRACENE  5.O. 5.O U UG/L  1, 3-DICHLOROBENZENE  5.O. 5.O U UG/L  1, 3-DICHLOROBENZENE  5.O. 5.O U UG/L  1, 4-DICHLOROBENZENE  5.O 5.O U UG/L  1, 4-DICHLOROBENZENE  5.O 5.O U UG/L  1, 3, 3'-DICHLOROBENZIDINE  5.O 5.O U UG/L  1, N, N-DIETHYLANILINE  1.O 1.O U UG/L  N, N-DIETHYLANILINE  5.O 5.O U UG/L  N, N-DIETHYLANILINE  5.O 5.O U UG/L  N, N-DIMETHYLANILINE  5.O 5.O U UG/L  1, 4-DIMITROTOLUENE  5.O 5.O U UG/L  1, 4-DIMITROTOLUENE  5.O 5.O U UG/L  BIS (2-ETHYLHEXYL) PHTHALATE  5.O 5.O U UG/L  HEARCHORDENEADLENE  5.O 5.O U UG/L  HEARCHORDENEADLENE  5.O 5.O U UG/L  HEARCHORDENEADLENE  5.O 5.O U UG/L  HEARCHORDENEADLENE	BENZO (A) ANTHRACENE			
BENZO(B) FLUORANTHENE BENZO(G), F, I) PERYLENE BENZO(K) FLUORANTHENE BENZO(K) FLUORANTHENE BENZYL ALCOHOL BUTYL BENZYL PHTHALATE BENZYL PHTHALATE BENZYL PHTHALATE S.O. 5.O U UG/L BUTYL BENZYL PHTHALATE S.O. 5.O U UG/L BUTYL BENZYL PHTHALATE S.O. 5.O U UG/L BUTYL BENZYL PHTHALATE S.O. 5.O U UG/L BUTYL BENZYL PHTHALATE S.O. 5.O U UG/L BUTYL BENZYL PHTHALATE S.O. 5.O U UG/L INDENO(1,2,3-CD) PYRENE S.O. 5.O U UG/L BIS (2-CHLOROANILINE S.O. 5.O U UG/L BIS (2-CHLOROETHOXY) METHANE S.O. 5.O U UG/L BIS (2-CHLOROETHYL) ETHER S.O. 5.O U UG/L BIS (2-CHLOROANPHTHALENE S.O. 5.O U UG/L C2-CHLORONAPHTHALENE S.O. 5.O U UG/L C2-CHLOROPHENOL S.O. 5.O U UG/L C2-CHLOROPHENOL S.O. 5.O U UG/L DIBENZO(A, H) ANTHRACENE S.O. 5.O U UG/L DIBENZOFURAN S.O. 5.O U UG/L DIBENZOFURAN S.O. 5.O U UG/L L1, 3-DICHLOROBENZENE S.O. 5.O U UG/L L1, 4-DICHLOROBENZENE S.O. 5.O U UG/L L2, 4-DINITROPHENOL S.O. 5.O U UG/L DISTHYLANILINE S.O. 5.O U UG/L DIMETHYLANILINE S.O. 5.O U UG/L DIMITROPHENOL S.O. 5.O U UG/L DIMITROTOLUENE S.O. 5.O U UG/L S.4-DINITROTOLUENE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEXYL) PHTHALATE S.O. 5.O U UG/L BIS (2-ETHYLHEX BUT AND B	BENZO (A) PYRENE			
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 - CHLOROETHOXY) METHANE         5.0         5.0         U UG/L           2 - CHLOROPHENOL         10         U UG/L           2 - CHLOROPHTHALENE         5.0         5.0         U UG/L           2 - CHLOROPHENOL         10         10         U UG/L           2 - CHLOROPHENOL         10         U UG/L           2 - CHLOROPHENOL         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	BENZO (B) FLUORANTHENE			
BENZO(K) FLUORANTHENE         5.0         5.0         U UG/L           BENZYL ALCOHOL         5.0         5.0         U UG/L           DITYL 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           LINDENO(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-CHLOROETHOXY) METHANE         5.0         5.0         U UG/L           2-CHLOROPHENOL         10         10         U UG/L           2-CHLOROPHENOL         10         10         U UG/L           2-CHLOROPHENOL         10         10         U UG/L           2-CHLOROPHENOL         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           DIBENZO(A, H) ANTHRACENE         5.0         5.0         U UG/L           1, 3-DICHLOROBENZENE         5.0         5.0         U UG/L <td>BENZO(G, H, I) PERYLENE</td> <td></td> <td></td> <td></td>	BENZO(G, H, I) PERYLENE			
BENYYL ALCOHOL BUTYL BENZYL PHTHALATE  DI-N-BUTYLPHTHALATE  CARBAZOLE  INDENO (1, 2, 3-CD) PYRENE  4-CHLOROANILINE  BIS (-2-CHLOROETHOXY) METHANE  BIS (-2-CHLOROETHOXY) METHANE  BIS (-2-CHLOROETHOXY) METHANE  BIS (-2-CHLOROETHYL) ETHER  2-CHLOROPHENOL  2-CHLOROPHENOL  2-CHLOROPHENOL  2-2'-OXYBIS (1-CHLOROPROPANE)  DIBENZO (A, H) ANTHRACENE  DIBENZO (A, H) ANTHRACENE  DIBENZO (A, H) ANTHRACENE  DIBENZO (B, H) ANTHRACENE  DICHLOROBENZENE  1. 2-DICHLOROBENZENE  1. 3-DICHLOROBENZENE  1. 4-DICHLOROBENZIDINE  2. 4-DICHLOROBENZIDINE  DIETHYLANILINE  DIETHYLANILINE  DIETHYLANILINE  DIETHYLANILINE  DIETHYLANILINE  DIETHYLANILINE  DIETHYLANILINE  DIETHYLPHTHALATE  DIETHYLPHTHALATE  DIETHYLPHTHALATE  DIMETHYL PHTHALATE  DIETHYLPHTHALATE  DIETHYLPHENOL  2, 4-DINITROTOLUENE  2, 4-DINITROTOLUENE  2, 4-DINITROTOLUENE  2, 4-DINITROTOLUENE  3. 0 5.0 U UG/L  2, 4-DINITROTOLUENE  DISCREMBENZENE  DISC	BENZO (K) FLUORANTHENE			
BUTYL BENTYL PHIHALATE	BENZYL ALCOHOL			
D1-N-BUTLPHTHALATE				
INDEMO(1, 2, 3 - CD) PYRENE	DI-N-BUTYLPHTHALATE			
INDENO(1, 2, 3-CD) PYRENE				
### A-CHLOROBATILINE	INDENO(1,2,3-CD)PYRENE			
BIS (-2-CHLOROETHYL) ETHER  5.0 5.0 U UG/L  2-CHLOROPHENOL  2-CHLOROPHENOL  10 10 U UG/L  2-CYSYBIS (1-CHLOROPROPANE)  5.0 5.0 U UG/L  2-CHYSENE  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  1.2-DICHLOROBENZENE  1.2-DICHLOROBENZENE  1.4-DICHLOROBENZENE  1.4-DICHLOROBENZENE  1.4-DICHLOROBENZIDINE  1.4-DICHLOROBENZIDINE  1.5.0 5.0 U UG/L  2.4-DICHLOROBENZIDINE  1.0 10 U UG/L  N.N-DIETHYLANILINE  DIETHYLPHTHALATE  DIMETHYL PHTHALATE  N.N-DIMETHYLANILINE  DIMETHYL PHTHALATE  N.N-DIMETHYLANILINE  DIMETHYL PHTHALATE  N.N-DIMETHYLANILINE  DIMETHYL PHTHALATE  N.N-DIMETHYLANILINE  DIMETHYLPHENOL  2.4-DINITROPHENOL  2.4-DINITROPHENOL  2.4-DINITROPHENOL  2.4-DINITROPHENOL  2.4-DINITROPHENOL  2.4-DINITROPHENOL  2.4-DINITROPHENOL  2.4-DINITROPHENOL  2.4-DINITROTOLUENE  3.0 5.0 U UG/L  2.4-DINITROTOLUENE  3.0 5.0 U UG/L  2.5-DINITROTOLUENE  3.0 5.0 U UG/L  3.0 C U UG/L  3.0 C U UG/L  3.0 C U UG/L  4.0 DINITROTOLUENE  5.0 5.0 U UG/L  4.1 DINITROTOLUENE  5.0 5.0 U UG/L  4.2 DINITROTOLUENE  5.0 5.0 U UG/L	4-CHLOROANILINE			
BIS (2 - CHLORODETHYL) ETHER	BIS(-2-CHLOROETHOXY)METHANE			
2-CHLOROMAPHTHALENE 2-CHLOROPHENOL 2,2'-OXYBIS(1-CHLOROPROPANE) 5.0 5.0 U UG/L 2,2'-OXYBIS(1-CHLOROPROPANE) 5.0 5.0 U UG/L CHRYSENE 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 2,4-DICHLOROBENZIDINE 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 2,4-DICHLOROPHENOL 5.0 5.0 U UG/L DIETHYLANILINE 5.0 5.0 U UG/L DIETHYLPHTHALATE 5.0 5.0 U UG/L N,N-DIMETHYLANILINE 10 10 U UG/L N,N-DIMETHYLANILINE 10 10 U UG/L 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 5.0 5.0 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 5.0 5.0 U UG/L C-ETHYLHANILINE 5.0 5.0 U UG	BIS(2-CHLOROETHYL)ETHER			
2-CHLOROPHENOL   2,2'-OXYBIS (1-CHLOROPROPANE)   5.0   5.0   U UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG				• .
CHRYSENE	2-CHLOROPHENOL			• .
DIBENZO (A, H) ANTHRACENE				
DIBENZO (A, H) ANTHRACENE				
DIBENZOFURAN				
1,3-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,4-DICHLOROBENZENE 3,3'-DICHLOROBENZIDINE 2,4-DICHLOROPHENOL N,N-DIETHYLANILINE DIETHYLPHTHALATE DIMETHYL PHTHALATE N,N-DIMETHYLANILINE 10 10 10 UG/L				
1,2-DICHLOROBENZENE 1,4-DICHLOROBENZIDINE 3,3'-DICHLOROBENZIDINE 2,4-DICHLOROPHENOL N,N-DIETHYLANILINE DIETHYLPHTHALATE DIMETHYL PHTHALATE N,N-DIMETHYLANILINE DIMETHYLPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROTOLUENE 2,6-DINITROTOLUENE 3.0 20 20 20 20 20 20 20 20 20 20 20 20 20				
1,4-DICHLOROBENZIDINE				
10	1,4-DICHLOROBENZENE			
2,4-DICHLOROPHENOL   10	3,3'-DICHLOROBENZIDINE			UG/L
N,N-DIETHYLANILINE	2,4-DICHLOROPHENOL			UG/L
DIETHYLPHTHALATE       5.0       5.0 U UG/L         DIMETHYL PHTHALATE       10       10 U UG/L         N,N-DIMETHYLANILINE       10       10 U UG/L         2,4-DIMETHYLPHENOL       20       20 U UG/L         2,4-DINITROPHENOL       5.0       5.0 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         HEXACHLOROBENZENE       5.0       5.0 U UG/L	N, N-DIETHYLANILINE			UG/L
DIMETRY PRIMARY       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         HEXACHLOROBENZENE       5.0       5.0 U UG/L				
10	DIMETHYL PHIHALAIE			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         HEXACHLOROBENZENE       5.0       5.0 U UG/L			10 U	UG/L
2,4-DINITROPHENOL       5.0       5.0       U UG/L         2,4-DINITROTOLUENE       5.0       5.0       U UG/L         2,6-DINITROTOLUENE       20       20       U UG/L         N-ETHYLANILINE       20       5.0       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         HEXACHLOROBENZENE       5.0       5.0       U UG/L	2,4-DIMETHILPHENOU		20 U	
2,6-DINITROTOLUENE       5.0       5.0       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         HEXACHLOROBENZENE       5.0       5.0       U UG/L	2,4-DINITROPHENOL		5.0 U	
20   20   UG/L	2,4-DINITROTOLOGNE		5.0 Ŭ	
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 UG/L UG/L UG/L 5.0 5.0 U UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG				
FLUORANTHENE       5.0       5.0 U UG/L         FLUORENE       5.0       5.0 U UG/L         HEXACHLOROBENZENE       5.0       5.0 U UG/L         HEXACHLOROBENZENE       5.0       5.0 U UG/L	DIG (2 - PTHVI.HEXVI.) PHTHALATE	5.0	5.0 Ŭ	•
FLUORANTHENE 5.0 5.0 U UG/L FLUORENE 5.0 5.0 U UG/L HEXACHLOROBENZENE 5.0 5.0 U UG/L HEXACHLOROBENZENE 5.0 5.0 U			5.0 Ŭ	•
HEXACHLOROBENZENE 5.0 5.0 U UG/L HEXACHLOROBENZENE 5.0 5.0 U UG/L		5.0		
111111111111111111111111111111111111				•
	HEXACHLOROBENZENE HEXACHLOROBUTADIENE		5.0 U	
HEXACHLOROCYCLOPENTADIENE 5.0 5.0 U UG/L	HEARCHLOROSS TADILING		5.0 U	UG/L

### 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 Ŭ	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 UG/L
NITROBENZENE	5.0	5.0 U 10 U	UG/L
2-NITROPHENOL	10 20	20 U	UG/L
4-NITROPHENOL	5.0	5.0 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 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 Ŭ	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 UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	06/1
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	44	%
NITROBENZENE-d5	(35 - 114 %)	55	<b>%</b>
PHENOL-d6	(10 - 94 %)	27	%
2-FLUOROBIPHENYL	(43 - 116 %)	64	%
	(21 - 110 %)	32	ૡ
2-FLUOROPHENOL	(10 - 123 %)	55	8

Reported: 09/18/98

Golder Associates

Project Reference: BUFFALO COLOR

Client Sample ID :RINSATE

Sample Matrix: WATER Date Sampled: 08/20/98 Date Received: 08/21/98 Order #: 230839

Submission #:9808000118

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS	0.100	0.100 U	MG/L	09/09/98	1.0
ALUMINUM ANTIMONY	0.0600	0.0600 U	MG/L	09/09/98	1.0
	0.0100	0.0100 U	MG/L	09/09/98	1.0
ARSENIC	0.0200	0.0200 U	MG/L	09/09/98	1.0
BARIUM	0.00500	0.00500 U	MG/L	09/09/98	1.0
CADMIUM	0.0100	0.0100 U	MG/L	09/09/98	1.0
CHROMIUM	0.0500	0.0500 U	MG/L	09/09/98	1.0
COBALT	0.0200	0.0200 U	MG/L	09/16/98	1.0
COPPER	0.100	0.100 U	MG/L	09/16/98	1.0
IRON	0.00500	0.00500 U	MG/L	09/16/98	1.0
LEAD	0.0100	0.0100 U	MG/L	09/09/98	1.0
MANGANESE	0.000300	0.000300 U	MG/L	09/04/98	1.0
MERCURY	0.0400	0.0400 U	MG/L	09/09/98	1.0
NICKEL	0.00500	0.00500 U	MG/L	09/15/98	1.0
SELENIUM	0.0100	0.0154	MG/L	09/09/98	1.0
SILVER	0.0500	0.0500 U	MG/L	09/09/98	1.0
VANADIUM	0.0200	0.0200 U	MG/L	09/09/98	1.0
ZINC	0.0200	0.0200 0	110, =	,,	
WET CHEMISTRY				00/07/00	1 0
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 Ŭ	MG/L	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	$\mathtt{MG/L}$	08/26/98	1.0

### 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 : 08/31/9	8		
	.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 Ŭ	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 Ŭ	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 Ŭ	UG/L
CHLOROBENZENE	5.0	5.0 Ŭ	UG/L
CHLOROETHANE	5.0	5.0 บั	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 Ŭ	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 Ŭ	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 Ŭ	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 %)	107	. %
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	102	%

### 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

Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 29540  ANALYTE POL RESULT UNITS						
ANALYTE	PQL	RESULT	ONIIS			
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-CHLORONA PHTHALENE	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 Ŭ	UG/L			
FLUORANTHENE	5.0	5.0 Ŭ	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			

### 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 ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIPHENYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL	5.0 5.0 10 10 10 10 10 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES  TERPHENYL-d14 NITROBENZENE-d5 PHENOL-d6 2-FLUOROBIPHENYL 2-FLUOROPHENOL 2,4,6-TRIBROMOPHENOL	QC LIMITS  (33 - 141 %) (35 - 114 %) (10 - 94 %) (43 - 116 %) (21 - 110 %) (10 - 123 %)	65 67 33 64 41 73	০০ ০০ ০০ ০০ ০০

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		10.0	MG/L	09/09/98	1.0
ALUMINUM	0.100	10.0	MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0953		09/09/98	1.0
BARIUM	0.0200	0.0746	MG/L		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	
MERCURY	0.000300	0.000300 U	MG/L	09/04/98	1.0 1.0
NICKEL	0.0400	0.0400 U	MG/L	09/09/98	5.0
SELENIUM	0.00500	0.0250 U	MG/L	09/15/98	1.0
SILVER	0.0100	0.0186	MG/L	09/09/98	1.0
VANADIUM	0.0500	0.0500 Ŭ	MG/L	09/09/98	
ZINC	0.0200	0.0629	MG/L	09/09/98	1.0
WET CHEMISTRY				00/05/00	10.0
CHLORIDE	1.00	424	MG/L	08/25/98 08/21/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/71/38	NA.
NITRATE NITROGEN	0.0500	0.500 U	MG/L	00/26/00	10.0
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 08/26/98	400.0
SULFATE	5.00	5000	MG/L		1.0
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	
TOTAL PHOSPHORUS	0.0500	0.874	MG/L	08/27/98	1.0 1.0
TOTAL SULFIDE	1.00	1.00 U	$\mathtt{MG}/\mathtt{L}$	08/26/98	1.0

VOLATILE ORGANICS METHOD 8260B TCL 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 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 Ŭ	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 Ŭ	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 Ŭ	UG/L
CHLOROBENZENE	5.0	5.0 U	$\mathtt{UG}/\mathtt{L}$
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 Ŭ	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 Ŭ	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1, 2-DICHLOROETHENE	5.0	5.0 Ŭ	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 Ŭ	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 Ŭ	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 Ŭ	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 Ŭ	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 Ŭ	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 Ŭ	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L
SURROGATE RECOVERIES QC 1	LIMITS		
4-BROMOFLUOROBENZENE (86	- 115 %)	108	%
TOLUENE-D8 (88	- 110 왕)	99	₹
DIBROMOFLUOROMETHANE (86	- 118 %)	106	б

### 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 Ŭ	UG/L
BENZO (A) PYRENE	5.0	5.0 Ŭ	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 Ŭ	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 UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U 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	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10	5.0 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	10 U	UG/L
N, N-DIMETHYLANILINE	10 10	10 U	UG/L
2,4-DIMETHYLPHENOL	20	20 U	UG/L
2,4-DINITROPHENOL	5.0	5.0 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	20	20 U	UG/L
N-ETHYLANILINE	5.0	5.0 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 Ŭ	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 Ŭ	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	٠.٠	3.0 3	

### 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:	
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: 1.0	0		
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 UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U 5.0 U	UG/L
NAPHTHALENE	5.0 10	10 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	5.0	5.0 Ŭ	UG/L
2-NITROANILINE	5.0	5.0 Ŭ	UG/L
3-NITROANILINE	5.0	5.0 Ŭ	UG/L
4-NITROANILINE 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 Ŭ	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 UG/L
PHENANTHRENE	5.0	5.0 U 10 U	UG/L
PHENOL	10 5.0	5.0 Ŭ	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 O+P-TOLUIDINE	20	20 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 Ŭ	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
	(33 - 141 %)	59	%
TERPHENYL-d14	(35 - 114 %)	3 *	%
NITROBENZENE-d5 PHENOL-d6	(10 - 94 %)	29	%
2-FLUOROBIPHENYL	(43 - 116 %)	61	8
2-FLUOROBIPHENIL 2-FLUOROPHENOL	(21 - 110 %)	36	%
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	68	%
~ / - / V			

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
TETALS			/-	/ /	1 0
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	$\mathtt{MG/L}$	09/09/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	09/09/98	1.0
COBALT	0.0500	0.0500 Ư	$\mathtt{MG}/\mathtt{L}$	09/09/98	1.0
COPPER	0.0200	0.0200 U	$\mathtt{MG}/\mathtt{L}$	09/16/98	1.0
IRON	0.100	6.38	$\mathtt{MG}/\mathtt{L}$	09/16/98	1.0
LEAD	0.00500	0.00721	MG/L	09/16/98	1.0
MANGANESE	0.0100	1.03	${ t MG/L}$	09/09/98	1.0
MERCURY	0.000300	0.000300 Ŭ	${ t MG/L}$	09/04/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	09/09/98	1.0
SELENIUM	0.00500	0.0250 Ŭ	MG/L	09/15/98	5.0
SILVER	0.0100	0.0100 ប	$\mathtt{MG}/\mathtt{L}$	09/09/98	1.0
VANADIUM	0.0500	0.0500 U	$\mathtt{MG/L}$	09/09/98	1.0
ZINC	0.0200	0.0247	MG/L	09/09/98	1.0
VET CHEMISTRY					
CHLORIDE	1.00	33.8	$\mathtt{MG/L}$	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	$\mathtt{MG/L}$	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	$\mathtt{MG/L}$	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

### VOLATILE ORGANICS METHOD 8260B TCL 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 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 Ŭ	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 UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L 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 5.0 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	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	5.00	33/11
SURROGATE RECOVERIES QC	LIMITS		
4-BROMOFLUOROBENZENE (86	- 115 %)	108	્ર ૧
TOBORNE BO	- 110 %)	101	6 %
DIBROMOFLUOROMETHANE (86	- 118 왕)	107	6

### 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

	DOT	DECIT T	UNITS
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 Ŭ	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 Ŭ	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 Ŭ	UG/L

### 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			
HEXACHLOROETHANE ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER 4-CHLOROPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE PYRENE 0+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 5.0 10 10 10 10 10 10 5.0 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES QC	LIMITS		
NITROBENZENE-d5 (35 PHENOL-d6 (10 2-FLUOROBIPHENYL (43 2-FLUOROPHENOL (21	- 141 %) - 114 %) - 94 %) - 116 %) - 110 %) - 123 %)	61 65 14 66 16 * 34	ماه ماه ماه ماه ماه

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

TOTAL DISSOLVED SOLIDS

TOTAL HARDNESS

TOTAL PHOSPHORUS

TOTAL SULFIDE

Order #: 230843 Submission #:9808000118 Sample Matrix: WATER

1.0

1.0

1.0

1.0

ANALYTICAL DATE DILUTION UNITS ANALYZED RESULT PQL ANALYTE METALS MG/L 09/09/98 0.100 8.77 ALUMINUM 0.0600 U MG/L 09/09/98 1.0 0.0600 ANTIMONY 1.0 MG/L 09/09/98 0.0100 0.0543 ARSENIC MG/L 0.0578 09/09/98 1.0 0.0200 BARIUM MG/L MG/L 0.0301 0.00500 09/16/98 1.0 CADMIUM 09/09/98 1.0 0.0119 0.0100 CHROMIUM MG/L 0.0500 U 09/09/98 1.0 0.0500 COBALT MG/L09/16/98 1.0 0.0200 0.0571 COPPER 09/16/98 1.0 MG/L 0.100 15.8 IRON 09/16/98  $\mathtt{MG}/\mathtt{L}$ 1.0 0.00500 0.0311 LEAD MG/L MG/L MG/L 09/09/98 1.0 0.0100 9.54 MANGANESE 0.000300 U 09/04/98 1.0 0.000300 MERCURY 09/09/98 1.0 0.0400 0.0476 NICKEL 0.0250 ប MG/L 09/15/98 5.0 0.00500 SELENIUM 09/09/98 1.0 0.0109 MG/L0.0100 SILVER 1.0 09/09/98 MG/L 0.0500 Ŭ 0.0500 VANADIUM 09/09/98 1.0 MG/L 0.865 0.0200 ZINC WET CHEMISTRY 10.0 1.00 346 08/25/98 MG/L CHLORIDE 10.0 HEXAVALENT CHROMIUM 0.0100 0.100 U MG/L 08/21/98 NA MG/L NITRATE NITROGEN 0.0500 49.7 MG/L 08/26/98 100.0 49.7 0.0500 NITRATE/NITRITE NITROGEN 10.0 08/21/98 0.100 U MG/L 0.0100 NITRITE NITROGEN 08/26/98 100.0  $\mathtt{MG/L}$ 5.00 1500 SULFATE MG/L 08/28/98 1.0 0.0100 U 0.0100 TOTAL CYANIDE 3540

2240

0.210

1.00 U

10.0 2.00

0.0500

1.00

MG/L MG/L

MG/L

MG/L

08/27/98

09/03/98

08/27/98

08/26/98

**VOLATILE ORGANICS**METHOD 8260B TCL
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 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 Ŭ	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 Ŭ	UG/L
CHLOROETHANE	5.0	5.0 Ŭ	UG/L
CHLOROFORM	5.0	5.0 Ŭ	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 Ŭ	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 Ŭ	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 Ŭ	UG/L
CIS-1, 3-DICHLOROPROPENE	5.0	5.0 Ŭ	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 Ŭ	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 UG/L
M+P-XYLENE	5.0	5.0 Ŭ	0G/ L
SURROGATE RECOVERIES QC	LIMITS		
4-BROMOFLUOROBENZENE (86		104	%
TOLUENE-D8 (88		99	%
DIBROMOFLUOROMETHANE (86	- 118 %)	105	%

### 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

Date Received: 08/21/98 Submission #:	9808000118 An		
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 Ŭ	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 Ŭ	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 Ŭ	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 Ŭ	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 Ŭ	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 Ŭ	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 UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	The state of the s
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
N-ETHYLANILINE	20	20 Ŭ 5.0 Ŭ	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 U 5.0 U	UG/L UG/L
FLUORANTHENE	5.0	5.0 U	UG/L UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U 5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U 5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 0	55/ 1

### 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 Dangara				m 7 7 7	20540
Date Received:	08/21/98	Submission #:	9808000118	Analytical Run	2334U

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 UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U 10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	5.0 U	UG/L
NAPHTHALENE	5.0 10	10 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	5.0	5.0 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 Ŭ	UG/L
4-NITROANILINE NITROBENZENE	5.0	5.0 Ŭ	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 Ŭ	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 UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U 5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0 5.0	5.0 U	UG/L
PYRENE	20	20 U	UG/L
O+P-TOLUIDINE	5.0	5.0 Ŭ	UG/L
1,2,4-TRICHLOROBENZENE	10	10 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10		•
SURROGATE RECOVERIES QC	LIMITS		
TERPHENYL-d14 (33		53	%
NITROBENZENE-d5 (35	- 114 %)	68	%
PHENOL-d6 (10		1 *	%
2-FLUOROBIPHENYL (43		69	. %
2-FLUOROPHENOL (21		1 * 2 *	%
2,4,6-TRIBROMOPHENOL (10	- 123 %)	2 *	б

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	$\mathtt{MG}/\mathtt{L}$	09/09/98	10.0
ANTIMONY	0.0600	0.0600 Ŭ	MG/L	09/09/98	1.0
ARSENIC	0.0100	0.0100 U	$\mathtt{MG}/\mathtt{L}$	09/09/98	1.0
BARIUM	0.0200	0.206	${ t MG/L}$	09/09/98	1.0
CADMIUM	0.00500	2.77	$\mathtt{MG}/\mathtt{L}$	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	$\mathtt{MG/L}$	09/16/98	10.0
IRON	0.100	3590	$\mathtt{MG/L}$	09/17/98	100.0
LEAD	0.00500	0.350	${ t MG/L}$	09/16/98	10.0
MANGANESE	0.0100	38.3	$\mathtt{MG/L}$	09/09/98	10.0
MERCURY	0.000300	0.000300 U	$\mathtt{MG/L}$	09/04/98	1.0
NICKEL	0.0400	3.61	$\mathtt{MG/L}$	09/09/98	1.0
SELENIUM	0.00500	0.0930 S	$\mathtt{MG/L}$	09/15/98	5.0
SILVER	0.0100	0.0567	$\mathtt{MG/L}$	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
ZINC	0.0200	• • • • • • • • • • • • • • • • • • • •	,		
WET CHEMISTRY			/ <del></del>	00/05/00	10.0
CHLORIDE	1.00	166	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	MG/L	08/21/98	NA
NITRATE NITROGEN	0.0500	0.500 U	MG/L	00/00/00	
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	$\mathtt{MG/L}$	08/26/98	1000.0
TOTAL CYANIDE	0.0100	0.0263	MG/L	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	29400	$\mathtt{MG/L}$	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

### **VOLATILE ORGANICS**METHOD 8260B TCL 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 30005

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 09/01/98				
ANALYTICAL DILUTION: 10.0	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 100 U	UG/L UG/L
2-BUTANONE (MEK)		10	100 U	UG/L
CARBON DISULFIDE		10 5.0	50 U	UG/L
CARBON TETRACHLORIDE		5.0	50 U	UG/L
CHLOROBENZENE 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 UG/L
ETHYLBENZENE		5.0	50 U 100 U	UG/L UG/L
2 - HEXANONE		10 5.0	50 U	UG/L
METHYLENE CHLORIDE 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 RECOVERIES	QC LIMITS	5		
4-BROMOFLUOROBENZENE	(86 - 115	· · · · · · · · · · · · · · · · · · ·	112	8
TOLUENE-D8	(88 - 110		101	%
DIBROMOFLUOROMETHANE	(86 - 118	3 %)	108	8

### 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	$\mathtt{UG}/\mathtt{L}$
BIS (-2-CHLOROETHOXY) METHANE	5.0	100 U	$\mathtt{UG}/\mathtt{L}$
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

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

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Reported: 09/18/98

Golder Associates

2-FLUOROBIPHENYL

2,4,6-TRIBROMOPHENOL

2-FLUOROPHENOL

Project Reference: BUFFALO COLOR

Client Sample ID : RFI-44

Date Sampled: 08/20/98 Date Received: 08/21/98 Subr	Order #:		Sample Matrix: Analytical Run	WATER 29540
ANALYTE		PQL	RESULT	UNITS
DATE EXTRACTED : 08/24/9 DATE ANALYZED : 08/27/9 ANALYTICAL DILUTION: 20				
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	ng\r
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 RECOVERIES	QC LIN	MITS		
TERPHENYL-d14	•	141 %)	D	%
NITROBENZENE-d5	(35 -	114 왕)	D	8
PHENOL-d6	(10 -	94 %)	D	%
	/ 4.5	445 01		م.

(43 - 116 %)

(21 - 110 %) (10 - 123 %)

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				/ /	1 0
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	$\mathtt{MG/L}$	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	$\mathtt{MG/L}$	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	$\mathtt{MG}/\mathtt{L}$	09/09/98	1.0
SELENIUM	0.00500	០.00500 ប	MG/L	09/11/98	1.0
SILVER	0.0100	0.0100 U	$\mathtt{MG}/\mathtt{L}$	09/09/98	1.0
VANADIUM	0.0500	០.0500 ប	$\mathtt{MG/L}$	09/09/98	1.0
ZINC	0.0200	0.242	MG/L	09/09/98	1.0
WET CHEMISTRY				/ /	10.0
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 Ŭ	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	$\mathtt{MG/L}$	08/26/98	2.0
TOTAL CYANIDE	0.0100	0.0100 U	$\mathtt{MG/L}$	08/28/98	1.0
TOTAL DISSOLVED SOLIDS	10.0	1010	$\mathtt{MG}/\mathtt{L}$	08/27/98	1.0
TOTAL HARDNESS	2.00	604	$\mathtt{MG/L}$	09/03/98	1.0
TOTAL PHOSPHORUS	0.0500	0.500	$\mathtt{MG/L}$	08/27/98	1.0
TOTAL SULFIDE	1.00	1.00 U	$\mathtt{MG/L}$	08/26/98	1.0

### VOLATILE ORGANICS METHOD 8260B TCL

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 30005

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 09/01/98				
ANALYTICAL DILUTION: 1.0	00			
ACETONE		20	20 U	UG/L
BENZENE		5.0	5.0 Ū	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 Ŭ	UG/L
CHLOROMETHANE		5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE		5.0	5.0 Ŭ	UG/L UG/L
1,1-DICHLOROETHANE		5.0	5.0 U 5.0 U	UG/L UG/L
1,2-DICHLOROETHANE		5.0 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 Ŭ	UG/L
TRANS-1,2-DICHLOROETHENE 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 UG/L
1,1,1-TRICHLOROETHANE		5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE		5.0	5.0 Ŭ 5.0 Ŭ	UG/L
TRICHLOROETHENE		5.0 5.0	5.0 U	UG/L
VINYL CHLORIDE		5.0 5.0	5.0 U	UG/L
O-XYLENE		5.0	5.0 U	UG/L
M+P-XYLENE		5.0	3.00	
SURROGATE RECOVERIES	QC LIMI	TS		
4-BROMOFLUOROBENZENE	•	115 %)	112	% ુ
TOLUENE-D8	•	L10 왕)	100 112	% જ
DIBROMOFLUOROMETHANE	(86 - 1	L18 %)	T T 4	70

### 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			
THERE I STATE STATE OF THE STAT			
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 Ŭ	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 Ŭ	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 Ŭ	UG/L UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	•
2,4-DICHLOROPHENOL	10	10 U	UG/L UG/L
N, N-DIETHYLANILINE	10	10 U 5.0 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	10 U	UG/L
N, N-DIMETHYLANILINE	10	10 U	UG/L
2,4-DIMETHYLPHENOL	10 20	20 U	UG/L
2,4-DINITROPHENOL		5.0 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0 20	20 U	UG/L
N-ETHYLANILINE	5.0	5.0 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 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	٠.٠ ٠	J J J

### 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: 1.0	00		
HEXACHLOROETHANE ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIPHENYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHER N-NITROSO-DI-N-PROPYLAMINE PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	5.0 5.0 10 20 10 10 10 10 5.0 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14 NITROBENZENE-d5 PHENOL-d6 2-FLUOROBIPHENYL 2-FLUOROPHENOL 2,4,6-TRIBROMOPHENOL	(33       - 141 %)         (35       - 114 %)         (10       - 94 %)         (43       - 116 %)         (21       - 110 %)         (10       - 123 %)	41 65 18 66 38 61	ate ate ate ate

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

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
	- 2				
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	$\mathtt{MG}/\mathtt{L}$	09/16/98	1.0
CHROMIUM	0.0100	0.0100 U	$\mathtt{MG/L}$	09/09/98	1.0
COBALT	0.0500	0.0945	$\mathtt{MG/L}$	09/09/98	1.0
COPPER	0.0200	0.0597	$\mathtt{MG/L}$	09/16/98	1.0
IRON	0.100	275	$\mathtt{MG/L}$	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	U 0000000	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	$\mathtt{MG}/\mathtt{L}$	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	$\mathtt{MG/L}$	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.233	MG/L	08/21/98	10.0
NITRATE NITROGEN	0.0500	18.2	$\mathtt{MG/L}$		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	$\mathtt{MG/L}$	08/26/98	400.0
TOTAL CYANIDE	0.0100	0.0126	${ t MG/L}$	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

### VOLATILE ORGANICS METHOD 8260B TCL

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 30005

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 09/01/98				
ANALYTICAL DILUTION: 1.00	0			
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
		5.0	5.0 Ŭ	UG/L
CARBON TETRACHLORIDE		5.0	5.0 Ŭ	UG/L
CHLOROBENZENE		5.0	5.0 U	UG/L
CHLOROETHANE		5.0	5.0 U	UG/L
CHLOROFORM			5.0 U	UG/L
CHLOROMETHANE		5.0		UG/L
DIBROMOCHLOROMETHANE		5.0	5.0 Ŭ	UG/L
1,1-DICHLOROETHANE		5.0	5.0 U	
1,2-DICHLOROETHANE		5.0	5.0 Ŭ	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 Ŭ	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 Ŭ	UG/L
TRICHLOROETHENE		5.0	5.0 U	UG/L
VINYL CHLORIDE		5.0	5.0 Ŭ	UG/L
O-XYLENE		5.0	5.0 Ŭ	UG/L
M+P-XYLENE		5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC LIMIT	?s		
4-BROMOFLUOROBENZENE	(86 - 11	<u></u> .5 왕)	110	%
TOLUENE-D8	•	.0 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 11		106	%

### 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
		Submission #:	9808000118	Analytical Run	29540

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 UG/L		
BIS (2-CHLOROETHYL) ETHER	5.0	5.0 U 5.0 U	UG/L		
2-CHLORONAPHTHALENE	5.0 10	10 U	UG/L		
2-CHLOROPHENOL	5.0	5.0 Ŭ	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 Ŭ	UG/L		
DIBENZOFURAN	5.0	5.0 U	UG/L		
1,3-DICHLOROBENZENE	5.0	5.0 Ŭ	UG/L		
1,2-DICHLOROBENZENE	5.0	5.0 Ŭ	UG/L		
1,4-DICHLOROBENZENE 3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L		
2,4-DICHLOROBENZIDINE 2,4-DICHLOROPHENOL	10	10 U	UG/L		
N, N-DIETHYLANILINE	10	10 U	UG/L		
DIETHYLPHTHALATE	5.0	5.0 Ŭ	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 Ŭ	UG/L		
N-ETHYLANILINE	20	20 U	UG/L		
BIS(2-ETHYLHEXYL) PHTHALATE	5.0	5.0 Ŭ	UG/L		
FLUORANTHENE	5.0	5.0 U	UG/L		
FLUORENE	5.0	5.0 U	UG/L		
HEXACHLOROBENZENE	5.0	5.0 Ŭ	UG/L		
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L		
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 Ŭ	UG/L		

### 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			
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	10 U 10 U	UG/L UG/L
4-METHYLPHENOL	5.0	28	UG/L UG/L
NAPHTHALENE	10	10 U	UG/L
1-NAPHTHYLAMINE 2-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHIHILAMINE 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 Ŭ	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 UG/L
DI-N-OCTYL PHTHALATE	5.0 20	5.0 U 20 U	UG/L
PENTACHLOROPHENOL	5.0	5.0 U	UG/L
PHENANTHRENE PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 Ŭ	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 RECOVERIES	QC LIMITS		
TERPHENYL-d14 (3	33 - 141 %)	52	%
	35 - 114 %)	7 *	8
1121100	0 - 94 %)	29	%
111111011 01	13 - 116 %)	65	ક
2 1 2001(05 31 11 21 1 2	21 - 110 %)	37	ર્જ
	LO - 123 %)	62	%
	•		

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		rder #: 230847 sion #:9808000118	Sample Matrix: WATER		
ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS		21.4	MG/L	09/09/98	1.0
ALUMINUM	0.100	31.4 0.0600 U	MG/L MG/L	09/09/98	1.0
ANTIMONY	0.0600	0.0600 0	MG/L	09/09/98	1.0
ARSENIC	0.0100		MG/L	09/09/98	1.0
BARIUM	0.0200	0.0836 7.23	MG/L	09/16/98	1.0
CADMIUM	0.00500	0.0288	MG/L MG/L	09/09/98	1.0
CHROMIUM	0.0100		MG/L	09/09/98	1.0
COBALT	0.0500	0.0703 0.170	MG/L	09/05/38	1.0
COPPER	0.0200		MG/L	09/16/98	1.0
IRON	0.100	24.7	MG/L	09/16/98	1.0
LEAD	0.00500	0.0311 3.75	MG/L MG/L	09/09/98	1.0
MANGANESE	0.0100	0.000300 U	MG/L	09/04/98	1.0
MERCURY	0.000300	3.14	MG/L	09/09/98	1.0
NICKEL	0.0400	0.0250 U	MG/L	09/15/98	5.0
SELENIUM	0.00500 0.0100	0.0100 U	MG/L	09/09/98	1.0
SILVER	- '	0.0500 U	MG/L	09/09/98	1.0
VANADIUM	0.0500 0.0200	0.834	MG/L	09/09/98	1.0
ZINC	0.0200	0.034	NG/ L	03, 03, 30	2
WET CHEMISTRY					
CHLORIDE	1.00	156	MG/L	08/25/98	10.0
HEXAVALENT CHROMIUM	0.0100	0.100 U	$\mathtt{MG}/\mathtt{L}$	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

### VOLATILE ORGANICS

METHOD 8260B TCL Reported: 09/18/98

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 30005

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 09/01/98				
ANALYTICAL DILUTION: 1.0	0			
ACETONE BENZENE		20 5.0	20 U 5.0 U	UG/L UG/L
BROMODICHLOROMETHANE		5.0	5.0 U	UG/L
BROMOFORM		5.0 5.0	5.0 U 5.0 U	UG/L UG/L
BROMOMETHANE 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	5.0 U 5.0 U	UG/L UG/L
CHLOROETHANE CHLOROFORM		5.0	7.8	UG/L
CHLOROMETHANE		5.0	5.0 Ŭ	UG/L
DIBROMOCHLOROMETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHANE		5.0 5.0	5.0 U 5.0 U	UG/L UG/L
1,2-DICHLOROETHANE 1,1-DICHLOROETHENE		5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE		5.0	5.0 Ŭ	UG/L
TRANS-1,2-DICHLOROETHENE		5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE		5.0 5.0	5.0 U 5.0 U	UG/L UG/L
CIS-1,3-DICHLOROPROPENE 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 10	5.0 U 10 U	UG/L UG/L
4-METHYL-2-PENTANONE (MIBK) STYRENE		5.0	5.0 Ŭ	UG/L
1,1,2,2-TETRACHLOROETHANE		5.0	5.0 Ŭ	UG/L
TETRACHLOROETHENE		5.0	5.0 Ŭ	UG/L
TOLUENE		5.0	5.0 Ŭ 5.0 Ŭ	UG/L UG/L
1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE		5.0 5.0	5.0 U	UG/L
TRICHLOROETHENE		5.0	5.0 Ŭ	UG/L
VINYL CHLORIDE		5.0	5.0 U	UG/L
O-XYLENE		5.0	5.0 U 5.0 U	UG/L UG/L
M+P-XYLENE		5.0	5.0 0	09/11
SURROGATE RECOVERIES	QC LIMITS			
4-BROMOFLUOROBENZENE	(86 - 115	·	112	₹ •.
TOLUENE - D8	(88 - 110 (86 - 118	·	103 108	% %
DIBROMOFLUOROMETHANE	/00 - 779	·o )	100	<b>.</b>

### 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			
A CIDADA DITUITENTE	5.0	5.0 U	UG/L
ACENAPHTHENE ACENAPHTHYLENE	5.0	5.0 Ŭ	UG/L
ANILINE	5.0	5.0 Ŭ	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 Ŭ	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 Ŭ	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 Ŭ	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 Ŭ	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 Ŭ	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 UG/L
N-ETHYLANILINE	20	20 U	UG/L UG/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 U	UG/L UG/L
FLUORANTHENE	5.0	5.0 U	UG/L UG/L
FLUORENE	5.0	5.0 U	UG/L UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	υ <del>σ</del> / μ

### 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: 1.0	0		
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 Ŭ	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 UG/L
4-METHYLPHENOL	10 5.0	10 U 5.0 U	UG/L UG/L
NAPHTHALENE	10	10 U	UG/L
1-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHTHYLAMINE	5.0	5.0 U	UG/L
2-NITROANILINE 3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 Ŭ	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 10 U	UG/L UG/L
PHENOL	10 5.0	5.0 U	UG/L
4-BROMOPHENYL-PHENYLETHER 4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 Ŭ	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 Ŭ	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	54	ક
NITROBENZENE-d5	(35 - 114 %)	68	%
PHENOL-d6	(10 - 94 %)	0 *	%
2-FLUOROBIPHENYL	(43 - 116 %)	66	8
2-FLUOROPHENOL	(21 - 110 %)	0 *	o/o o/o
2,4,6-TRIBROMOPHENOL	(10 - 123 %)	0 *	6

### VOLATILE ORGANICS METHOD 8260B TCL

Reported: 09/18/98

Golder Associates

Project Reference: BUFFALO COLOR
Client Sample ID : TRIP BLANK-1

Date Sampled: 08/20/98 Order #: 230848 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 10 U	UG/L UG/L
2-BUTANONE (MEK)	10 10	10 U	UG/L UG/L
CARBON DISULFIDE CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 Ŭ	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 Ŭ	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 Ŭ	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 UG/L
1,2-DICHLOROPROPANE	5.0 5.0	5.0 U 5.0 U	UG/L UG/L
CIS-1,3-DICHLOROPROPENE	5.0 5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 Ŭ	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 Ŭ	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	5.0 U 5.0 U	UG/L UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	3.0 0	09/11
SURROGATE RECOVERIES QC	C LIMITS		
4-BROMOFLUOROBENZENE (86		113	<b>&amp;</b>
TOLUENE-D8 (88	·	103	%
DIBROMOFLUOROMETHANE (86	5 - 118 %)	104	%

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

Golder Associates

Project Reference: BUFFALO COLOR Client Sample ID: TRIP BLANK-2

Date Sampled: 08/20/98 Order #: 230849 Sample Matrix: WATER Date Received: 08/21/98 Submission #: 9808000118 Analytical Run 30005

ANALYTE				P	QL	RESULT	UNITS
DATE ANALYZED : 09/02/98							
ANALYTICAL DILUTION: 1.00							
ACETONE					20	20 U	UG/L
BENZENE					5.0	5.0 Ŭ	UG/L
BROMODICHLOROMETHANE					5.0	5.0 Ŭ	UG/L
BROMOFORM					5.0	5.0 Ŭ	UG/L
BROMOMETHANE					5.0	5.0 Ŭ	UG/L
2-BUTANONE (MEK)					10	10 U	UG/L
CARBON DISULFIDE					10	10 U	UG/L
CARBON TETRACHLORIDE					5.0	5.0 Ŭ	UG/L
CHLOROBENZENE					5.0	5.0 U	UG/L
CHLOROETHANE					5.0	5.0 Ŭ	UG/L
CHLOROFORM					5.0	5.0 Ŭ	UG/L
CHLOROMETHANE					5.0	5.0 Ŭ	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 Ŭ	UG/L
TRANS-1,2-DICHLOROETHENE					5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE					5.0	5.0 Ŭ	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 Ŭ	UG/L
O-XYLENE					5.0	5.0 U	UG/L
M+P-XYLENE					5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC L	IM	ITS				
	86		115			114	ૄ
	88		110			102	%
DIBROMOFLUOROMETHANE ( {	86	-	118	왕)		106	%

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 DATE UNITS ANALYZED DILUTION PQL RESULT ANALYTE METALS 0.100 0.902 MG/L 09/17/98 1.0 ALUMINUM 09/17/98 1.0 0.0600 0.0600 U MG/LANTIMONY 0.0100 U MG/L 09/17/98 1.0 0.0100 ARSENIC MG/L 0.0200 0.0486 09/17/98 1.0 BARIUM 09/17/98 CADMIUM 0.00500 0.00500 U MG/L 1.0 MG/L09/17/98 1.0 0.0100 U CHROMIUM 0.0100 09/17/98 0.0500 0.0500 U MG/L 1.0 COBALT 0.0200 MG/L 09/17/98 1.0 0.0200 U COPPER MG/L 09/17/98 1.0 0.100 46.3 IRON MG/L 09/17/98 1.0 LEAD 0.00500 0.0168 MG/L MG/L MG/L 09/17/98 1.0 MANGANESE 0.0100 8.17 09/04/98 0.000300 0.000300 U 1.0 MERCURY 09/17/98 1.0 0.0400 U NICKEL 0.0400 MG/L 09/15/98 5.0 0.00500 0.0250 U SELENIUM 09/17/98 1.0 SILVER 0.0100 0.0100 U MG/L 09/17/98 1.0 MG/L 0.0500 0.0500 U VANADIUM MG/L 09/17/98 1.0 0.0100 2.53 ZINC WET CHEMISTRY 09/11/98 100.0 MG/L 1.00 34.9 CHLORIDE HEXAVALENT CHROMIUM 10.0 0.100 U 09/01/98 0.0100 MG/L NA MG/L0.500 U 0.0500 NITRATE NITROGEN 10.0 NITRATE/NITRITE NITROGEN 0.0500 0.500 U MG/L 09/09/98 09/01/98 10.0 0.0100 0.100 U MG/L NITRITE NITROGEN MG/L 09/10/98 200.0 5.00 SULFATE 1310 MG/L MG/L 0.0100 U 09/04/98 1.0 0.0100 TOTAL CYANIDE 10.0 3670 2190 09/03/98 1.0 TOTAL DISSOLVED SOLIDS MG/L 09/04/98 1.0 TOTAL HARDNESS 09/03/98 1.0 0.0500 0.0500 U MG/L TOTAL PHOSPHORUS 09/04/98 1.0 1.00 1.00 U MG/L TOTAL SULFIDE

**VOLATILE ORGANICS**METHOD 8260B TCL
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 30005

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 09/02/98	_			
ANALYTICAL DILUTION: 1.00	0			
ACETONE		20	20 U	UG/L
BENZENE		5.0	5.0 U	UG/L
BROMODICHLOROMETHANE		5.0 5.0	5.0 U 5.0 U	UG/L UG/L
BROMOFORM 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 Ŭ 5.0 Ŭ	UG/L UG/L
CHLOROFORM		5.0 5.0	5.0 U	UG/L
CHLOROMETHANE DIBROMOCHLOROMETHANE		5.0	5.0 Ŭ	UG/L
1,1-DICHLOROETHANE		5.0	5.0 Ŭ	UG/L
1,2-DICHLOROETHANE		5.0	5.0 Ŭ	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	5.0 U 5.0 U	UG/L UG/L
1,2-DICHLOROPROPANE CIS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE		5.0	5.0 Ŭ	UG/L
ETHYLBENZENE		5.0	5.0 U	UG/L
2-HEXANONE		10	10 U	UG/L
METHYLENE CHLORIDE		5.0	5.0 Ŭ	UG/L
4-METHYL-2-PENTANONE (MIBK)		10	10 U	UG/L UG/L
STYRENE		5.0 5.0	5.0 U 5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE 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 Ŭ 5.0 Ŭ	UG/L UG/L
O-XYLENE		5.0 5.0	5.0 U	UG/L
M+P-XYLENE		3.0	3.0 0	00/1
SURROGATE RECOVERIES	QC LIMITS			
4-BROMOFLUOROBENZENE	(86 - 115		113	%
TOLUENE-D8	(88 - 110		102	%
DIBROMOFLUOROMETHANE	(86 - 118	<b>る)</b> ・	107	-0

### 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 Ŭ	UG/L
ANTHRACENE	5.0	5.0 Ŭ	UG/L
BENZO (A) ANTHRACENE	5.0	5.0 Ŭ	UG/L
BENZO (A) PYRENE	5.0	5.0 U	UG/L
BENZO (B) FLUORANTHENE	5.0	5.0 Ŭ	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 Ŭ	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 UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U 5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	10 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
N, N-DIETHYLANILINE	10 5.0	5.0 Ŭ	UG/L
DIETHYLPHTHALATE	5.0	5.0 Ŭ	UG/L
DIMETHYL PHTHALATE		10 Ŭ	UG/L
N, N-DIMETHYLANILINE	10 10	10 U	UG/L
2,4-DIMETHYLPHENOL	20	20 U	UG/L
2,4-DINITROPHENOL	5.0	5.0 Ŭ	UG/L
2,4-DINITROTOLUENE	5.0	5.0 Ŭ	UG/L
2,6-DINITROTOLUENE	20	20 U	UG/L
N-ETHYLANILINE BIS (2-ETHYLHEXYL) PHTHALATE	5.0	5.0 Ŭ	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORANTHENE	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
HEARCHHOROC I CHOFEN LAD LENE	5.0		•

### 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			
DATE ANALYZED : 09/02/98 ANALYTICAL DILUTION: 1.			
		5 0 17	17G / T
HEXACHLOROETHANE	5.0 5.0	5.0 U 5.0 U	UG/L UG/L
ISOPHORONE	50	50 Ŭ	UG/L
N-METHYLANILINE 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 5.0 U	UG/L UG/L
NAPHTHALENE	5.0 10	10 U	UG/L
1-NAPHTHYLAMINE 2-NAPHTHYLAMINE	10	10 U	UG/L
2-NAPHIHILAMINE 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 10	5.0 U 10 U	UG/L UG/L
2-NITROPHENOL 4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 Ŭ	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 5.0 U	UG/L UG/L
PHENANTHRENE	5.0 10	10 U	UG/L
PHENOL 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 Ŭ	UG/L UG/L
O+P-TOLUIDINE	20 5.0	20 U 5.0 U	UG/L
1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L
2, 1, 3 11(10)1201(01)01			
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141 %)	47	%
NITROBENZENE-d5	(35 - 114 %)	68 2 <b>*</b>	%
PHENOL-d6	(10 - 94 %)	2 * 69	96 96
2-FLUOROBIPHENYL	(43 - 116 %) (21 - 110 %)	4 *	%
2-FLUOROPHENOL 2,4,6-TRIBROMOPHENOL	(10 - 123 %)	13	%
2, T, U-IKIDKOMOEMBKOD	· = ·		

### VOLATILE ORGANICS METHOD 8260B TCL

Reported: 09/18/98

Golder Associates

Project Reference: BCC/RFI/NY Client Sample ID: TRIP BLANK

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/03/98	3		
ANALYTICAL DILUTION: 1	.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 Ŭ	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 Ŭ	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 Ŭ	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 Ŭ	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 UG/L
2-HEXANONE	10	10 U	UG/L UG/L
METHYLENE CHLORIDE	5.0	5.0 U ·10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10 5.0	5.0 U	UG/L
STYRENE	5.0 5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 Ŭ	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 Ŭ	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 Ŭ	UG/L
O-XYLENE M+P-XYLENE	5.0	5.0 Ŭ	UG/L
M+5-XITENE	3.0	3.0	, _
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	115	· %
TOLUENE-D8	(88 - 110 %)	104	% %
DIBROMOFLUOROMETHANE	(86 - 118 %)	108	Э

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

	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

ACCURACY

PRECISION

- 125

75

119

0.0245

0.0290

NC

0.0100 U

0.0100 U

ARSENIC

BARIUM

0.0486	0.0485	0	2.11	2.00	103	75 - 125	125
0.00500 U	0.00500 U NC	NC	0.0447	0.0500	89	75 - 125	125
0.0100 U	0.0100 U	NC	0.202	0.200	101	75 -	- 125
0.0500 U	0.0500 U	NC	0.484	0.500	26	75 - 125	125
0.0200 U	0.0200 U NC	NC	0.240	0.250	96	75 - 125	125

CHROMIUM

COPPER

IRON

COBALT

CADMIUM

- 125

75

88

1.00

47.2

0

46.3

46.3

# 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

	FR	FRECISION			ACCORACI	ָּ יי		
	ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS	LTS
LEAD	0.0168	0.0164	2	0.505	0.500	86	75	- 125
MANGANESE	8.17	8.03	7	8.43	0.500	D	75	- 125
NICKEL	0.0400 U	0.0400 U	NC	0.493	0.500	66	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	Н	3.03	0.500	100	75	- 125

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

HEXAVALENT CHROMIUM

LIMITS	70 - 13
% REC.	N 0
ADDED	0.500
FOUND	0.100 U
RPD	NC
DUPLICATE	0.100 U
ORIGINAL	0.100 U

ACCURACY

130

INORGANIC QUALITY CONTROL SUMMARY

PRECISION

ACCURACY

LIMITS	70 - 130
% REC.	87
ADDED	2.50
FOUND	2.18
RPD	NC
DUPLICATE	0.100 U
ORIGINAL	0.100 U

NITRITE NITROGEN

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 # : 29800

TOTAL PHOSPHORUS

PRECISION

ACCURACY

LIMITS		50 - 150
% REC.		96
ADDED		2.00
FOUND		1.93
RPD		NC
DUPLICATE		0.0500 U
ORIGINAL		0.0500 U
	_	

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

TOTAL CYANIDE

PRECISION

ACCURACY

LIMITS	70 - 130
% REC.	83
ADDED	0.100
FOUND	0.0830
RPD	NC
DUPLICATE	0.0100 U
ORIGINAL	0.0100 U
<del></del>	<b>.</b>

# 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

TOTAL DISSOLVED SOLIDS

RPD DUPLICATE 3640 ORIGINAL 3670

PRECISION

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

RPD	NC
DUPLICATE	1.00 U
ORIGINAL	1.00 U

TOTAL SULFIDE

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

% REC. ADDED FOUND

ACCURACY

TOTAL HARDNESS

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 # : 29981

PRECISION

ACCURACY

	ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
NITRATE/NITRITE NITROGEN	0.500 U	0.500 U	NC	4.74	5.00	95	70 - 130

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

- <del>-</del>	ORIGINAL	DUPLICATE	UAN	FOUND	ADDED	* KE	CITWIT
	1310	1390	9	3590	2000	114	70 - 130

SULFATE

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 # : 30068

CHLORIDE

PRECISION

ACCURACY

ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC.	LIMITS
349	356	2	2730	2500	95	70 - 130

## INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118 Client: Golder Associates BUFFALO COLOR

### BLANK SPIKES

			BLANK	SFIKES.			
	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	86	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	66	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

# INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118 Client: Golder Associates BUFFALO COLOR

### BLANK SPIKES

			DUANA	CHALTC			
	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
VANADIUM	0.0500 U	0.500	0.500	100	80 - 120	30047	MG/L
ZINC	0.0200 U	0.496	0.500	66	80 - 120	30047	MG/L
SELENIUM	0.00500 U	0.0110	0.0100	110	80 - 120	30206	MG/L
SELENIUM	0.00500 U	0.0103	0.0100	103	80 - 120	30209	MG/L
CADMIUM	0.00500 U	0.0495	0.0500	66	80 - 120	30259	MG/L
COPPER	0.0200 U	0.209	0.250	84	80 - 120	30259	MG/L
IRON	0.100 U	1.02	1.00	102	80 - 120	30259	MG/L
LEAD	0.00500 U	0.503	0.500	101	80 - 120	30259	MG/L
ALUMINUM	0.100 U	2.00	2.00	100	80 - 120	30286	MG/L
ANTIMONY	0.0600 U	0.493	0.500	66	80 - 120	30286	MG/L

## INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118 Client: Golder Associates BCC/RFI/NY

### BLANK SPIKES

			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	66	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

## INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: 9808000118 Client: Golder Associates BCC/RFI/NY

			BLAN	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	66	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

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	0.050 U	1.94	2.00	97	80 - 120	29800	MG/L
TOTAL CYANIDE	0.0100 U	0.358	0.400	06	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
							1
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	66	80 - 120	30068	MG/L

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

MERCURY

PRECISION

% REC. 66 ADDED 0.00100 0.000993 FOUND RPD NC 0.00030 U DUPLICATE 0.00030 U ORIGINAL

125

75

LIMITS

ACCURACY

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

125 LIMITS ı 75 % REC. 143 ADDED 0.0100 FOUND 0.0143 RPD NC 0.0250 U DUPLICATE 0.0250 U ORIGINAL

ACCURACY

SELENIUM

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

			MATRIX	SPIKE	MATRIX :	SPIKE D	UP.	! 	QC LIMITS
ANALYTE	SPIKE   ADDED	SAMPLE   CONCENT.	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

VOLATILE ORGANICS METHOD: 8260B TCL

### LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 238131	ANALYT	ICAL RUN # :	30005
ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 9/2/98 ANALYTICAL DILUTION: 1.0			
ANALYTICAL DILUTION: 1.0  ACETONE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE 2-BUTANONE (MEK) CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROETHANE CHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE 1,2-DICHLOROPROPANE CIS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE ETHYLBENZENE 2-HEXANONE METHYLENE CHLORIDE 4-METHYL-2-PENTANONE (MIBK) STYRENE 1,1,2,2-TETRACHLOROETHANE TETRACHLOROETHENE	20 20 20 20 20 20 20 20 20 20 20 20 20 2	80 97 109 109 109 109 109 109 109 109 109 109	21 - 165 37 - 151 35 - 155 45 - 169 10 - 242 25 - 162 45 - 148 70 - 140 37 - 160 53 - 149 51 - 138 10 - 273 53 - 149 59 - 155 49 - 155 10 - 234 54 - 156 54 - 157 66 - 144 46 - 157 64 - 148
TOLUENE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE O-XYLENE M+P-XYLENE	20 20 20 20 20 20 40	93 96 86 108 89 89 98	47 - 150 52 - 162 52 - 150 71 - 157 10 - 251 71 - 135 71 - 135

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

Project Reference:

Date Sampled : Date Received:	Order Submission		238129	Sample Matrix: W Analytical Run 3	VATER 30005
ANALYTE			PQL	RESULT	UNITS
DATE ANALYZED : 09 ANALYTICAL DILUTION:	/02/98 1.00				
ACETONE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE 2-BUTANONE (MEK) CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROETHANE CHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TTAYLBENZENE 2-HEXANONE METHYLENE CHLORIDE 4-METHYL-2-PENTANONE (MISTYRENE 1,1,2,2-TETRACHLOROETHANE TOLUENE 1,1,1-TRICHLOROETHANE TOLUENE 1,1,1-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE O-XYLENE M+P-XYLENE	E BK)		20000000000000000000000000000000000000	20 5.00 10 10 10 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES	QC	LIM	IITS		
4-BROMOFLUOROBENZENE TOLUENE-D8 DIBROMOFLUOROMETHANE	(86 (88 (86	-	115 %) 110 %) 118 %)	100 94 101	<b>০</b>

### VOLATILE ORGANICS METHOD 8260B TCL

Reported: 09/18/98

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order Submission		238128	Sample Matrix: Analytical Run	
ANALYTE			PQL	RESULT	UNITS
DATE ANALYZED : 08 ANALYTICAL DILUTION:	/31/98 1.00	· · · · · ·			
ACETONE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE 2-BUTANONE (MEK) CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROETHANE CHLOROFORM CHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE THYLBENZENE 2-HEXANONE METHYLENE CHLORIDE 4-METHYL-2-PENTANONE (MI STYRENE 1,1,2,2-TETRACHLOROETHANE TOLUENE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE O-XYLENE M+P-XYLENE SURROGATE RECOVERIES	E BK)	IM	20 5.0 5.0 10 5.0 10 10 5.0 10 10 10 10 10 10 10 10 10 10 10 10 10	20 5.00 5.00 10 10 10 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
4-BROMOFLUOROBENZENE TOLUENE-D8 DIBROMOFLUOROMETHANE	(86 (88 (86	<b>-</b> -	115 %) 110 %) 118 %)	104 100 102	olo olo olo

### VOLATILE ORGANICS METHOD 8260B TCL

Reported: 09/18/98

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order Submission		238130	Sample Matrix: Vanalytical Run	
ANALYTE			PQL	RESULT	UNITS
DATE ANALYZED : 09/ ANALYTICAL DILUTION:	03/98 1.00				
ACETONE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE 2-BUTANONE (MEK) CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROFOPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE THYLBENZENE 2-HEXANONE METHYLENE CHLORIDE 4-METHYL-2-PENTANONE (MINSTYRENE 1,1,2,2-TETRACHLOROETHANE TOLUENE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE O-XYLENE M+P-XYLENE	3K)		20 00 10 10 10 10 10 10 10 10 1	20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES	QC	LIM	ITS		
4-BROMOFLUOROBENZENE TOLUENE-D8 DIBROMOFLUOROMETHANE	(86 (88 (86	-	115 %) 110 %) 118 %)	112 101 106	oto oto oto

QUALITY CONTROL SUMMARY MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Spiked Order No. : 236551 Golder Associates

Client ID: RFI-49/QC

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 29829

			MATRIX	SPIKE	MATRIX S	SPIKE D	JP.		QC LIMITS
ANALYTE	SPIKE  ADDED	SAMPLE   CONCENT.	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	s*	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	<b>0</b>	64.0	64	64.0	64	0	28	39 - 98

QUALITY CONTROL SUMMARY BLANK SPIKE RECOVERY

WATER

Spiked Order No. : 236551

Client ID:

Test: 8270C SEMIVOLATILES

Analytical Units: UG/L

Run Number : 29829

	1			1	BLANK S		KE	QC	LI	MITS
ANALYTE			•	SAMPLE	FOUND	%	REC.		RE	c.
ACENAPHTHENE		100	0		67.0		67	4.6	-	118
2-CHLOROPHENOL	1	200	0	1	120	İ	60	27	-	123
1,4-DICHLOROBENZENE		100	0	1	52.0		52	36	-	97
2,4-DINITROTOLUENE	1	100	0	1	68.0	1	68	24	-	96
4-CHLORO-3-METHYLPHENO	ŀ	200	0	1	150	1	75	23	-	97
4-NITROPHENOL	-	200	0	l	71.0	1	36	10	-	80
PENTACHLOROPHENOL	1	200	0	1	140		70	9	-	103
PHENOL	1	200	0	1	70.0	i	35	1.2		110
N-NITROSO-DI-N-PROPYLA	1	100	0	-	95.0	1	95	41	. <b>-</b>	116
PYRENE	j	100	0	- 1	52.0	1	52	26	-	127
1,2,4-TRICHLOROBENZENE	1	100	0	1	59.0	1	59	3 9	-	98
			1	1		1				

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/18/98

Project Reference:

Date Sampled : Date Received:	Order Submission	234721	Sample Matrix: Analytical Run	WATER 29540
ANALYTE		PQL	RESULT	UNITS
	/24/98 /25/98 1.00			
ACENAPHTHENE ACENAPHTHYLENE ANILINE ANTHRACENE BENZO (A) ANTHRACENE BENZO (B) FLUORANTHENE BENZO (G, H, I) PERYLENE BENZO (K) FLUORANTHENE BENZYL ALCOHOL BUTYL BENZYL PHTHALATE DI-N-BUTYLPHTHALATE CARBAZOLE INDENO (1, 2, 3-CD) PYRENE 4-CHLOROANILINE BIS (-2-CHLOROETHOXY) METH BIS (2-CHLOROETHYL) ETHER 2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2, 2'-OXYBIS (1-CHLOROPRO) CHRYSENE DIBENZO (A, H) ANTHRACENE DIBENZO (A, H) ANTHRACENE 1, 2-DICHLOROBENZENE 1, 2-DICHLOROBENZENE 1, 4-DICHLOROBENZENE 1, 4-DICHLOROBENZIDINE 2, 4-DICHLOROPHENOL N, N-DIETHYLANILINE DIETHYLPHTHALATE DIMETHYL PHTHALATE N, N-DIMETHYLANILINE 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROTOLUENE 3, 6-DINITROTOLUENE N-ETHYLANILINE BIS (2-ETHYLHEXYL) PHTHAL FLUORANTHENE FLUORENE HEXACHLOROBENZENE	HANE	0.000000000000000000000000000000000000	UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
HEXACHLOROBUTADIENE HEXACHLOROCYCLOPENTADIE HEXACHLOROETHANE	NE	5.0 5.0	5.0 U 5.0 U	UG/L UG/L

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/18/98

Project Reference:

Date Sampled : Date Received:	Order #: Submission #:	234721	Sample Matrix: Analytical Run	
ANALYTE		PQL	RESULT	UNITS
	/24/98 /25/98 1.00			
ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHEN 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE 4-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE N-NITROSODIPHENYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETHE 4-CHLOROPHENYL-PHENYLETHE N-NITROSO-DI-N-PROPYLAMI PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROBENZENE 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	R ER	5.0 10 20 10 10 10 5.0 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES	QC LIM	ITS		
TERPHENYL-d14 NITROBENZENE-d5 PHENOL-d6 2-FLUOROBIPHENYL 2-FLUOROPHENOL 2,4,6-TRIBROMOPHENOL	(35 - (10 - (43 - (21 -	141 %) 114 %) 94 %) 116 %) 110 %)	68 76 79 78 68 84	ماه ماه ماه ماه ماه ماه

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES

Reported: 09/18/98

Project Reference:

	Sampled : Received:	Order Submission	 237003	Sample Matrix Analytical Ru	
ANA	LYTE		 PQL	RESULT	UNITS
DATI	E EXTRACTED : E ANALYZED : LYTICAL DILUTION:	09/02/98 09/02/98 1.00			
ACENTAL ANTHUR ACENTAL ANTHUR ACENTAL ANTHUR ACENTAL ANTHUR ACENTAL ANTHUR ACENTAL ANTHUR ACENTAL ACEN	APHTHENE APHTHYLENE INE RACENE O(A) ANTHRACENE O(B) FLUORANTHENE O(G,H,I) PERYLENE O(K) FLUORANTHENE YL ALCOHOL L BENZYL PHTHALATE AZOLE NO(1,2,3-CD) PYREN LOROANILINE -2-CHLOROETHOXY) M 2-CHLOROETHYL) ETH LORONAPHTHALENE LOROPHENOL -OXYBIS(1-CHLOROP	E ETHANE ER ROPANE) E	00000000000000000000000000000000000000	0       0	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
HEXA HEXA HEXA	RENE CHLOROBENZENE CHLOROBUTADIENE CHLOROCYCLOPENTAD CHLOROETHANE	IENE	5.0 5.0 5.0 5.0 5.0	5.0 U 5.0 U 5.0 U 5.0 U 5.0 U	UG/L UG/L UG/L UG/L

### EXTRACTABLE ORGANICS

METHOD 8270C SEMIVOLATILES Reported: 09/18/98

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order # Submission #	: 237003 :	Sample Matrix: Analytical Run	WATER 29829
ANALYTE		PQL	RESULT	UNITS
	9/02/98 9/02/98 1.00			
ISOPHORONE N-METHYLANILINE 2-METHYLNAPHTHALENE 4,6-DINITRO-2-METHYLPHEN 4-CHLORO-3-METHYLPHENOL 2-METHYLPHENOL 4-METHYLPHENOL NAPHTHALENE 1-NAPHTHYLAMINE 2-NAPHTHYLAMINE 2-NITROANILINE 3-NITROANILINE NITROBENZENE 2-NITROPHENOL 4-NITROPHENOL N-NITROSODIMETHYLAMINE N-NITROSODIMETHYLAMINE DI-N-OCTYL PHTHALATE PENTACHLOROPHENOL PHENANTHRENE PHENOL 4-BROMOPHENYL-PHENYLETH N-NITROSO-DI-N-PROPYLAM PYRENE O+P-TOLUIDINE 1,2,4-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL	ER HER	5.0 50 10 20 10 10 5.0 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	5.0 UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES	QC LI	MITS		
TERPHENYL-d14 NITROBENZENE-d5 PHENOL-d6 2-FLUOROBIPHENYL 2-FLUOROPHENOL 2,4,6-TRIBROMOPHENOL	(35 - (10 - (43 - (21 -	- 141 %) - 114 %) - 94 %) - 116 %) - 110 %) - 123 %)	53 86 35 68 46 78	مه مه مه مه مه

1 Mustard St., Suite 250, Rochester, NY 14609-6925 (716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 8-707-8 (800) 695-7222

9 P

PAGE

**PRESERVATION** Other 21 < Hq Fedex 8-118 SAMPLE RECEIPT:  $^{\circ}$ 0.2 > Hq container except AFI-45 Shipping Via: Submission No: Temperature: Shipping #: Separate u. χ INVOICE INFORMATION: Sulfate should be drawn from REQUESTED Sulturic added to Sumples ☐ AE Only ☐ BN Only ☐ Special List X X METALS, DISSOLVED Set prop 10g sor others ANALYSIS P.O. #: Bill To: METALS, TOTAL (LIST BELOW) 义 ¥ WASTE CHARACTERIZATION br this fest REPORT REQUIREMENTS \_\_\_ 5. NY ASP/CLP Deliverables TCLP | METALS d∕H □ \_\_\_ 2. Routine Rep. w/CASE Deliverables Level IV Validatable Package 6. Site specific QC. S'AON'S LIST 8270 SVON'S QLOT I TOT I 1. Routine Report 4. N.J. Reduced 3. EPA Level III SPECIAL INSTRUCTIONS/COMMENTS: STAR'S LIST 8021 VOA's ☐ 8084 ☐ 608 ☐ 62-3 besticides/pcb's □ TCL □ PPL ☐ 8021 ☐ 601/602 TURNAROUND REQUIREMENTS Provide Verbal Preliminary Results Provide FAX Preliminary Results \_\_\_ 5 day \_\_\_ Standard (10-15 working days) GC/MS SVOA's Z-96 🗆  $\lambda$ SSE0 CEST 48 hr. ŀ-96 □ Requested Report Date У ORGANICS: لم کن METALS # OF CONTAINERS 24 hr. SAMPLE MATRIX Water Water Waster Water Warg Falls, NY FAX (76) 731-1652 iente h 20cx xx 230843 <u>9</u> FOR OFFICE USE CALY LAB I.D. RECEIVED BY: RECEIVED BY: RECEIVED BY: 155ac. Blud-Ste 9 Printed Name Printed Name TIME 8-20-1 0905 1030 Date/Time Date/Time 1205 Signature Signature RFT Printed Film Fig Firm Solder 126-05 136-17-8 86-07-8 85058 DATE Falls Lese ( PROJECT MANAGER/CONTACT 731-1560 003/ RELINQUISHED BY: RELINQUISHED BY: RELINQUISHED BY: SAMPLER'S SIGNATURE 8/11/18 COMPANY / ADDRESS Nica SAMPLE I.D. Printed Name 1/2/E Firm Rr 20 198 PROJECT NAME\_ AFI-45/007 RFI-44(008 RFI-46 (010) PFI-47(011) TEL (716) Printed Name Printed Name 0 Date/Time Date/Time Signature Signature Fill Fig

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W 413 YYYI (800) 695-7222

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

10 -

PAGE

8-20-98

**PRESERVATION** Other Fed. Ex 21 < Hq SAMPLE RECEIPT: Submission No: Z - 11  $\tilde{X}$ 0.2 > HqShipping Via: Temperature: Shipping #: INVOICE INFORMATION: REQUESTED pryout log too others Samples ☐ AE Only ☐ BN Only ☐ Special List (LIST BELOW) ANALYSIS METALS, TOTAL METALS, TOTAL P.O. #: Bill To: क्रिक REPORT REQUIREMENTS TCLP | METALS 5. NY ASP/CLP Deliverables 6. Site specific QC. d/H □ 2. Routine Rep. w/CASE Deliverables Level IV .... 3. EPA Level III Validalable Package Sulfura added STAR'S LIST 8270 SVON'S \_\_ 1. Rouline Report 4. N.J. Reduced SPECIAL INSTRUCTIONS/COMMENTS: STAR'S LIST 8021 VOA'S □ 8081 □ 608 □ 62-3 bEZLICIDES/bCB,2 GC VOA's □ 8021 4 L □ e01/e05 **TURNAROUND REQUIREMENTS** Provide Verbal Preliminary Results Provide FAX Preliminary Results \_ 5 day \_\_\_ Standard (10-15 working days) GC/MS SVOA's GC/MS SVOA's 7-96 □ TCL 48 hr. Ş X8560 □ 624 GCWS VOA's **1-96** □ Requested Report Date ORGANICS: # OF CONTAINERS  $^{\circ}$  $\infty$ METALS 24 hr. Whey a feels Blud. Sufe 9 Way, Fals D. 14.0 420 SAMPLE Juid Hitchell 731-165 Golder Assoc, Fre FOR DEFICE USE CALY LAB 1.D. 8 RECEIVED BY: RECEIVED BY: RECEIVED BY: 2 12882 RFI/NY Printed Name Printed Name Printed Nam TIME 1525 Film & 1440 1530 Date/Time Date/Time 544/Kb-02-8 Date/Time Signature Signature Firm 툳 8-20-38 850-38 8-20-96 DATE PROJECT MANAGER/CONTACT\_ 731-156 8-20-8 RELINQUISHED BY: RELINQUISHED BY: RELINOUISHED BY SAMPLER'S SIGNATURE 0001 COMPANY / ADDRESS OG-12 (00) RFI-50 (004) Rinsude (003) SAMPLE I.D. PROJECT NAME Field TEL ( 7/6) Printed Name Printed Name Printed Name Date/Time Date/Time Signature File E

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(800) 695-7222

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

.. م م PAGE 86-02-8 DATE

**PRESERVATION** Other DH > 15 Fed-EX SAMPLE RECEIPT: 0.5 > Hq¥ Submission No: Shipping Via: Temperature: Shipping #: X X X INVOICE INFORMATION: REQUESTED preservally as added added to any samples ☐ AE Only ☐ BN Only ☐ Special List METALS, DISS (LIST BELOW) ANALYSIS P.O. #: Bill To: METALS, TOTAL (LIST BELOW) X WASTE CHARACTERIZATION REPORT REQUIREMENTS 5. NY ASP/CLP Deliverables TCLP | METALS | SVOA's d/H □ \_\_\_ 2. Routine Rep. w/CASE Deliverables Level IV \_\_\_ 3. EPA L'evel III
Validatable Package STAR'S LIST 8270 SVOA'S 6. Site specific QC. \_\_\_ 1. Routine Report 4. N.J. Reduced DATECA SPECIAL INSTRUCTIONS/COMMENTS: STAR'S LIST 8021 VOA's RFI-49+QC Suldner □ 8084 □ 608 □ 65-3 besticides/pcb's 1 PP. GC VOA's □ 8021 209/109 🗆 TURNAROUND REQUIREMENTS Provide Verbal Preliminary Results Provide FAX Preliminary Results \_\_ 5 day \_\_\_ Standard (10-15 working days) GC/MS SVOA's ORGANICS: TCL 7-96 🗆 2 ess ال الم X 8Se0 □ 6S¢ 48 hr. Requested Report Date 1-96 🗆 METALS OF  $\omega$ Q  $\mathcal{D}$  $\varphi$ # OF CONTAINERS 24 hr. F10 カトロ 420 SAMPLE MATRIX 西 HYO fr¢ 731-1652 0660 May Falls IN RECEIVED BY: RECEIVED BY: RECEIVED BY: S **1308**4 FAX (716) Printed Name Printed Name Printed Name 0160 1620 TIME Date/Time Date/Time 1700 Firm S Date/Time Signature Golder Assx. 4700x 18-20 57113500-8 8-20-9 1205 Firm Firm Firm 2221 Ning, Falls Phit-Ste 9 PROJECT NAME RCC/RFI 8-10-8 86-07-8 8-52-3 8-01-8 DATE PROJECT MANAGER/CONTACT\_ TEL (76) 731- 1560 -RELINGUISHED BY: RELINQUISHED BY: RELINQUISHED BY: 1800 SAMPLER'S SIGNATURE -45 (OB) RFI-49+13005) COMPANY / ADDRESS 46(010) (110)47-000 180 SAMPLE I.D. Printed Name/ der Firm 5-10-58 Date/Time RFI-PZ-181 RFI-51 Printed Name Printed Name FI Date/Time Date/Time Firm Fil

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM DATE\_

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PAGE

8-28-98

**PRESERVATION** Other DH > 15 SAMPLE RECEIPT: 0.2 > Hq Shipping Via: Submission No: Temperature: Shipping #: INVOICE INFORMATION: **ANALYSIS REQUESTED** See project log be others Special List METALS, DISSOLVED (LIST BELOW) P.O. #: Bill To: METALS, TOTAL (LIST BELOW) ☐ BN Only WASTE CHARACTERIZATION REPORT REQUIREMENTS 5. NY ASP/CLP Deliverables TCLP | METALS d/H □ 2. Routine Rep. w/CASE Deliverables Level IV Validalable Package S'AOV'S LIST 8270 SVOA'S 9 TOTAL | TCLP 6. Site specific QC. \_\_ 1. Routine Report 4. N.J. Reduced ☐ AE Only 3. EPA Level III SPECIAL INSTRUCTIONS/COMMENTS: STAR'S LIST 8021 VOR'S □ 8081 □ 608 □ 95-3 bESTICIDES/PCB's □ PPL GC VOA's Z09/109 🗆 TURNAROUND REQUIREMENTS Provide Verbal Preliminary Results Provide FAX Preliminary Results \_\_\_ 5 day Standard (10-15 working days) GC/MS SVOA's Z-96 □ □ 625 □ TCL 48 hr. ☐ 8Se0 ☐ 6S¢ L-96 🗆 Requested Report Date ORGANICS: METALS 2 # OF CONTAINERS 3 24 hr. SAMPLE MATRIX Worker Worker David J. Mitchell 2221 Nay, Faks Alas, Nies, Falls, My 14304 FAX (716) 731-165 FOR DFFICE USE CALY LAB 1.D. 000 236 FF RECEIVED BY: RECEIVED BY: RECEIVED BY COMPANY / ADDRESS Bolder ASSOC. Inc. Printed Name Printed Name TIME (135 Date/Time Signature Date/Time Signature BCC/RFI Fim E Ĝ, 8-34-19 8-12-8 DATE PROJECT MANAGER/CONTACT\_ Part T. Mildel TEL (7/6) 72 1-156 RELINQUISHED BY: RELINGUISHED BY: RELINQUISHED BY: SAMPLER'S SIGNATURE Printed Name ( Ass Ass De. BR D/m/ SAMPLE I.D. 8-34-98 PROJECT NAME \_ PT-49 Printed Name Printed Name  $\Gamma_{B}$ Date/Time Signature Signature Firm

### 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

Mark Wilson

Client Service Manager

Enc.

Reported: 10/29/98

Golder Associates
Project Reference: BCC/RFI/NY
Client Sample ID: RFI-16(F)

		#: 246802 #:9810000189	Sampl	e Matrix: SO	OIL/SEDIMENT
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	78.3 19500	ቴ MG/KG		1.0

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

Reported: 10/29/98

Golder Associates

Project Reference: BCC/RFI/NY Client Sample ID: RFI-19D(F)

Date Sampled: 10/09/98 Date Received: 10/12/98	Order Submission	#: 246803 #:9810000189	Sample Matrix: SOIL/SEDIMENT				
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION		
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	80.5 20000	% MG/KG		1.0		

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

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		#: 246804 #:9810000189					
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION		
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	86.9 4990	. % MG/KG		1.0		

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

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		#: 246806 #:9810000189	Sample Matrix: SOIL/SEDIMENT			
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION	
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	82.8 15400	% MG/KG		1.0	

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

Reported: 10/29/98

Golder Associates

Project Reference: BCC/RFI/NY Client Sample ID : RFI-31(T)

Date Sampled: 10/09/98 Date Received: 10/12/98		#: 246807 #:9810000189	Sample Matrix: SOIL/SEDIMENT			
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION	
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	79.4 12300	% MG/KG		1.0	

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

Reported: 10/29/98

Golder Associates

Project Reference: BCC/RFI/NY Client Sample ID: RFI-32(T)

Date Sampled: 10/09/98 Date Received: 10/12/98		#: 246808 #:9810000189	Sample Matrix: SOIL/SEDIMENT			
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION	
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	79.3 2790	₹ MG/KG		1.0	

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

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 Submission	#: 246810 #:9810000189	Sample Matrix: SOIL/SEDIMENT			
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION	
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	73.6 12000	% MG/KG		1.0	

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

Reported: 10/29/98

Golder Associates

Project Reference: BCC/RFI/NY Client Sample ID : RFI-22(A)

Date Sampled: 10/09/98 Date Received: 10/12/98	Order #: 246811 Submission #:9810000189		Sample Matrix: SOIL/SEDIMENT			
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION	
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	86.4 7120	% MG/KG		1.0	

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

Reported: 10/29/98

Golder Associates

Project Reference: BCC/RFI/NY Client Sample ID: RFI-24(A)

Date Sampled: 10/09/98 Date Received: 10/12/98  ANALYTE	Order Submission	#: 246812 #:9810000189	Sample Matrix: SOIL/SEDIMENT			
	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL DILUTION	
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	81.8 7480	ፄ MG/KG		1.0	

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

Reported: 10/29/98

Golder Associates

Project Reference: BCC/RFI/NY Client Sample ID : RFI-25(A)

Date Sampled : 10/09/98 Date Received: 10/12/98	Order ; Submission ;	#: 246813 #:9810000189	Sample Matrix: SOIL/SEDIMENT			
ANALYTE	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	ANALYTICAL. DILUTION	
SUB CONTRACTED ANALYSIS PERCENT SOLIDS * TOC *	1.0 1.00	86.8 3610	ፄ MG/KG		1.0	

<sup>\*</sup> Subcontracted To: H2M Labs, Inc.

1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

(800) 695-7222

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUES FORM 10-7-78 PAGE

DATE

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**PRESERVATION** Other 610-521-3083 FAX 610-521-4589 Submission No. 9870-189 Shipping Via: Fech. Ex. 21 < Hq SAMPLE RECEIPT: 0.2 > Hq H > M Temperature: Shipping #: of Jus 309 WEST RIDLEY AVE. RIDLEY PARK, PA 19078 INVOICE INFORMATION: **ANALYSIS REQUESTED** ☐ BN Only ☐ Special List (LIST BELOW) Bill To: P.O. #: METALS, TOTAL (LIST BELOW) 201-512-3292 FAX 201-512-3362 WASTE CHARACTERIZATION REPORT REQUIREMENTS 5. NY ASP/CLP Deliverables 6. Site specific QC. TCLP | METALS | VOA's d/H □ 2. Routine Rep. w/CASE Deliverables Level IV Validatable Package S'AOV'S LIST 8270 SVOA'S 9 TOTAL | TATOT | 1. Routine Report ☐ AE Only 4. N.J. Reduced 3. EPA Level III Narrative SPECIAL INSTRUCTIONS/COMMENTS: STAR'S LIST 8021 VOA's ☐ 8080 ☐ 608 besticides/pc8's 65 RAMAPO VALLEY ROAD MAHWAH, NJ 07430 □ PPL Foxel data in 10 days ☐ 8010/8020 GC VOA's 06 67 TURNAROUND REQUIREMENTS Provide Verbal Preliminary Results Requested Report Date 10/2 (Fix. Z09/109 🗆 Sol 03 70 9 4 প্ৰ K Provide FAX Preliminary Results \_\_ 24 hr. \_\_ 48 hr. \_\_ 5 day Standard (10-15 working days) GC/MS SVOA's 29 10 TCL ©C/WS ∧O∀'s D 62¢ ORGANICS: # OF CONTAINERS METALS SAMPLE MATRIX 50.1 Ş 2221 May FAUS Blod, Nias, Falls, NY 14304 FAX (76) 731-1652 1000 RECEIVED BY: RECEIVED BY: Dave Hitche RECEIVED BY: COMPANY ADDRESS (milder Acsociates Fine. LAB I.D. 400 200 200 400 8 600 900 010 medial 90 003 11/ XX First 198 Printed Name Printed Name Date/Time Date/Time Signature TIME 1000 1100 1110 1020 1020 1040 050 Signature 1130 0101 1030 Firm Figure 86-6-01 86-4-01 PROJECT MANAGER/CONTACT \_\_\_ DATE BCC 500 TEL (746) 731-1560 RELINQUISHED BY: RELJNOUJSHED BY: RELINQUISHED BY: SAMPLER'S SIGNATURE RFT-19D(F. Z 4 RFI-31(F, KFI-19D(T RFI-32 (T) SAMPLE 1.D. RFI-16 (4) RFT-22(A RFI-31(T. - 25 PROJECT NAME 1-24 8FI-16 Printed Name Printed Name Date/Time Signature Date/Time AF. Signature Ē Ē

### Columbia Analytical Services Inc. Cooler Receipt And Preservation Check Form

Project/Client Galle	<u>~</u>			Submis	sion Number_	7-3	19
Cooler received on/o//2	2/98 and c	opened o	n <u>10/1</u> 2	. /98 by	00		_
9. Where did the board of the b	y and where?  It date correct' pers properly rive in good of abels complete els and tags a tles used for to the checked for a of cooler(s) un re within 4 ± 2°  Below emperatures T	filled outcondition e (i.e. and gree with the tests in absence of e? CAS pon rece C?: Taken:	it (ink, signal (unbroke) alysis, present custody indicated? of air bub S/A CA ipt:  Y  Y  Y  ////   /	en)? esservation, etc)? papers? bles, and noted i S/K CAS/S C  S Yes  Yes  Yes  No  S No  S York No  S C  The Control of the c	AS/L CAS/X Yes □ No □  p Blank Sam	NO NO NO NO NO NO NO Yes □ No □	ÇAS/R)  Yes □  No □  Cooler Tem
		YES	NO	Sample I.D.	Reagent	Vol.	Added
pH	Reagent						
12	NaOH						
- 2	HNO <sub>3</sub>						
2	H₂SO₄						
5-9*	P/PCBs (608 only)						
(Teste Foll	d at lab as listed, use NaOH and/o ial pH Verification after Analysis) owing Samples hibited pH > 2	on					
CLIENT NOTIFICATION:						· · ·	