General Motors Corporation
Worldwide Facilities Group
Environmental & Regulatory Support
Remediation Team

November 30, 2000

Ms. Kimberly M. Tyson
Environmental Engineer
Michigan Department of Environmental Quality
Waste Management Division
John A. Hannah Building
608 West Allegan
Lansing, MI 48909

Re: Basin Investigation Report for the Former Wastewater Treatment Plant at the REALM Coldwater Road facility in Flint, MI

Dear Ms. Tyson,

Please find enclosed one copy of the former Wastewater Treatment Plant (WWTP) Basin Investigation Report for the Remediation and Liability Management Company, Inc. (REALM) Coldwater Road facility located in Flint, Michigan. As referenced in the transmittal letter for the Final Closure Certification Documentation Package dated September 1998 (transmittal letter dated October 27, 1998), this report documents the results of the voluntary subsurface investigation in the vicinity of the former WWTP. The investigation was performed to assess potential releases from the WWTP building and surrounding basins, and assess the potential use of the concrete basins as backfill material during the demolition of the WWTP and surrounding basins.

The results of the investigation indicate concentrations of volatile organic compounds, nickel and cyanide in soil above the Part 201 Generic Industrial Drinking Water Protection criteria. However, ground water sample results collected in this same area show these constituents are below the Part 201 Generic Residential Drinking Water criteria. Therefore, no further action is necessary for this area and compliance with Part 201 Generic Industrial site closures is achieved for the site.

Leachable concrete and concrete rinseate analytical results are below the Act 307 Health Based Drinking Water criteria or method detection limits which indicates the material is acceptable as backfill under NREPA 1994 PA 451 Part 115. Therefore, the upper portion of the basins was used as backfill during demolition of the WWTP and surrounding basins.

NAO Flint Operations Office
902 East Hamilton Avenue • Mail Code 485-185-020 • Flint, MI 48550-8502 • FAX (810) 236-7391

The results of the voluntary investigation underneath and around the former WWTP and basins, and the exposure pathway assessment, discussed in the report, support closure approval and no further action for the former WWTP basins and surrounding area.

Please call me at 810.236.0300 if you have any questions.

Sincerely,

Robert S. Metcalf, P.E.
Project Manager
General Motors Corporation

cc: Jean Caufield, GM
Scott Cormier, P.E., O'Brien & Gere Engineers, Inc.

bcc Tony Finch, OBG
Michelle Fisher, Esq., GM

FINAL REPORT

Former Wastewater Treatment Plant Basin Investigation Coldwater Road Facility Flint, Michigan

Remediation and Liability Management Company, Inc.
Flint, Michigan

November 2000

O'BRIEN & GERE
ENGINEERS, INC.

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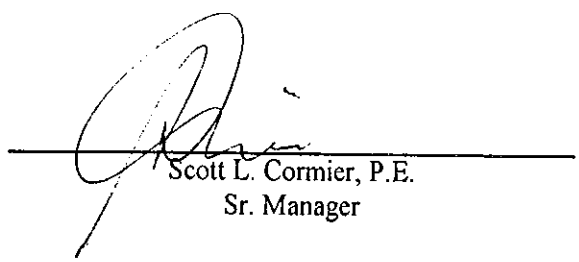
Final Report

Former Wastewater Treatment Plant Basin Investigation Coldwater Road Facility Flint, Michigan

Remediation and Liability Management Company, Inc.
Flint, Michigan



Scott L. Cormier, P.E.
Sr. Manager

November 2000

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1. Introduction

This Basin Investigation Report has been prepared to summarize the investigation activities performed at the former wastewater treatment plant (WWTP) and surrounding process and storage basins at the Remediation and Liability Management Company, Inc. (REALM) Coldwater Road site in Flint, Michigan. The objective of the investigation was to assess potential releases from the surrounding basins and WWTP building and assess the potential use of concrete basins as backfill material. A Site Location Map is included as Figure 1.

1.1. Background

The former WWTP at the Coldwater Road site is located at the southwestern corner of the property as shown on Figure 2 (Site Plan). Former process discharges from the manufacturing plant area flowed to the former WWTP in force mains. The process discharges were separated for transfer into four waste streams. Chemical/physical treatment of the process wastewater was performed at the former WWTP on a batch basis. The chromium, nickel, and acid/alkali wastes were combined and treated for heavy metal removal whereas the copper-cyanide waste was treated separately.

Use of the WWTP was terminated in December 1996 when the manufacturing plant was sold to Peregrine, Inc. and the WWTP building and associated basins were scheduled to be decontaminated and demolished.

In September 1998 and April through May 1999 REALM voluntarily implemented an investigation at the former WWTP in response to the WWTP being demolished to support closure and assess potential releases from the surrounding basins. The overall investigation was performed on the former WWTP building, surrounding basins and basement basins. The investigation included collection of subsurface soil samples underneath and around the former WWTP and surrounding basins, concrete samples from the basins and former WWTP basement floor, rinseate samples, and ground water samples from two monitoring wells located southwest of the former WWTP. A layout of the former WWTP and associated basins is shown as Figure 3.

1.2. Purpose

The purpose of this Report is to document the subsurface conditions in the area of the former WWTP and surrounding basins to evaluate potential releases which may have occurred and evaluate the feasibility of leaving the concrete basins in place.

2. Soil sample collection, analysis, and results

This section describes the methods for sample collection and results of the soil sampling and analysis conducted underneath and around the former WWTP, surrounding basins and basement basins. The objective of soil sampling was to evaluate if a release to the environment from the basins had occurred. Sampling and analysis was conducted in accordance with procedures outlined in O'Brien & Gere's January 1999 Quality Assurance Project Plan (QAPP) and Three Basement Basin Sampling and Analysis Plan (SAP) developed for the Coldwater Road facility.

2.1. Soil sample collection

The subsurface soil investigation included the collection and analysis of 36 subsurface soil samples beneath the floor of the pits, basins, floor of the former WWTP basement and outside of the basins. A figure depicting the locations of these samples is included as Figure 3. The subsurface soil samples collected outside of the basins were collected using an all-terrain vehicle (ATV) mounted geoprobe. Each of the borings were installed to a depth of approximately 15 ft below grade (fbg), commensurate with the depth of the bottom of the basins, with soil samples collected continuously.

Subsurface soil samples were also collected below the basement floor of the former WWTP, surrounding basins and three basement basins. The September 1998 investigation activities were performed after sludge stabilization and removal activities in several of the surrounding basins but before basin decontamination. Additional investigatory activities were completed in April and May 1999 after the discovery of three additional basins (east, center and west basement basins) in the northwest corner of the former WWTP basement. These investigations were completed after removal and disposal of residual materials, removal and disposal of liners, and decontamination activities.

In the basins and former WWTP building, the subsurface soil samples were collected by first drilling a hole through the concrete floor with an impact hammer and concrete drill bit and then driving a stainless steel sampler into the soil beneath with a sledge hammer. A 4 ft geoprobe sampler with a disposable acetate liner was driven a minimum of 4 ft below the bottom of the basin floors, retrieved and the sample was collected. Based on the thickness of the concrete floor at the three basement basins, the sampler was driven 2-3 ft below the bottom of the concrete floor to acquire a sufficient volume of soil for sampling. Soil boring logs containing descriptions of subsurface soil material are included in Appendix A.

Soil cuttings generated were spread out in the area of the soil boring. The borings were backfilled with hydrated bentonite. Drill holes in the basins and pits were backfilled to approximately 6 inches below the surface of the floor with hydrated bentonite and finished to grade with a quick-setting concrete, except for the borings installed in the three basement basins where the holes were left open pending demolition of the basins.

Soil sampling equipment was decontaminated between borings by either high pressure steam cleaning or an alconox/potable water wash with potable water rinse. Decontamination fluids were discharged to the ground surface in the area of the boring, inside of the basin where sampling was performed or placed in a polyethylene tank which was used to contain fluids from decontamination of the basins. The decontamination fluids in the polyethylene tank were characterized for disposal parameters and disposed of as nonhazardous.

2.2. Soil sample analysis

One soil sample from each soil boring was collected for laboratory analyses. The sample intervals collected for analysis were based on photoionization detector (PID) field screening results and visual observations indicating the highest potential for impact. The analytical parameters chosen for the samples collected were based on previous work activities associated with the different areas of the WWTP.

The selected analyses were based on the types of materials previously stored in the basins. Soil samples were analyzed for the presence of volatile organic compounds (VOCs) by Method 5035/8260, semivolatile organic compounds (SVOCs) by Method 8270, cadmium, chromium, copper, cyanide, lead, nickel, and zinc by Method 6020, cyanide by Method 9010, and pH by Method 9040. However, samples GB-36, GB-37 and GB-38 were analyzed only for the select metals, cyanide and pH.

2.3. Soil sample analytical results

2.3.1. Soil data validation

The soil samples and QA/QC samples collected for this project were evaluated based on Quality Assurance/Quality Control (QA/QC) criteria established by USEPA methods, the USEPA National Functional data validation guidelines and the QAPP for this site. Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process for samples GB-2 through GB-41, 1.4% of the SVOC data were rejected as a result of major deficiencies which were detected in the data generation process. The rejected data is considered unusable for either qualitative or quantitative purposes. The SVOC data were determined to be 98.6% usable for qualitative and quantitative purposes. In soil samples GB-42 through GB-47, none of the SVOCs data were rejected. The VOCs, metals, and cyanide data for samples analyzed were determined to be 100% usable for qualitative and quantitative purposes. Copies of the Soil Data Validation Reports are included as Appendix B.

2.3.2. Comparison to criteria

As the objective of the soil sampling and analysis was to evaluate if a release had occurred and the potential for site closure, the soil sample analytical results were compared to Michigan Department of Environmental Quality (MDEQ) Part 201 Generic Residential and Industrial Drinking Water Protection criteria as listed in Operational Memorandum #18, August 31, 1998, as updated in June, 2000.

2.3.3. Soil analytical results

Subsurface soil sample analytical results indicated SVOCs below the MDEQ Part 201 Generic Residential and Industrial Drinking Water Protection criteria. The analytical results for the subsurface soil samples indicate concentrations of benzene, trichloroethene, 1,2,4-trimethylbenzene, nickel and cyanide above MDEQ Part 201 Generic Residential and Industrial Drinking Water Protection criteria.

Benzene was detected at a concentration of 200 ppb in the soil sample from GB-18, located in the central deionized water basin. Trichloroethene was detected in two soil sample locations; GB-44 (west basement basin) and GB-47 (south of west basement basin), at concentrations of 570 ppb and 770 ppb respectively. Also, 1,2,4-trimethylbenzene was detected in two soil sample locations; GB-20 (east cyanide basin) at 3120 ppb and GB-21 (west cyanide basin) at 2100 ppb.

Methylene chloride was detected in samples GB-42 through GB-47 above the MDEQ Generic Residential and Industrial Drinking Water Protection criteria, however, the results of these samples indicated methylene chloride was detected in the laboratory blanks and should be considered blank contamination. Also, the vinyl chloride detection limit achieved by the laboratory is above the MDEQ Part 201 Generic Residential and Industrial Drinking Water Protection criteria, however, these detections are half of the Target Detection Limit (TDL) for method 5035/8260 (methanol preservation) listed in the ERD Operational Memorandum #6, revision 5, dated November 16, 1998.

Nickel and cyanide concentrations were detected above the MDEQ Part 201 Generic Residential and Industrial Drinking Water Protection criteria in the following samples:

- Nickel - GB-39 (WWTP basement floor north)
- Cyanide - GB-25 (west alkali basin)

A figure depicting the MDEQ Part 201 soil criteria exceedances is included as Figure 4. Validated soil analytical data is summarized on Table 1 and the validated laboratory report sheets are included in the Soil Data Validation Report included in Appendix B.

3. Concrete sample collection, analysis, and results

This section describes the results of the concrete floor and wall sampling and analysis conducted on the basins and WWTP basement floor at the former WWTP. The objective of concrete sampling was to assess disposal options which included the potential use as backfill during WWTP demolition. Sampling and analysis performed subsequent to the generation of the QAPP was conducted in accordance with procedures outlined in O'Brien & Gere's January 1999 QAPP developed for the Coldwater Road facility.

3.1. Concrete sample collection

The concrete investigation included the collection and analysis of a total of twenty-three concrete samples. One concrete sample was collected from the floor and wall of each basin or if the basins were interconnected, one of the basins was sampled, except for the three basement basins where a floor and wall sample was collected and analyzed from each basin. The areas sampled include the following:

- Deionized water basins
- Cyanide basins
- Cyanate basin
- West alkali basin
- North alkali basin
- South alkali basin
- Lime storage basin
- Leachate basin
- Three areas in the WWTP basement adjacent to floor trenches
- Three basement basins (east, center and west).

The locations of the concrete samples are shown on Figure 3. The sample locations were based on visual observations (overtop of cracks or stained areas) for biased sampling.

Concrete samples were collected using an impact hammer with a concrete drill bit which created a concrete powder. A section of clean plastic sheeting was placed overtop of the sample location to be drilled. During drilling the concrete cuttings remained on the plastic sheeting. After the hole was drilled, a sample was collected from the cuttings on the plastic sheeting. Collection of concrete wall samples was performed by holding a clean polyethylene bucket below the area which was being drilled and the sample was collected from the cuttings which fell into the bucket.

3.2. Concrete sample analysis

The concrete samples were analyzed by toxicity characteristic leaching procedure (TCLP) for VOCs, SVOCs, and Michigan (10) metals by Method 1311. Concrete samples collected from the three basement basins were also analyzed for VOCs by method 8260, SVOCs by method 8270 and Michigan (10) metals by method 200.8.

3.3. Concrete sample analytical results

3.3.1. Concrete data validation

The concrete samples and QA/QC samples collected for this project were evaluated based on QA/QC criteria established by USEPA methods and the USEPA National Functional data validation guidelines. Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process, samples CF-12 through CF-14 and CW-7 through CW-9, 10 % of the SVOC data were rejected as a result of major deficiencies which were detected in the data generation process. Semivolatile data were rejected as a result of low surrogate recoveries for acid fraction analyses. The rejected data is considered unusable for either qualitative or quantitative purposes. The SVOC data for these samples were determined to be 90 % usable for qualitative and quantitative purposes. For samples CF-1 through CF-11 and CW-1 through CW-6, none of the SVOCs data were rejected. The volatile organic, metals, and cyanide data for samples analyzed were determined to be 100% usable for qualitative and quantitative purposes. Copies of the Concrete Data Validation Reports are included as Appendix C.

3.3.2. Comparison to criteria

The TCLP concrete analytical results were compared to the MDEQ Act 307 Type B Health Based Drinking Water criteria as listed in the Addendum to MERA Operational Memorandum #8, Revision 3 dated June 21, 1994. The VOCs, SVOCs and metals analytical data were compared to the MDEQ Act 307 20 times Drinking Water criteria.

3.3.3. Concrete analytical results

Leachable TCLP VOCs and SVOCs were not detected for the concrete floor and wall samples collected. Leachable TCLP analytical results for metals indicated concentrations above the mdls, however these results are below the MDEQ Act 307 Type B Health Based Drinking Water criteria.

Analytical results for total analyses indicated VOCs and SVOCs were not detected for the concrete floor and wall samples collected in the three basement basins, except for phenanthrene which was detected in the concrete duplicate sample. This detection of phenanthrene is above the MDEQ Act 307 20 times Drinking Water criteria, however the results for sample (CF-12), collected from this same location, are below the MDEQ Act 307 20 times Drinking Water criteria. Metals analytical results indicate the following exceedances of the MDEQ Act 307 20 times Drinking Water criteria:

- Arsenic- CF-12, CF-13, CF-14, CW-7, CW-8, and CW-9
- Chromium- CF-12, CF-13, CF-14, CW-7, CW-8, and CW-9
- Copper- CF-12 and CF-14
- Lead- CF-12, CF-13, CF-14, CW-7, CW-8, and CW-9
- Selenium- CF-14.

Validated concrete analytical data is summarized on Table 2 and the validated laboratory report sheets are included in the Concrete Data Validation Reports included as Appendix C.

4. Concrete rinseate sample collection, analysis, and results

This section describes the results of the concrete rinseate sample collection, analyses and results conducted for select basins at the former WWTP. The objective of sampling was to assess areas in which concrete floor analytical results indicated leachable concentrations of chromium above the MDEQ Part 201 Industrial Drinking Water Protection criteria (west alkali basin and deionized water basin) and evaluate decontamination for clean closure of the basement basins (west, center and east basement basins) third rinseate wash water in accordance with the 1989 Closure Plan for the site.

4.1. Concrete rinseate sample collection

A total of five concrete rinseate samples (one per each basin) were collected from the west alkali basin, deionized water basin and the three basement basins (west, center and east) at the former WWTP. Following powerwashing and the third rinse of the concrete floors, a rinseate sample was collected from ponding water on the floor (or sump if existing) of each of the abovementioned basins. The sample was collected by dipping the appropriate laboratory supplied containers directly into the ponded water. In accordance with the Closure Plan, a tap water sample was collected for each of these sampling events. The tap water samples were collected by directly running water, from the wash water source used for rinsing the concrete floors, into laboratory supplied containers. The samples were then labeled, placed in a cooler with ice and picked up via courier with the chain-of custody documentation.

4.2. Concrete rinseate sample analysis

Based on the results of the previous concrete analyses, the concrete rinseate samples from the west alkali basin, deionized water basin and associated tap water sample were analyzed for Michigan (10) metals by method 200.8. The samples collected from the three basement basins were analyzed for the presence of VOCs by method 8260, SVOCs by method 8270, cyanide by method 9010 and metals (cadmium, chromium, copper, lead, nickel and zinc) by method 6020.

4.3. Concrete rinseate sample analytical results

4.3.1. Concrete rinseate data validation

The concrete rinseate and QA/QC samples collected for this project were evaluated based on QA/QC criteria established by USEPA methods and the USEPA National Functional data validation guidelines. Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract laboratory Program (CLP) National Functional Guidelines for Organic Data Review* (USEPA 1994a), *and the USEPA CLP National Functional Guidelines for Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process, none of the sample data were rejected as a result of a major deficiency in the data generation process. The VOC, SVOC, metal, mercury and cyanide data were determined to be 100 % usable for qualitative and quantitative purposes. A copy of the Rinseate Data Validation Report is included in Appendix D.

4.3.2. Comparison to criteria

The concrete rinseate analytical results for the west alkali basin floor and deionized water basin floor were compared to the tap water sample collected at the same time the rinseate samples were collected and MDEQ Act 307 Type B Health Based Drinking Water criteria as listed in the Addendum to MERA Operational Memorandum #8, Revision 3 dated June 21, 1994.

The concrete rinseate analytical results for the three basement basins were compared to the MDEQ Part 201 Generic Industrial Drinking Water criteria.

4.3.3. Concrete rinseate analytical results

Concrete rinseate analytical results for the west alkali basin floor and deionized water basin floor indicate tap water exceedances for the following constituents:

- Chromium- west alkali basin floor
- Copper- deionized water basin floor and west alkali basin floor
- Zinc- deionized water basin floor and west alkali basin floor.

However, these results are below the MDEQ Act 307 Health-Based Drinking Water criteria, except for arsenic. Arsenic was detected in exceedance of the

MDEQ 307 Type B Health Based Drinking Water criteria in each of the samples. However, leachable arsenic results indicated no sample concentrations above detection limits. Therefore, the concrete basins were determined to be usable as backfill and the basins could remain in place.

Concrete rinseate analytical results for the three basement basins indicate VOCs below the MDEQ Part 201 Generic Industrial Drinking Water criteria, except for methylene chloride which was detected in each of the samples including the tap water sample and may be attributed to laboratory blank contamination. SVOCs analytical results for the three basement basin are below the detection limits, except for bis(2-ethylhexyl) phthalate for each sample.

Results for metals analyses indicate the following exceedances of MDEQ Part 201 Generic Industrial Drinking Water criteria:

- Chromium- east basement basin and west basement basin
- Copper- east basement basin and west basement basin
- Lead- east basement basin, center basement basin, west basement basin and tap water sample
- Nickel- east basement basin, center basement basin and west basement basin.

However, the leachable analytical results for concrete samples collected in these basins indicated no concentrations above detection limits or MDEQ 307 Type B Health Based Drinking Water criteria. Therefore, the concrete basins were determined to be usable as backfill and the basins could remain in place. The upper portion of the concrete basins were used as backfill and the lower portion remained in place during the demolition of the former WWTP and surrounding basins.

Validated rinseate analytical data for the concrete rinseate samples and three basement basin rinseate samples are summarized on Tables 3 and 4 respectively. The validated laboratory report sheets are included in the Rinseate Data Validation Reports included as Appendix D.

5. Ground water investigation

5.1. Initial ground water investigation

Based on the results of the subsurface soil investigation, a ground water investigation was performed which included the installation of three soil borings surrounding the former WWTP. The objective of this ground water investigation was to assess ground water flow direction and the potential presence of metals in ground water.

The three soil borings which were proposed to be converted into monitoring wells (OBG SB-1, OBG SB-2, and OBG SB-3) were installed in potential down gradient, cross gradient, and up gradient areas as shown on Figure 3. The soil borings were installed using 4.25 inch hollow stem augers (HSA) with split spoon samples collected continuously in 2 ft intervals to a depth of 25 fbg. Soil sampling methods followed ASTM Method D-1586. Soil samples were screened for the presence of volatile vapors using a photo ionization detector (PID) in 2 ft intervals continuously from grade to the bottom of the boring. Soil boring logs containing subsurface descriptions of the soil materials encountered are included as Appendix A.

Since wet soil conditions were not observed at the soil boring locations during splitspoon sampling, the augers were removed from the hole and the hole was observed for the presence of water after remaining open for a minimum of 2 hr. No water was observed in the soil borings after being left open for over 2 hr, therefore, no wells were installed. No soil samples were collected for laboratory analysis from the soil borings. The open holes were backfilled with hydrated bentonite. Soil cuttings were spread out near the boring location and decontamination fluids were discharged to the ground surface in the area of the boring.

5.2. Additional ground water investigation

Two monitoring wells previously installed at the site by others during a property transfer due diligence assessment were subsequently identified along the southwest corner of the former WWTP. These monitoring wells contained water; however, since no construction details or specifications could be located, they were properly decommissioned and replaced with two new wells in the same areas. The new wells (OBG MW-1 and OBG MW-2) were constructed of 2 inch diameter schedule 40 PVC flush threaded to a 5 ft length of No. 10 slot schedule 40 PVC well screen and installed on November 23, 1998. The wells were set with the screened interval straddling the observed water table.

Soil boring logs for these two wells are included in Appendix A and monitoring well construction prints are included in Appendix E. Subsequent to installation, the wells were developed by low yield pumping methods until relatively sediment-free water was observed.

5.2.1. Survey and ground water sampling/analysis

Following installation of the two monitoring wells, the elevation of the ground surface and top of casing was surveyed to 0.01 ft accuracy using an existing monitoring well as the datum.

One round of ground water samples was collected from the new wells OBG MW-1 and OBG MW-2 on January 26, 1999. Prior to collecting the groundwater samples, the volume of standing water in the well was calculated and a minimum of three casing volumes were removed. A dedicated length of polyethylene rope was tied to a disposable polyethylene bailer which was used for sample collection.

QA/QC samples were collected in accordance with the QAPP for the site and included a trip blank, a matrix spike, a matrix spike duplicate and a duplicate sample. An equipment blank was not collected based on using disposable equipment. The samples were analyzed for VOCs by method 8260, SVOCs by method 8270, cyanide by method 335.2, and dissolved metals by method 200.8.

5.2.2. Ground water data validation

The ground water and QA/QC samples collected for this investigation were evaluated using the quality assurance/quality control (QA/QC) criteria established in USEPA Methods and the *Coldwater Road Facility Remedial Investigation, General Motors Corporation/REALM, Quality Assurance Project Plan (QAPP)* (O'Brien & Gere 1999). Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process the VOC, SVOC, metal, and cyanide data for the ground water samples analyzed were determined to be 100% usable for qualitative and quantitative purposes. A copy of the Ground Water Data Validation Report is included as Appendix F.

5.2.3. Comparison to criteria

The ground water sample analytical results were compared to MDEQ Part 201 Generic Residential Drinking Water Criteria as listed in the ERD Operational Memorandum #18, August 31, 1998 as updated in June, 2000.

5.2.4. Ground water analytical results

The ground water samples were analyzed for VOCs, SVOCs, dissolved metals (cadmium, chromium, copper, lead, nickel, and zinc), and cyanide. The results of the VOCs, SVOCs and cyanide analyses are below detection limits.

The results of the dissolved metals analyses are below Part 201 Generic Residential Drinking Water criteria, except for dissolved lead which is present at concentrations of 8 ppb in OBG MW-1(duplicate value of 9 ppb) and in OBG MW-2 at 32 ppb.

However, ground water at the site is not used for drinking water, therefore, the Residential Drinking Water value does not apply. The applicable criteria for ground water at the site is outlined in the MDEQ Technical Support Document for Generic Groundwater Contact Criteria (GCC) dated August 31, 1998. The GCC value for lead in ground water has not been established by the MDEQ, however, at the suggestion of MDEQ toxicologist Jeffrey Crum, the GCC value for arsenic of 4,700 ppb can be substituted since arsenic is considered to be more of concern than lead (i.e., the lead GCC value will be higher than arsenic when it is developed by the MDEQ). Therefore, the concentration of lead in ground water at the site is considered to be below the MDEQ GCC value.

Validated ground water analytical data is summarized on Table 5 and the validated laboratory report sheets are included in the Ground Water Data Validation Report included in Appendix F.

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6. Migration pathway evaluation

In accordance with the National Resources and Environmental Protection Act (NREPA), 1994 PA 451 formerly known as the Michigan Environmental Response Act (MERA) R299.5711, Rule 711 (Part 201), compliance for Generic site closures are attained when chemical concentrations in soil do not exceed the migration pathways pertinent to the site. The following sections summarize the migration pathway evaluations for the appropriate pathways at the site.

6.1. Migration pathway evaluation

Based on the soil analytical results, which include benzene , trichloroethene, 1,2,4-trimethylbenzene, nickel and cyanide in soil exceeding the MDEQ Act 451, Part 201 Generic Residential and Industrial Drinking Water Protection criteria in soil samples collected from underneath and around the former WWTP basins, a migration pathway evaluation was performed. The evaluation incorporates the use of MDEQ Act 451, Part 201 Generic Industrial criteria.

In accordance with the NREPA, 1994 PA 451, as amended (Part 201), compliance with Part 201 cleanup criteria is achieved when concentrations in soil are below applicable values for migration pathways pertinent to the site. The pertinent migration pathways associated with the site are:

- Migration to ground water
- Migration to surface water (wetlands)
- Runoff or erosion of soil to surface water
- Soil inhalation
- Direct contact.

The summary of the migration pathway evaluation for the site is as follows:

Migration to ground water. In accordance with Rule 711(2), the soil cleanup criteria protective of ground water may be determined by; soil leachate analysis, comparing the concentration in soil to 20 times the Health Based Drinking Water value or by use of other methods that demonstrate impact to soil will not result in ground water criteria being exceeded (actual ground water data being an acceptable method).

Leachate analysis was not performed on the soil samples collected for this project. Based on previous investigations at the Coldwater Road site, the upper water bearing unit is not hydraulically connected to the lower, useable aquifer based on the hydrologic conditions prevalent across the site (supported in the WWTP area by not encountering water in three soil borings placed around the former WWTP).

Concentrations of benzene, trichloroethene, 1,2,4-trimethylbenzene, nickel, and cyanide were detected in soil samples at the former WWTP which exceed the MDEQ Part 201 Residential and Industrial Drinking Water Protection criteria. However, the ground water analytical results from samples collected at the former WWTP, indicate VOCs, SVOCs, cadmium, chromium, copper, nickel, zinc, and cyanide below method detection limits or MDEQ Part 201 Residential Drinking Water criteria. Lead exceeds the Part 201 Residential Drinking Water criteria.

Ground water at the site is not used for drinking water, therefore the Residential Drinking Water value does not apply. The applicable criteria for ground water at the site is the Generic Groundwater Contact criteria (GCC). The GCC for lead has not been established by the MDEQ, however, based on discussions with MDEQ toxicology staff, the GCC value for arsenic may be substituted for lead since arsenic is considered to be more of a concern (i.e., the lead GCC value will be higher than arsenic when developed by the MDEQ). Therefore, the concentration of lead in ground water at the site is considered to be below the MDEQ GCC value, thus, the site is in compliance with Generic Industrial standards for the migration to ground water pathway.

Migration to surface water. In accordance with Rule 713, the concentrations of constituents in the ground water at the surface water interface must be no greater than the site specific GSI value. Based on the analytical results of the two monitoring wells at the WWTP, the concentration of VOCs, SVOCs and dissolved metals are below the Part 201 Ground water Surface Water Interface Protection (GSI) value except for lead which is below the GSI Human Non-drinking Water value. This concentration is also below the site specific GSI value for lead (35.9 ug/l) using the site surface water hardness value of 323 mg/l (formula per September 1998 Part 201 Generic Residential criteria, footnote {G}). Therefore, the site is in compliance with Generic Industrial standards for the migration to surface water pathway.

Runoff or erosion of soil to surface water. In accordance with Rule 711 (1)(b) and (3), the concentrations of constituents in the surface soil must not be transported into surface water at levels exceeding the surface water quality standards. Based on the location of the former WWTP basins, there is little potential for soil erosion or runoff to directly enter the wetlands via overland flow due to the topography of the site. There is no potential for runoff or erosion of soil to surface water as the samples collected were subsurface and the final design of the WWTP demolition program includes a layer of clean fill, topsoil, and grass cover over the entire area (including the WWTP basins). Therefore, the site is in compliance with the Generic Industrial standards for the runoff or erosion of soil to surface water pathway.

Soil inhalation. In accordance with Rule 711 (1)(c) and (4), concentrations of constituents in soil must not result in an air emission that causes injurious effects to human health, safety, or welfare and animal life.

The soil analytical results were compared to Generic Residential soil particulate inhalation criteria per Act 451, Part 201, September 1998.

Analytical results for subsurface soil indicate concentrations of constituents below the MDEQ Part 201 Particulate Soil Inhalation criteria; therefore, the site is in compliance with the Generic Industrial standards for the soil inhalation pathway.

Direct contact. In accordance with Rule 711(1)(d), the concentrations of the constituents in soil must be no greater than the direct contact criteria. The concentrations of the constituents detected in soil from the soil samples collected at the former WWTP basins are below the Generic Industrial Direct Contact criteria. Therefore, the site is in compliance with the Generic Industrial standards for the direct contact pathway.

Based on the above summary, Generic Industrial compliance is achieved for the site.

7. Conclusions

Based on the analytical results for the investigation, VOCs, SVOCs, metals and cyanide were detected in the soil samples collected at the former WWTP building, surrounding process basins and basement basins. Benzene, trichloroethene, 1,2,4-trimethylbenzene, nickel and cyanide results were above the Part 201 Generic Industrial Drinking Water Protection criteria, however, ground water analytical results from monitoring wells at the former WWTP indicate VOCs, SVOCs, cadmium, chromium, copper, nickel, zinc and cyanide are below method detection limits or Part 201 Generic Residential Drinking Water criteria.

Leachable concrete and concrete rinseate analytical results are below the Act 307 Health Based Drinking Water criteria or detection limits which indicates this material is acceptable as backfill under NREPA 1994 PA 451 Part 115. Therefore, the upper portion of the concrete basins were used as backfill and the lower portion remained in place during the demolition of the WWTP and surrounding basins.

Ground water analytical results from two wells at the former WWTP indicate results for VOCs, SVOCs and dissolved metals below the method detection limits or Part 201 Generic Residential Drinking Water criteria, except for dissolved lead. However, the applicable criteria is the GCC since ground water at the site is not used for drinking water and since no GCC value exists for lead, the arsenic value was used for comparison and the lead concentration is below this value.

The results of the voluntary investigation underneath and around the former WWTP and basins, and the exposure pathway assessment discussed in this report, support closure approval and no further action for the former WWTP basins and surrounding area.

TABLES

REALM
Coldwater Road facility
Soil Analytical Results
Volatile Organic Compounds method 8260

Table 1

Sample Location	GB-2	GB-3	GB-7	GB-8	GB-9	GB-10	GB-11	GB-17	GB-18	GB-19	GB-20	GB-21	GB-22	GB-23	GB-24	GB-25	GB-26	GB-27	GB-28	GB-29	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(12-14')	(13-15')	(13-15')	(12-14')	(13-15')	(10-12')	(7-9')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	
Date Collected	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/27/98	
Parameter																					
Benzene	50U	50U	50U	50U	50U	50U	50U	50U	200	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Bromobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	1,500
Bromochloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
Bromodichloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000(W)
Bromoform	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000(W)
Bromomethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	580
n-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,220	550	50U	50U	50U	50U	330J	50U	100	50U	4,600
sec-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	380	220	50U	50U	50U	50U	150J	50U	50U	50U	4,600
tert-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	350	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	4,600
Carbon tetrachloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Chlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000
Chloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	34,000
Chloroform	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	190	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000(W)
Chloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	22,000
2-Chlorotoluene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
4-Chlorotoluene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
Dibromochloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000(W)
1,2-Dibromo-3-chloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
1,2-Dibromoethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
Dibromomethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	4,600
1,2-Dichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	320	50U	14,000
1,3-Dichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	480
1,4-Dichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	1,700
Dichlorodifluoromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	270,000
1,1-Dichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	50,000
1,2-Dichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
1,1-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	140
cis-1,2-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	1,400
trans-1,2-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000
1,2-Dichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
1,3-Dichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
2,2-Dichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
1,1-Dichloropropene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
Ethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	260	180	50U	50U	50U	50U	210J	50U	210	50U	1,500
Hexachlorobutadiene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	72,000
Isopropylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	150	140	50U	50U	50U	50U	60J	50U	50U	50U	260,000
p-Isopropyltoluene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	690	780	50U	50U	50U	50U	390J	50U	270	50U	-
Methylene chloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Naphthalene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	3,430	1,140	50U	50U	50U	50U	650J	50U	230	50U	100,000
n-Propylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	340	390	50U	50U	50U	50U	130J	50U	50U	50U	4,600
Styrene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,700
1,1,1,2-Tetrachloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	6,400
1,1,2,2-Tetrachloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	700
Tetrachloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Toluene	50U	50U	50U	50U	50U	50U	50U	50U	480	80	80	100	50U	50U	50U	50U	140J	50U	50U	1,370	16,000
1,2,3-Trichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
1,2,4-Trichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
1,1,1-Trichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	4,000
1,1,2-Trichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Trichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Trichlorofluoromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	150,000
1,2,3-Trichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,400
1,2,4-Trimethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	**3,120**	**2,100**	50U	50U	50U	50U	960J	50U	320	50U	2,100
1,3,5-Trimethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,600	1,620	50U	50U	50U	50U	620J	50U	250	50U	1,800
Vinyl chloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	40
o-Xylene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	340	170	50U	50U	50U	50U	180J	50U	170	50U	5,600
p,m-Xylene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	920	570	50U	50U	50U	50U	720J	50U	630	50U	5,600
cis-1,3-Dichloropropene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-

notes:

1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in the Interim Environmental Response Division Operational Memorandum #18, dated June 7, 2000.
3) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.
4) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
5) Bold type denotes exceedance of Part 201 Industrial Drinking Water Protection criteria.
6) "-" denotes no criteria established.
7) "U" denotes the analyte was analyzed for, but was not detected.
8) "UJ" denotes that the sample specific reporting limit for the analyte in this sample should be considered approximate.
9) "J" denotes that the concentration should be considered approximate.

Coldwater Road facility
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Sample Location	GB-30	GB-31	GB-32	GB-33	GB-39	GB-40	GB-41	GB-42	GB-43	GB-44	GB-45	GB-46	GB-47	Soil Du	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	
Date Collected	08/27/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/27/98	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	
Parameter															
Benzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
Bromobenzene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	1,500
Bromochloromethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
Bromodichloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000(W)
Bromoform	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000(W)
Bromomethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	580
n-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,600
sec-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,600
tert-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,600
Carbon tetrachloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
Chlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000
Chloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	34,000
Chloroform	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000(W)
Chloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	22,000
2-Chlorotoluene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
4-Chlorotoluene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
Dibromochloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000(W)
1,2-Dibromo-3-chloropropane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
1,2-Dibromoethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
Dibromomethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	4,600
1,2-Dichlorobenzene	50U	50U	50U	50U	630	50U	50U	50U	50U	50U	50U	50U	50U	50U	14,000
1,3-Dichlorobenzene	50U	50U	50U	50U	110	50U	50U	50U	50U	50U	50U	50U	50U	50U	480
1,4-Dichlorobenzene	50U	50U	50U	50U	130	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,700
Dichlorodifluoromethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	270,000
1,1-Dichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50,000
1,2-Dichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
1,1-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	140
cis-1,2-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,400
trans-1,2-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	60	50U	50U	50U	50U	2,000
1,2-Dichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
1,3-Dichloropropane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
2,2-Dichloropropane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
1,1-Dichloropropene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
Ethylbenzene	50U	50U	50U	50U	100	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,500
Hexachlorobutadiene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	72,000
Isopropylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	260,000
p-Isopropyltoluene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	-
Methylene chloride	50U	50U	50U	50U	50U	50U	50U	3,190 UJ	2,950UJ	2,460UJ	2,400UJ	2,360UJ	2,550UJ	2,440UJ	100
Naphthalene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	80	50	50U	50U	100,000
n-Propylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,600
Styrene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,700
1,1,1,2-Tetrachloroethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	6,400
1,1,2,2-Tetrachloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	700
Tetrachloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
Toluene	50U	50U	50U	50U	50U	50U	50U	150U	50U	50U	50U	50U	50U	50U	16,000
1,2,3-Trichlorobenzene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
1,2,4-Trichlorobenzene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
1,1,1-Trichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,000
1,1,2-Trichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
Trichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	**570J**	50U	50U	**770**	50U	100
Trichlorofluoromethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	150,000
1,2,3-Trichloropropane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	2,400
1,2,4-Trimethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,100
1,3,5-Trimethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,800
Vinyl chloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	40
o-Xylene	50U	50U	50U	50U	50U	50U	50U	220	50U	50U	50U	50U	50U	50U	5,600
p,m-Xylene	50U	50U	50U	50U	50U	50U	50U	70	50U	50U	50U	50U	50U	50U	5,600
cis-1,3-Dichloropropene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	-
Acetone*	NA	NA	NA	NA	NA	NA	NA	3,600J	3,000J	1,300J	800J	1,100J	1,200J	1,100J	42,000
2-Butanone*	NA	NA	NA	NA	NA	NA	NA	500U	500U	500U	500U	500U	500U	500U	760,000
Carbon Disulfide*	NA	NA	NA	NA	NA	NA	NA	500U	500U	500U	500U	500U	500U	500U	46,000
2-Hexanone*	NA	NA	NA	NA	NA	NA	NA	500U	500U	500U	500U	500U	500U	500U	58,000
4-Methyl-2-pentanone*	NA	NA	NA	NA	NA	NA	NA	500U	500U	500U	500U	500U	500U	500U	100,000

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in the Interim Environmental Response Division operational Memorandum#18 dated June 7, 2000.
3) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criteria of 2,000 ug/l.
5) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
6) Bold type denotes exceedance of Part 201 Industrial Drinking Water Protection criteria.
7) "-" denotes no criteria established.
8) "U" denotes the analyte was analyzed for, but was not detected.
9) Soil duplicate sample collected at GB-44.
10) "UJ" denotes that the sample specific reporting limit for the analyte in this sample should be considered approximate.
11) "J" denotes that the concentration should be considered approximate.
12) "*" indicates these constituents were added after implementation of the QAPP.
13) "**" indicates these constituents were not part of the target compound list included in the QAPP.
14) NA denotes sample not analyzed or not part of target compound list in QAPP.

REALM
Coldwater Road Facility
Soil Analytical Results
Semivolatile Organic Compounds method 8270

Table 1 (cont.)

Sample Location	GB-2	GB-3	GB-7	GB-8	GB-9	GB-10	GB-11	GB-17	GB-18	GB-19	GB-20	GB-21	GB-22	GB-23	GB-24	GB-25	GB-26	GB-27	GB-28	GB-29	GB-30	GB-31	GB-32	GB-33	GB-39	GB-40	GB-41	GB-42	GB-43	GB-44	GB-45	GB-46	GB-47	Soil Dup	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(12-14')	(13-15')	(13-15')	(12-14')	(13-15')	(10-12')	(7-9')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	
Date Collected	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/27/98	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	
Parameter																																			
Acenaphthene	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	8.8+E5
Acenaphthylene	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	17,000
Acetophenone*	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000U	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	88,000
Aniline*	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000U	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	4,400
Anthracene	300U	300U	300U	300U	300U	1,400	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	41,000
4-Aminobiphenyl*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Benzidine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	1,000 (M)
Benzoic acid*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	1.8+E6
Benzo(a)anthracene	400	300U	300U	300U	300U	1,600	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzo(b)fluoranthene	800	300U	300U	300U	300U	2,200J	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzo(k)fluoranthene	800	300U	300U	300U	300U	2,900J	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzo(ghi)perylene	300	300U	300U	300U	300U	600J	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzo(a)pyrene	900	300U	300U	300U	300U	2,700J	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzyl alcohol*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	580,000
Bis(2-chloroethoxy)methane	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Bis(2-chloroethyl)ether	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	330 (M)
Bis(2-chlorisopropyl)ether	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300UJ	300UJ	300UJ	600UJ	300UJ	1200UJ	300U	-
Bis(2-ethylhexyl)phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	4,000	300U	300U	300U	600	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
4-Bromophenyl phenyl ether	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Butyl benzyl phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
4-Chloroaniline	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	500U	600U	300U	1200U	300U	3.1+E5 (C)
1-Chloronaphthalene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2-Chloronaphthalene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
4-Chloro-3-methylphenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2-Chlorophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
4-Chlorophenyl phenyl ether	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	2,600
Chrysene	600	300U	300U	300U	300U	1,700	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
p,m-Cresol	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	NLL
o-Cresol	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
Dibenz(a,j)acridine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
Dibenzo(ah)anthracene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	NA	NA	NA	NA	NA	NA	NA	-
Dibenzofuran	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	NLL
Di-n-butyl phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	400	5,000U	300U	300U	300U	300U	600U	300U	1200U	300U	ID
1,2-Dichlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	7.6+E5 (C)
1,3-Dichlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	14,000
1,4-Dichlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	480
3,3'-Dichlorobenzidine	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	1,700
2,4-Dichlorophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	2,000 (M)
2,6-Dichlorophenol*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	4,200
Diethyl phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	3.2+E5
p-Dimethylaminoazobenzene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
7,12-Dimethylbenz(a)anthacene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
a-,a-Dimethylphenethylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2,4-Dimethylphenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Dimethyl phthalate*	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	NA	NA	NA	NA	NA	NA	NA	7.9+E5 (C)

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in the Interim Environmental Response Division Operational Memorandum #18, dated June 7, 2000.
3) "C" denotes value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based criterion is greater than Csat.
4) "E" denotes exponential factor.
5) "M" denotes calculated criterion is below the analytical method detection limit, therefore, the criterion defaults to the method detection limit.
6) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
7) "-" denotes no criteria established.
8) NLL denotes chemical is not likely to leach under most soil conditions.
9) ID denotes inadequate data to develop criterion.
10) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.
11) "U" denotes the analyte was analyzed for, but was not detected.
12) "NA" Denotes constituent not analyzed.
13) Soil duplicate sample collected at GB-44.
14) (*) denotes constituents were not part of TCL in QAPP.

REALM
Coldwater Road Facility
Soil Analytical Results
Semivolatile Organic Compounds method 8270

Sample Location	GB-2	GB-3	GB-7	GB-8	GB-9	GB-10	GB-11	GB-17	GB-18	GB-19	GB-20	GB-21	GB-22	GB-23	GB-24	GB-25	GB-26	GB-27	GB-28	GB-29	GB-30	GB-31	GB-32	GB-33	GB-39	GB-40	GB-41	GB-42	GB-43	GB-44	GB-45	GB-46	GB-47	Soil Dup	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(12-14')	(13-15')	(13-15')	(12-14')	(13-15')	(10-12')	(7-9')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	
Date Collected	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/27/98	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99		
Parameter																																			
4,6-Dinitro-2-methylphenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2,4-Dinitrophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2,4-Dinitrotoluene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2,6-Dinitrotoluene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Diphenylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
1,2-Diphenylhydrazine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Di-n-octyl phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1.4+E8
Ethyl methanesulfonate*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Fluoranthene	1,000	300U	300U	300U	300U	4,000	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	7.3
Fluorene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	890,000
Hexachlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1,800
Hexachlorobutadiene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	72,000
Hexachlorocyclopentadiene	300R	300R	300R	300R	300R	600R	300R	300R	300R	300R	300R	300R	300R	300R	300R	300R	3,000R	300R	300R	300R	300R	300R	300R	300R	5,000R	300R	300R	300U	300U	300U	600U	300U	1200U	300U	320,000
Hexachloroethane	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1,200
Indeno(1,2,3-cd)pyrene	400	300U	300U	300U	300U	800	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Isophorone	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	62,000
3-Methylcholanthrene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Methyl methanesulfonate*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2-Methylnaphthalene	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	170,000
Naphthalene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	100,000
1-Naphthylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2-Naphthylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2-Nitroaniline	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
3-Nitroaniline	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
4-Nitroaniline	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
Nitrobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2-Nitrophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1,200
4-Nitrophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
N-Nitroso-di-n-butylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
N-Nitrosodimethylamine*	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	NA	NA	NA	NA	NA	NA	NA	-
N-Nitrosodiphenylamine	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
N-Nitrosopiperidine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Pentachlorobenzene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	81,000
Pentachloronitrobenzene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	37,000
Pentachlorophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	22
Phenacetin*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	34,000
Phenanthrene	700	300U	300U	300U	300U	2,800	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	160,000
Phenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	260,000
2-Picoline*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Pronamide*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Pyrene	1,100	300U	300U	300U	300U	4,600	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	480,000
1,2,4,5-Tetrachlorobenzene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	1.5+E6
2,3,4,6-Tetrachlorophenol*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
1,2,4-Trichlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	4,200
2,4,5-Trichlorophenol	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	110,000
2,4,6-Trichlorophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	9,400
N-Nitroso-di-n-propylamine	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300UJ	300UJ	600UJ	300UJ	1200UJ	300U	330 (M)

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in the Interim Environmental Response Division Operational Memorandum #18, dated June 7, 2000.
3) "C" denotes value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based criterion is greater than Csat.
4) "E" denotes exponential factor.
5) "M" denotes calculated criterion is below the analytical method detection limit, therefore, the criterion defaults to the method detection limit.
6) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
7) "-" denotes no criteria established.
8) NLL denotes chemical is not likely to leach under most soil conditions.
9) ID denotes inadequate data to develop criterion.
10) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.
11) "U" denotes the analyte was analyzed for, but was not detected.
12) "NA" Denotes constituent not analyzed.
13) Soil duplicate sample collected at GB-44.
14) "R" denotes that the reporting limit or sample results has been determined to be unusable due to deficiencies in the data generation process.
15) (*) denotes constituents were not part of TCL in QAPP.

i/novi/project/4144/21487/4_notes/satb.wb2

REALM
Coldwater Road Facility
Soil Analytical Results
Metals method 6020, Cyanide method 9010, and pH method 9040

Table 1 (cont.)

Sample Location	GB-2	GB-3	GB-7	GB-8	GB-9	GB-10	GB-11	GB-17	GB-18	GB-19	GB-20	GB-21	GB-22	GB-23	GB-24	GB-25	GB-26	GB-27	GB-28	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(12-14')	(13-15')	(13-15')	(12-14')	(13-15')	(10-12')	(7-9')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	
Date Collected	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	
Parameter																				
Cadmium {B}	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	6,000
Chromium {B,H}	13,200	7,600	5,900	10,400	10,200	1,900	4,500	12,300	349,000	58,300	12,800	10,400	9,700	8,100	1,210,000	9,600	16,600	10,300	12,100	1.0+E9
Copper {B}	20,100	5,900	6,500	10,700	11,700	4,900	8,700	10,600	9,800	14,400	13,500	20,800	7,600	7,600	14,500	66,000	22,000	9,400	12,000	5.8+E6
Lead {B}	10,300	3,400	4,600	4,800	5,800	3,000	3,300	6,100	5,700	3,900	5,400	6,000	5,500	5,900	5,400	5,500	5,600	5,200	5,800	700,000
Nickel {B}	19,500	11,500	16,400	23,800	22,200	3,100	5,900	26,900	23,100	13,800	29,000	31,200	18,000	22,700	39,000	22,400	63,300	24,700	25,100	1.0+E5
Zinc {B}	45,500	28,100	24,600	33,200	33,300	15,200	15,300	36,700	37,500	29,800	39,400	34,800	32,200	28,900	85,300	32,300	59,900	31,800	48,200	5.0+E6
Cyanide	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	**4,800**	500U	500U	500U	4,000
pH (STD Units)	7.88	8.09	7.93	7.93	7.92	7.83	8.22	8.62	9.69	9.23	9.70	9.78	7.68	7.78	8.51	8.20	7.62	8.32	8.44	-

Sample Location	GB-29	GB-30	GB-31	GB-32	GB-33	GB-36	GB-37	GB-38	GB-39	GB-40	GB-41	GB-42	GB-43	GB-44	GB-45	GB-46	GB-47	Soil Dup		MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')		
Date Collected	08/27/98	08/27/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/27/98	08/27/98	08/27/98	08/27/98	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99		
Parameter																				
Cadmium {B}	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	120J	260J	50UJ	50UJ	50UJ	50UJ		6,000
Chromium {B,H}	9,100	5,600	12,600	8,900	9,500	8,600	8,500	9,100	200,000	6,100	7,500	7,590	9,200	10,000	9,080	9,400	8,140	8,690		1.0+E9
Copper {B}	10,100	5,900	9,300	8,200	11,900	9,600	9,400	10,100	47,300	5,700	6,400	8,600	14,200	15,000	15,500	13,800	12,800	11,900		5.8+E6
Lead {B}	5,500	3,900	6,300	5,300	5,400	14,500	5,000	5,700	7,200	5,300	4,000	7,600J	8,500J	8,500J	7,900J	10,600J	8,900J	12,000J		700,000
Nickel {B}	20,900	15,200	28,200	20,700	23,100	20,400	20,900	23,700	**651,000**	16,300	17,100	16,900	18,000	18,900	18,400	19,600	16,400	17,600		1.0+E5
Zinc {B}	30,800	27,000	35,800	31,300	31,300	27,600	27,100	27,600	46,800	21,500	19,900	28,600J	35,500J	39,700J	29,100J	31,400J	28,500J	26,400J		5.0+E6
Cyanide	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	600	600	600	600	600	600	600		4,000
pH (STD Units)	8.25	7.70	8.03	8.64	10.46	9.19	8.81	9.10	7.85	7.87	8.59	9.18	8.81	8.72	9.94	9.84	8.23	8.64		-

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Drinking Water Protection Criteria as listed in the Interim Environmental Response Division Operational Memorandum #18, dated June 7, 2000.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
4) Bold type denotes exceedance of Part 201 Industrial Drinking Water Protection criteria.
5) {B} denotes Background , as defined in Rule 299.5701(c), may be substituted if higher than the cleanup criterion.
6) {H} denotes CR III cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future.
7) "M" denotes Calculated criterion is below the analytical method detetction limit (mdl), therefore, the criterion defaults to the mdl.
8) "U" denotes the analyte was analyzed for, but was not detected.
9) "NA" Denotes constituent not analyzed.
10) "-" Denotes no criteria established.
11) Soil duplicate sample collected at GB-44.
12) "E" denotes exponential factor.
i/novi/project/4144/21487/4_notes/satb2.wb2

REALM
Coldwater Road Facility
Leachable Concrete Analytical Results
Metals method 200.8/245.1/1311

Sample Location	CF-1 Deionized Water Basin Floor	CW-1 Deionized Water Basin Wall	CF-2 Cyanide Basin Floor	CW-2 Cyanide Basin Wall	CF-3 Cyanate Basin Floor	CW-3 Cyanate Basin Wall	CF-4 Lime Basin Floor	CW-4 West Alkali Basin Wall	CF-5 West Alkali Basin Floor	CW-5 North Alkali Basin Wall	CF-6 North Alkali Basin Floor	CW-6 South Alkali Basin Wall	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	
Parameter													
Arsenic, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	0.02 (C)
Barium, TCLP	440	370	550	400	370	340	580	370	380	340	290	400	2,400 (C)
Cadmium, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	3.5 (C)
Chromium, TCLP	340	10	40	20	20	20	10	20	810	10	50	20	37,000 (C)
Copper, TCLP	10U	10U	50	470	10U	10U	10U	10U	990	100	10U	10U	1,300 (C)
Lead, TCLP	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	4 (C, O)
Mercury, TCLP	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	5U	0.2U	0.2U	0.2U	0.2U	2.1 (C)
Selenium, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	35 (C)
Silver, TCLP	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	33 (C)
Zinc, TCLP	120 J	110 J	150 J	110 J	30 J	40 J	130 J	30 J	70 J	30 J	30 J	130 J	2,300 (C)

Sample Location	CF-7 Leachate Basin Floor	CW-7 East Basement Basin Wall	CF-8 South Alkali Basin Floor	CW-8 Center Basement Basin Wall	CF-9 WWTP Basement Floor North	CW-9 West Basement Basin Wall	CF-10 WWTP Basement Floor Center	CF-11 WWTP Basement Floor South	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	08/27/98	04/28/99	08/26/98	04/28/99	08/27/98	04/28/99	08/27/98	08/27/98	04/28/99	04/28/99	04/28/99	04/28/99	
Parameter													
Arsenic, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	0.02 (C)
Barium, TCLP	370	350	290	380	330	370	300	290	370	350	350	370	2,400 (C)
Cadmium, TCLP	5U	0.2U	5U	0.2U	5U	0.2U	5U	5U	0.2U	0.2U	0.2U	0.2U	3.5 (C)
Chromium, TCLP	10	10U	20	10U	30	10U	60	40	10U	10U	10U	10U	37,000 (C)
Copper, TCLP	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	1,300 (C)
Lead, TCLP	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	4 (C, O)
Mercury, TCLP	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	2.1 (C)
Selenium, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	35 (C)
Silver, TCLP	1U	0.5U	1U	0.5U	1U	0.5U	1U	1U	0.5U	0.5U	0.5U	0.5U	33 (C)
Zinc, TCLP	30 J	10	50 J	30	150 J	30	230 J	130 J	30	30	10	40	2,300 (C)

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Act 307 Type B Health-Based Drinking Water Criteria as listed in Operational Memorandum #8, Revision 3, June 1994.

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan

4) "C" denotes background as defined in Rule 701 (c), may be substituted as the cleanup criteria if higher than the Type B cleanup criterion.

5) "O" denotes higher level may be acceptable if soil concentration is less than 400 ppm and groundwater migrating off-site will not impact adjacent properties. Contact an ERD toxicologist for further explanation.

6) "J" denotes that the concentration should be considered approximate.

7) "U" denotes the analyte was analyzed for, but was not detected.

8) Concrete duplicate sample collected at CF-12.

REALM
Coldwater Road Facility
Concrete Analytical Results
Volatile Organic Compounds method 8260

Sample Location	CW-7 East Basement Basin Wall	CW-8 Center Basement Basin Wall	CW-9 West Basement Basin Wall	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 20 X Drinking Water Criteria
Date Collected	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	
Parameter								
Benzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	24
Bromodichloromethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	11
Bromoform	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	92
Bromomethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	200
n-Butylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
sec-Butylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
tert-Butylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Carbon tetrachloride	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	5.4
Chlorobenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	2,600
Chloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	180
Chloroform	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	11
Chloromethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	54
Dibromochloromethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	8.4
1,2-Dichlorobenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	12,000
1,3-Dichlorobenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	12,000
1,4-Dichlorobenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	30
1,1-Dichloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	17,000
1,2-Dichloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	7.6
1,1-Dichloroethene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
cis-1,2-Dichloroethene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
trans-1,2-Dichloroethene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
1,2-Dichloropropane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	10
cis-1,3-Dichloropropene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
trans-1,3-Dichloropropene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Ethylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	1,500
Isopropylbenezene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
p-Isopropyltoluene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Methylene Chloride	700UJ	700UJ	700UJ	7,000UJ	7,000UJ	6,000UJ	6,000UJ	-
Naphthalene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	5,000
n-Propylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Styrene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	24
1,1,2,2-Tetrachloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Toluene	100U	200	100U	1,000U	1,000U	1,000U	1,000U	16,000
1,1,1-Trichloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	4,000
1,1,2-Trichloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	13
Trichloroethene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
1,2,4-Trimethylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
1,3,5-Trimethylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	ID
Vinyl Chloride	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
o-Xylene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	5,600
p,m-Xylene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	5,600
Acetone	1,000U	1,000U	1,000U	10,000U	10,000U	10,000U	10,000U	14,000
2-Butanone	1,000U	1,000U	1,000U	10,000U	10,000U	10,000U	10,000U	6,400
Carbon Disulfide	1,000U	1,000U	1,000U	10,000U	10,000U	10,000U	10,000U	15,000
2-Hexanone	1,000U	1,000U	1,000U	10,000U	10,000U	10,000U	10,000U	20,000
4-Methyl-2-pentanone	400	400	200	2,000J	3,000	5,000	5,000	7,000

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Act 307 Type B Health-Based Drinking Water Criteria as listed in Operational Memorandum #8, Revision 3, June 1994.

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan

4) Bold type denotes exceedance of Act 307 Type B 20 times Drinking Water Criteria.

5) "ID" Inadequate data to develope criterion.

6) "-" denotes no criteria established.

7) Concrete duplicate sample collected at CF-12.

8) "U" denotes analyte was analyzed for, but was not detected.

9) "UJ" denotes sample specific reporting limit for the analyte in this sample should be considered approximate.

10) "J" denotes that the concentration should be considered approximate.

REALM
Coldwater Road Facility
Concrete Analytical Results
Semi-Volatile Organic Compounds method 8270

Sample Location	CW-7 East Basement Basin Wall	CW-8 Center Basement Basin Wall	CW-9 West Basement Basin Wall	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 20 X Drinking Water Criteria
Date Collected	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	
Parameter								
Acenaphthene	300U	300U	300U	300U	300U	300U	500	24,000
Acenaphthylene	300U	300U	300U	300U	300U	300U	300U	500
Anthracene	300U	300U	300U	300UJ	300U	300U	1,100J	1.4+E5
Benzo(a)anthracene	300U	300U	300U	300UJ	300U	300U	1,500J	{G}
Benzo(b)fluoranthene	300U	300U	300U	300UJ	300U	300U	1,600J	{G}
Benzo(k)fluoranthene	300U	300U	300U	300U	300U	300U	800	{G}
Benzo(ghi)perylene	300U	300U	300U	300U	300U	300U	900	{G}
Benzo(a)pyrene	300U	300U	300U	300UJ	300U	300U	1,600J	{G}
Bis(2-chloroethoxy)methane	300U	300U	300U	300U	300U	300U	300U	-
Bis(2-chloroethyl)ether	300U	300U	300U	300U	300U	300U	300U	0.64
Bis(2-chloroisopropyl)ether	300U	300U	300U	300U	300U	300U	300U	-
Bis(2-ethylhexyl)phthalate	300U	300U	300U	300U	300U	300U	300U	{G}
4-Bromophenyl phenyl ether	300U	300U	300U	300U	300U	300U	300U	-
Butyl benzyl phthalate	300U	300U	300U	300U	300U	300U	300U	-
4-Chloroaniline	300U	300U	300U	300U	300U	300U	300U	-
2-Chloronaphthalene	300U	300U	300U	300U	300U	300U	300U	-
4-Chloro-3-methylphenol	300R	300R	300R	300R	300R	300R	300R	-
2-Chlorophenol	300R	300R	300R	300R	300R	300R	300R	860
4-Chlorophenyl phenyl ether	300U	300U	300U	300U	300U	300U	300U	-
Chrysene	300U	300U	300U	300UJ	300U	300U	1,300J	-
p,m-Cresol	300U	300U	300U	300U	300U	300U	300U	-
o-Cresol	300U	300U	300U	300U	300U	300U	300U	-
Dibenzeno(a,h)anthracene	300U	300U	300U	300U	300U	300U	300U	{G}
Dibenzofuran	300U	300U	300U	300U	300U	300U	400	ID
Di-n-butyl phthalate	300U	300U	300U	300U	300U	300U	300U	17,000
1,2-Dichlorobenzene	300U	300U	300U	300U	300U	300U	300U	12,000
1,3-Dichlorobenzene	300U	300U	300U	300U	300U	300U	300U	12,000
1,4-Dichlorobenzene	300U	300U	300U	300U	300U	300U	300U	30
3,3-Dichlorobenzidine	300U	300U	300U	300U	300U	300U	300U	1.5
2,4-Dichlorophenol	300R	300R	300R	300R	300R	300R	300R	420
Diethyl phthalate	300U	300U	300U	300U	300U	300U	300U	1.0+E5
2,4-Dimethylphenol	300R	300R	300R	300R	300R	300R	300R	7,000
Dimethyl phthalate	300U	300U	300U	300U	300U	300U	300U	1.4+E6
4,6-Dinitro-2-methylphenol	300R	300R	300R	300R	300R	300R	300R	-
2,4-Dinitrophenol	300R	300R	300R	300R	300R	300R	300R	-
2,4-Dinitrotoluene	300U	300U	300U	300U	300U	300U	300U	-
2,6-Dinitrotoluene	300U	300U	300U	300U	300U	300U	300U	-
Di-n-octyl phthalate	300U	300U	300U	300U	300U	300U	300U	
Fluoranthene	300U	300U	300U	400J	300U	300U	3,100J	17,000
Fluorene	300U	300U	300U	300U	300U	300U	600	17,000
Hexachlorobenzene	300U	300U	300U	300U	300U	300U	300U	0.44
Hexachlorobutadiene	300U	300U	300U	300U	300U	300U	300U	9.2
Hexachlorocyclopentadiene	300U	300U	300U	300U	300U	300U	300U	1,000
Hexachloroethane	300U	300U	300U	300U	300U	300U	300U	50
Indeo(1,2,3-cd)pyrene	300U	300U	300U	300U	300U	300U	800	{G}
Isophorone	300U	300U	300U	300U	300U	300U	300U	760
2-MethylnaphthalenE	300U	300U	300U	300U	300U	300U	300U	-
Naphthalene	300U	300U	300U	300U	300U	300U	500	5,000
2-Nitroaniline	300U	300U	300U	300U	300U	300U	300U	-
3-Nitroaniline	300U	300U	300U	300U	300U	300U	300U	-
4-Nitroaniline	300U	300U	300U	300U	300U	300U	300U	-
Nitrobenzene	300U	300U	300U	300U	300U	300U	300U	64
2-Nitrophenol	300R	300R	300R	300U	300R	300R	300R	-
4-Nitrophenol	300R	300R	300R	300R	300R	300R	300R	-
N-Nitrosodiphenylamine	300U	300U	300U	300U	300U	300U	300U	140
N-Nitrosodi-n-propylamine	300U	300U	300U	300U	300U	300U	300U	0.098
Pentachlorophenol	300R	300R	300R	300R	300R	300R	300R	-
Phenanthrene	300U	300U	300U	400J	300U	300U	3,000J	500
Phenol	300U	300U	300U	300U	300U	300U	300U	84,000
Pyrene	300U	300U	300U	400J	300U	300U	2,800J	10,000
1,2,4-Trichlorobenzene	300U	300U	300U	300U	300U	300U	300U	2,200
2,4,6-Trichlorophenol	300R	300R	300R	300R	300R	300R	300R	64
2,4,5- Trichlorophenol	300R	300R	300R	300R	300R	300R	300R	14,000

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Act 307 Type B 20 times Drinking Water value as listed in Operational Memorandum #8, Revision 3. June 1994.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) Bold type denotes exceedance of Act 307 Type B 20 times Drinking Water Criteria.
5) {G} Chemical, due to its physicochemical properties, is not expected to leach through soils to groundwater under most conditions. Therefore, the direct contact soil criterion is considered to be protective of groundwater. However, the presence of organic solvents in the soil may increase the solubility of these chemicals, thereby increasing their potential to leach from soil to groundwater. Under these conditions site-specific leachate testing may be required.
6) "ID" Inadequate data to develope criterion
7) "-" denotes criteria not established.
8) Concrete duplicate sample collected at CF-12.
9) "U" denotes the analyte was analyzed for , but was not detected.
10) "J" denotes that the concentration should be considered approximate.
11) "R" denotes that the reporting limit or sample result has been determined to be unusable due to deficiencies in the data generation proces
12 "UJ" denotes sample specific reporting limit for the analyte in this sample should be considered approximate.
13) "E" denotes exponential factor

REALM
Coldwater Road Facility
Concrete Analytical Results
Metals method 6020/7471

Sample Location	CW-7 East Basement Basin Wall	CW-8 Center Basement Basin Wall	CW-9 West Basement Basin Wall	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 20 X Drinking Water Criteria
Date Collected	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	
Parameter								
Arsenic	**4,270**	**4,810**	**4,730**	**5,820**	**5,430**	**9,500**	**4,160**	.4{C}
Barium	36,200	38,100	43,200	42,500	36,300	43,100	43,700	48,000{C}
Cadmium	50U	50U	50U	50U	70	50U	50U	70{C}
Chromium	**12,200**	**19,100**	**9,940**	**14,500**	**13,100**	**11,400**	**13,300**	2,400{C}
Copper	13,100J	19,900J	13,300J	**48,400J**	16,300J	**21,700J**	**125,000J**	20,000{C}
Lead	**2,400**	**3,000**	**3,200**	**2,800**	**3,100**	**6,100**	**3,800**	80{C}
Mercury	100U	100U	100U	100U	100U	100U	100U	42{C}
Selenium	500U	500U	500U	500U	500U	**1,490**	520	700{C}
Silver	200U	200U	200U	200U	200U	200U	200U	660{C}
Zinc	14,200J	14,700J	15,000J	16,500J	38,600J	14,800J	37,900J	46,000{C}

Notes:

1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Act 307 Type B Health-Based Drinking Water criteria as listed in Operational Memorandum #8, Revision 3, June 1994.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) Bold type denotes exceedance of Act 307 Type B 20 times Drinking Water criteria.
5) "{C}" denotes Background, as defined in Rule 701(c), may be substituted as the cleanup criteria if higher than the Type B cleanup criterion.
6) Concrete duplicate sample collected at CF-12.
7) "U" denotes the analyte was analyzed for, but was not detected.
8) "J" denotes that the concentration should be considered approximate.

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REALM Table 3

Coldwater Road Facility

Concrete Rinseate Analytical Results

Metals method 200.8/245.1/1311

Sample Location	Deionized Water Basin floor	West Alkali Basin floor	Tap Water	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	**12/21/98**	**12/21/98**	**12/21/98**	
Parameter				
Arsenic	**1U**	**3**	**5**	0.02 (C)
Barium	30	70	180	2,400 (C)
Cadmium	0.2U	0.2U	0.2U	3.5 (C)
Chromium	10U	(30)	10U	37,000 (C)
Copper	(30)	(100)	10U	1,300 (C)
Lead	3	3U	3U	4 (C, O)
Mercury	0.2U	0.2U	0.2U	2.1 (C)
Selenium	5U	5U	5U	35 (C)
Silver	0.5U	0.5U	0.5U	33 (C)
Zinc	(80)	(60)	30	2,300 (C)

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Act 307 Type B Health-Based Drinking Water Criteria as listed in Operational Memorandum #8, Revision 3, June 1994.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
4) Bold type denotes exceedance of Act 307 Type B Health-Based Drinking Water Criteria.
5) "()" denotes exceedance of Tap Water sample.
6) "C" denotes background as defined in Rule 701 (c), may be substituted as the cleanup criteria if higher than the Type B cleanup criterion.
7) "O" denotes higher level may be acceptable if soil concentration is less than 400 ppm and groundwater migrating off-site will not impact adjacent properties. Contact an ERD toxicologist for further explanation.
8) "U" denotes the analyte was analyzed for, but was not detected.

i/novi/project/4144/21487/4_notes/rinstbl.wb2

REALM
Coldwater Road Facility
Basement Basin Concrete Rinseate Analytical Results
Volatile Organics Method 8260

Sample Location	East Basement Basin	Center Basement Basin	West Basement Basin	Rinseate Duplicate	Tap Water	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	04/20/99	04/21/99	04/21/99	04/20/99	04/21/99	
Parameter						
Benzene	1U	1U	1U	1U	1U	5.0 (A)
Bromodichloromethane	4U	5U	3U	4U	5U	100 (A, W)
Bromoform	1U	1U	1U	1U	1U	100 (A, W)
Bromomethane	1U	1U	1U	1U	1U	29
n-Butylbenzene	1U	1U	1U	1U	1U	230
sec-Butylbenzene	1U	1U	1U	1U	1U	230
tert-Butylbenzene	1U	1U	1U	1U	1U	230
Carbon tetrachloride	1U	1U	1U	1U	1U	5.0 (A)
Chlorobenzene	1U	1U	1U	1U	1U	100 (A)
Chloroethane	1U	1U	1U	1U	1U	1,700
Chloroform	5U	6U	4U	5U	6U	100 (A, W)
Chloromethane	1U	1U	1U	1U	1U	1,100
Dibromochloromethane	3U	3U	2U	3U	4U	100 (A, W)
1,2-Dichlorobenzene	1U	1U	3	1U	1U	600 (A)
1,3-Dichlorobenzene	1U	1U	1U	1U	1U	19
1,4-Dichlorbenzene	1U	1U	1U	1U	1U	75 (A)
1,1-Dichloroethane	1U	1U	1U	1U	1U	2,500
1,2-Dichloroethane	1U	1U	1U	1U	1U	5.0 (A)
1,1-Dichloroethene	1U	1U	1U	1U	1U	7.0 (A)
cis-1,2-Dichloroethane	1U	1U	1U	1U	1U	70 (A)
trans-1,2-Dichloroethene	1U	1U	1U	1U	1U	100 (A)
1,2-Dichloropropane	1U	1U	1U	1U	1U	5.0 (A)
cis-1,3-Dichloropropene	1U	1U	1U	1U	1U	-
trans-1,3-Dichloropropene	1U	1U	1U	1U	1U	-
Ethylbenzene	1U	1U	1U	1U	1U	74 (E)
Isopropylbenzene	1U	1U	1U	1U	1U	2,300
p-Isopropyltoluene	1U	1U	1U	1U	1U	-
Methylene chloride	9UJ	9UJ	8UJ	9UJ	9UJ	5.0 (A)
Naphthalene	3	1	3U	3	1U	1,500
n-Propylbenzene	1U	1U	1U	1U	1U	230
Styrene	1U	1U	1U	1U	1U	100 (A)
1,1,2,2-Tetrachloroethane	1U	1U	1U	1U	1U	35
Tetrachloroethene	1U	1U	1U	1U	1U	5.0 (A)
Toluene	1U	2U	4U	1U	1U	790 (E)
1,1,1-Trichloroethane	1U	1U	4U	1U	1U	200 (A)
1,1,2-Trichloroethane	1U	1U	1U	1U	1U	5.0 (A)
Trichloroethene	1U	1U	1U	1U	1U	5.0 (A)
1,2,4-Trimethylbenzene	1U	1U	2U	1U	1U	63 (E)
1,3,5-Trimethylbenzene	1U	1	3U	1U	1U	72 (E)
Vinyl chloride	1U	1U	1U	1U	1U	2.0 (A)
o-Xylene	1U	1U	5	1U	1U	280 (E)
p,m-Xylene	1U	1	3	1U	1U	280 (E)
Acetone	50U	50U	50U	50U	50U	2,100
2-Butanone	50U	50U	50U	50U	50U	38,000
Carbon Disulfide	50U	50U	50U	50U	50U	2,300
2-Hexanone	50U	50U	50U	50U	50U	2,900
4-Methyl-2-pentanone	50U	50U	50U	50U	50U	-

Notes:
1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Part 201 Industrial Drinking Water Criteria as listed in Operational Memorandum #18, dated June 7, 2000.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
5) "E" denotes criterion is the asthetic drinking water value, as required by Section 20120 (1)(5).
6) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.
7) "U" denotes the analyte was analyzed for, but was not detected.
8) "-" denotes no criteria established.
9) Rinseate duplicate sample collected at East Basement Basin location.
10) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.

REALM
Coldwater Road Facility
Basement Basin Concrete Rinseate Analytical Results
Semi-Volatile Organics Method 8270

Sample Location	East Basement Basin	Center Basement Basin	West Basement Basin	Rinseate Duplicate	Tap Water	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	04/20/99	04/21/99	04/21/99	04/20/99	04/21/99	
Parameter						
Acenaphthene	20U	20U	40U	20U	10U	3,800
Acenaphthylene	20U	20U	40U	20U	10U	150
Anthracene	20U	20U	40U	20U	10U	43 (S)
Benzo(a)anthracene	20U	20U	40U	20U	10U	8.5
Benzo(b)fluoranthene	20U	20U	40U	20U	10U	2.0 (M)
Benzo(k)fluoranthene	20U	20U	40U	20U	10U	5.0(M)
Benzo(ghi)perylene	20U	20U	40U	20U	10U	5.0(M)
Benzo(a)pryene	20U	20U	40U	20U	10U	5.0 (A,M)
Bis(2-chlorothoxy)methane	20U	20U	40U	20U	10U	-
Bis(2-chloroisopropyl)ether	20U	20U	40U	20U	10U	8.3
Bis(2-ethylhexyl)phthalate	**20**	**40**	**70**	**30**	10U	6.0 (A)
4-Bromophenyl phenyl ether	20U	20U	40U	20U	10U	-
Butyl benzyl phthalate	20U	20U	40U	20U	10U	2,700 (S)
4-Chloroaniline	20UJ	20UJ	40UJ	20UJ	10UJ	-
2-Chloronaphthalene	20U	20U	40U	20U	10U	-
4-Chloro-3-methylphenol	20U	20U	40U	20U	10U	420
2-Chlorophenol	20U	20U	40U	20U	10U	130
4-Chlorophenyl phenyl ether	20U	20U	40U	20U	10U	-
Chrysene	20U	20U	40U	20U	10U	5.0(M)
p,m-Cresol	20U	20U	40U	20U	10U	-
o-Cresol	20U	20U	40U	20U	10U	-
Dibenzo(a,h)anthracene	20U	20U	40U	20U	10U	5.0 (M)
Dibenzofuran	20U	20U	40U	20U	10U	ID
Di-n-butyl phthalate	20U	20U	40U	20U	10U	2,500
1,2-Dichlorobenzene	20U	20U	40U	20U	10U	600 (A)
1,3-Dichlorobenzene	20U	20U	40U	20U	10U	19
1,4-Dichlorobenzene	20U	20U	40U	20U	10U	75(A)
3,3'-Dichlorobenzidine	20U	20U	40U	20U	10U	4.3
2,4-Dichlorophenol	20U	20UJ	40U	20U	10U	210
Diethyl phthalate	20U	20U	70U	20U	10U	16,000
2,4-Dimethylphenol	20U	20U	40U	20U	10U	1,000
Dimethyl phthalate	20U	20U	40U	20U	10U	210000
4,6-Dintro-2-methylphenol	20UJ	20U	40U	20U	10U	-
2,4-Dinitrophenol	20UJ	20U	40UJ	20UJ	10UJ	-
2,4-Dinitrotoluene	20U	20U	40U	20U	10U	32
2,6-Dinitrotoluene	20U	20U	40U	20U	10U	-
Di-n-octyl phthalate	20U	20U	40U	20U	10U	380
Fluoranthene	20U	20U	40U	20U	10U	210 (S)
Fluorene	20U	20U	40U	20U	10U	2,000 (S)
Hexachlorobenzene	20U	20U	40U	20U	10U	1.0 (A)
Hexachlorobutadiene	20U	20U	40U	20U	10U	42
Hexachlorocyclopentadiene	20U	20U	40U	20U	10U	50 (A)
Hexachloroethane	20U	20U	40U	20U	10U	21
Indeno(1,2,3-cd)pyrene	20U	20U	40U	20U	10U	5.0 (M)
Isophorone	20U	20U	40U	20U	10U	3,100
2-Methylnaphthalene	20U	20U	40U	20U	10U	750
Naphthalene	20U	20U	40U	20U	10U	1,500
2-Nitroaniline	20U	20U	40U	20U	10U	-
3-Nitroaniline	20U	20U	40U	20U	10U	-
4-Nitroaniline	20U	20U	40U	20U	10U	-
Nitrobenzene	20U	20U	40U	20U	10U	9.6
2-Nitrophenol	20U	20U	40U	20U	10U	58
4-Nitrophenol	20UJ	20UJ	40UJ	20UJ	10UJ	-
N-Nitrosodiphenylamine	20U	20U	40U	20U	10U	1,000
N-Nitrosodi-n-proplyamine	20U	20U	40U	20U	10U	5.0 (M)
Pentachlorophenol	20UJ	20U	40U	20U	10U	1.0(A)
Phenanthrene	20U	20U	40U	20U	10U	150
Phenol	20U	20U	40U	20U	10U	13,000
Pyrene	20U	20U	40U	20U	10U	140(S)
1,2,4-Trichlorobenzene	20U	20U	40U	20U	10U	70(A)
2,4,5-Trichlorophenol	20UJ	20U	40U	20U	10U	2,100
2,4,6-Trichlorophenol	20U	20U	40U	20U	10U	470

Notes:
1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Part 201 Industrial Drinking Water criteria as listed in Operational Memorandum #18, Revision June 7, 2000.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) "ID" Inadequate data to develop criterion
5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
6) "M" denotes calculated criterion is below the analytical method detection limit, therefore, the criterion defaults to the method detection limit.
7) "S" denotes criterion defaults to the chemical-specific water solubility limit.
8) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.
10) "U" denotes the analyte was analyzed for, but was not detected.
11) Rinseate Duplicate sample collected at East basement Basin location.
12) "-" denotes no criteria established.

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REALM
Coldwater Road Facility
Basement Basin Concrete Rinseate Analytical Results
Metals method 200.8/245.1/1311

Table 4 (cont.)

Sample Location	East Basement Basin	Center Basement Basin	West Basement Basin	Tap Water	Rinseate Duplicate	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	04/20/99	04/20/99	04/20/99	04/20/99	04/20/99	Industrial Drinking Water Criteria
Parameter						
Cadmium	.5U	.5U	1.2	.5U	.5U	5.0 (A)
Chromium	**260**	80	**2,180**	10U	**240**	100 (A)
Copper	**3,350**	430	**11,400**	10U	**3,060**	1,000 (E)
Lead	**96**	**20**	**169**	**52**	**93**	4.0 (L)
Nickel	**994**	**140**	**3,850**	5U	**913**	100 (A)
Zinc	1,080	240	4,190	20U	990	5,000 (E)

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Part 201 Industrial Drinking Water criteria as listed in Operational Memorandum #18, dated June 7, 2000.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
5) "E" denotes criterion is the aesthetic drinking water value, as required by Sec. 20120(1)(5).
6) "L" denotes higher level may be acceptable(up to 15ug/l) if soil concentration is less than 400 ppm and groundwater migrating off-site will not result in unacceptable exposures. Contact an ERD toxicologist for further explanation.
7) "U" denotes the analyte was analyzed for, but was not detected.
8) Rinseate Duplicate sample collected at East Basement Basin location.
9) Bold type denotes exceedance of Part 201 Industrial Drinking Water criteria.

REALM Table 5

Coldwater Road Facility

Groundwater Analytical Results

Volatile Organic Compounds method 8260

Sample Location	OBG MW-1	GW Duplicate	OBG MW-2	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	01/26/99	01/26/99	01/26/99	
Parameter				
Benzene	1U	1U	1U	5.0 (A)
Bromodichloromethane	1U	1U	1U	100 (A, W)
Bromoform	1U	1U	1U	100 (A, W)
Bromomethane	1U	1U	1U	29
n-Butylbenzene	1U	1U	1U	230
sec-Butylbenzene	1U	1U	1U	230
tert-Butylbenzene	1U	1U	1U	230
Carbon tetrachloride	1U	1U	1U	5.0 (A)
Chlorobenzene	1U	1U	1U	100 (A)
Chloroethane	1U	1U	1U	1,700
Chloroform	1U	1U	1U	100 (A, W)
Chloromethane	1U	1U	1U	1,100
Dibromochloromethane	1U	1U	1U	100 (A, W)
1,2-Dichlorobenzene	1U	1U	1U	600 (A)
1,3-Dichlorobenzene	1U	1U	1U	19
1,4-Dichlorobenzene	1U	1U	1U	75 (A)
1,1-Dichloroethane	1U	1U	1U	2,500
1,2-Dichloroethane	1U	1U	1U	5.0 (A)
1,1-Dichloroethene	1U	1U	1U	7.0 (A)
cis 1,2-Dichloroethene	1U	1U	1U	70 (A)
trans 1,2-Dichloroethene	1U	1U	1U	100 (A)
1,2-Dichloropropane	1U	1U	1U	5.0 (A)
cis 1,3-Dichloropropene	1U	1U	1U	-
Ethylbenzene	1U	1U	1U	74 (E)
Isopropylbenzene	1U	1U	1U	2,300
p-Isopropyltoluene	1U	1U	1U	-
Methylene chloride	3 U	2 U	3 U	5.0 (A)
Naphthalene	1U	1U	1U	1,500
n-Propylbenzene	1U	1U	1U	-
Styrene	1U	1U	1U	100 (A)
1,1,2,2-Tetrachloroethane	1U	1U	1U	35
Tetrachloroethene	1U	1U	1U	5.0 (A)
Toluene	1U	1U	1U	790 (E)
1,1,1-Trichloroethane	1U	1U	1U	200 (A)
1,1,2-Trichloroethane	1U	1U	1U	5.0 (A)
Trichloroethene	1U	1U	1U	5.0 (A)
1,2,4-Trimethylbenzene	2	1 U	1 U	63 (E)
1,3,5-Trimethylbenzene	1	1U	1U	72 (E)
Vinyl chloride	1U	1U	1U	2.0 (A)
o-Xylene	1U	1U	1U	280 (E)
p,m-Xylene	1U	1U	1U	280 (E)
Acetone*	50UJ	50UJ	50UJ	2,100
2-Butanone*	50UJ	50UJ	50UJ	38,000
Carbon Disulfide*	50U	50U	50U	2,300
2-Hexanone*	50U	50U	50U	2,900
4-Methyl-2-pentanone*	50U	50U	50U	5,200

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Part 201 Industrial Drinking Water criteria as listed in Operational Memorandum #18, dated June 7, 2000.

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan

4) "-" denotes no criteria established.

5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

6) "E" denotes criterion is the asthetic drinking water value, as required by Section 20120 (1)(5).

7) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.

8) "U" denotes the analyte was analyzed for, but was not detected.

9) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.

10) Ground water duplicate sample collected at OBG MW-1.

11) "*" indicates these constituents were added after implementation of the QAPP.

REALM
Coldwater Road Facility
Groundwater Analytical Results
Semivolatile Organic Compounds method 8270

Table 5 (cont.)

Sample Location	OBG MW-1	GW Duplicate	OBG MW-2	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	01/26/99	01/26/99	01/26/99	Industrial Drinking Water Criteria
Parameter				
Acenaphthene	10UJ	10UJ	10UJ	3,800
Acenaphthylene	10UJ	10UJ	10UJ	150
Anthracene	10UJ	10UJ	10UJ	43 (S)
Benzo(a)anthracene	10U	10U	10U	8.5
Benzo(b)fluoranthene	10UJ	10UJ	10UJ	2(M)
Benzo(k)fluoranthene	10U	10U	10U	5.0(M)
Benzo(ghi)perylene	10U	10U	10U	5.0(M)
Benzo(a)pyrene	10U	10U	10U	5.0 (A,M)
Bis(2-chloroethoxy)methane	10U	10U	10U	-
Bis(2-chloroethyl)ether	10U	10U	10U	8.3
Bis(2-chloroisopropyl)ether	10UJ	10U	10U	-
Bis(2-ethylhexyl)phthalate	10UJ	10UJ	10UJ	6.0 (A)
4-Bromophenyl phenyl ether	10UJ	10UJ	10UJ	-
Butyl benzyl phthalate	10UJ	10UJ	10UJ	2,700 (S)
4-Chloroaniline	10UJ	10UJ	10UJ	-
2-Chloronaphthalene	10UJ	10UJ	10UJ	-
4-Chloro-3-methylphenol	10U	10U	10U	420
2-Chlorophenol	10UJ	10U	10U	130
4-Chlorophenyl phenyl ether	10U	10U	10U	-
Chrysene	10U	10U	10U	5.0(M)
p,m-Cresol	10U	10U	10U	-
o-Cresol	10U	10U	10U	-
Dibenzo(ah)anthracene	10U	10U	10U	5.0 (M)
Dibenzofuran	10UJ	10U	10U	ID
Di-n-butyl phthalate	10UJ	10UJ	10UJ	2,500
1,2-Dichlorobenzene	10U	10U	10U	600 (A)
1,3-Dichlorobenzene	10U	10U	10U	19
1,4-Dichlorobenzene	10U	10U	10U	75(A)
3,3'-Dichlorobenzidine	10UJ	10U	10U	4.3
2,4-Dichlorophenol	10U	10U	10U	210
Diethyl phthalate	10UJ	10UJ	10UJ	16,000
2,4-Dimethylphenol	10U	10U	10U	1,000
Dimethyl phthalate	10UJ	10U	10U	210000
4,6-Dinitro-2-methylphenol	10UJ	10UJ	10UJ	-
2,4-Dinitrophenol	10UJ	10U	10U	-
2,4-Dinitrotoluene	10UJ	10U	10U	32
2,6-Dinitrotoluene	10UJ	10U	10U	-
Di-n-octyl phthalate	10UJ	10UJ	10UJ	380
Fluoranthene	10UJ	10UJ	10UJ	210 (S)
Fluorene	10UJ	10UJ	10UJ	2,000 (S)
Hexachlorobenzene	10UJ	10U	10U	1.0 (A)
Hexachlorobutadiene	10U	10U	10U	42
Hexachlorocyclopentadiene	10UJ	10UJ	10UJ	50 (A)
Hexachloroethane	10U	10U	10U	21
Indeno(1,2,3-cd)pyrene	10U	10U	10U	5.0 (M)
Isophorone	10U	10U	10U	3,100
2-Methylnaphthalene	10U	10U	10U	750
Naphthalene	10UJ	10UJ	10U	1,500
2-Nitroaniline	10UJ	10UJ	10U	-
3-Nitroaniline	10UJ	10UJ	10U	-
4-Nitroaniline	10UJ	10UJ	10U	-
Nitrobenzene	10U	10U	10U	9.6
2-Nitrophenol	10U	10U	10U	58
4-Nitrophenol	10UJ	10UJ	10U	-
N-Nitrosodiphenylamine	10UJ	10UJ	10U	1,100
Phenanthrene	10UJ	10UJ	10U	150
Phenol	10UJ	10U	10U	13,000
Pyrene	10U	10U	10U	140 (S)
1,2,4-Trichlorobenzene	10U	10U	10U	70 (A)
2,4,5-Trichlorophenol	10U	10U	10U	2,100
2,4,6-Trichlorophenol	10U	10U	10U	470

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Part 201 Industrial Drinking Water criteria as listed in Operational Memorandum #18, dated June 7,2000.

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.

4) "-" denotes no criteria established.

5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

6) "M" denotes calculated criterion is below the analytical method detection limit, therefore, the criterion defaults to the method detection limit.

7) "S" denotes criterion defaults to the chemical-specific water solubility limit.

8) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate

9) "ID" denotes inadequate data to develop criterion.

10) "U" denotes the analyte was analyzed for, but was not detected.

11) Ground water duplicate sample collected at OBG MW-1.

REALM
Coldwater Road Facility
Groundwater Analytical Results
Metals method 200.8 and Cyanide method 335.2

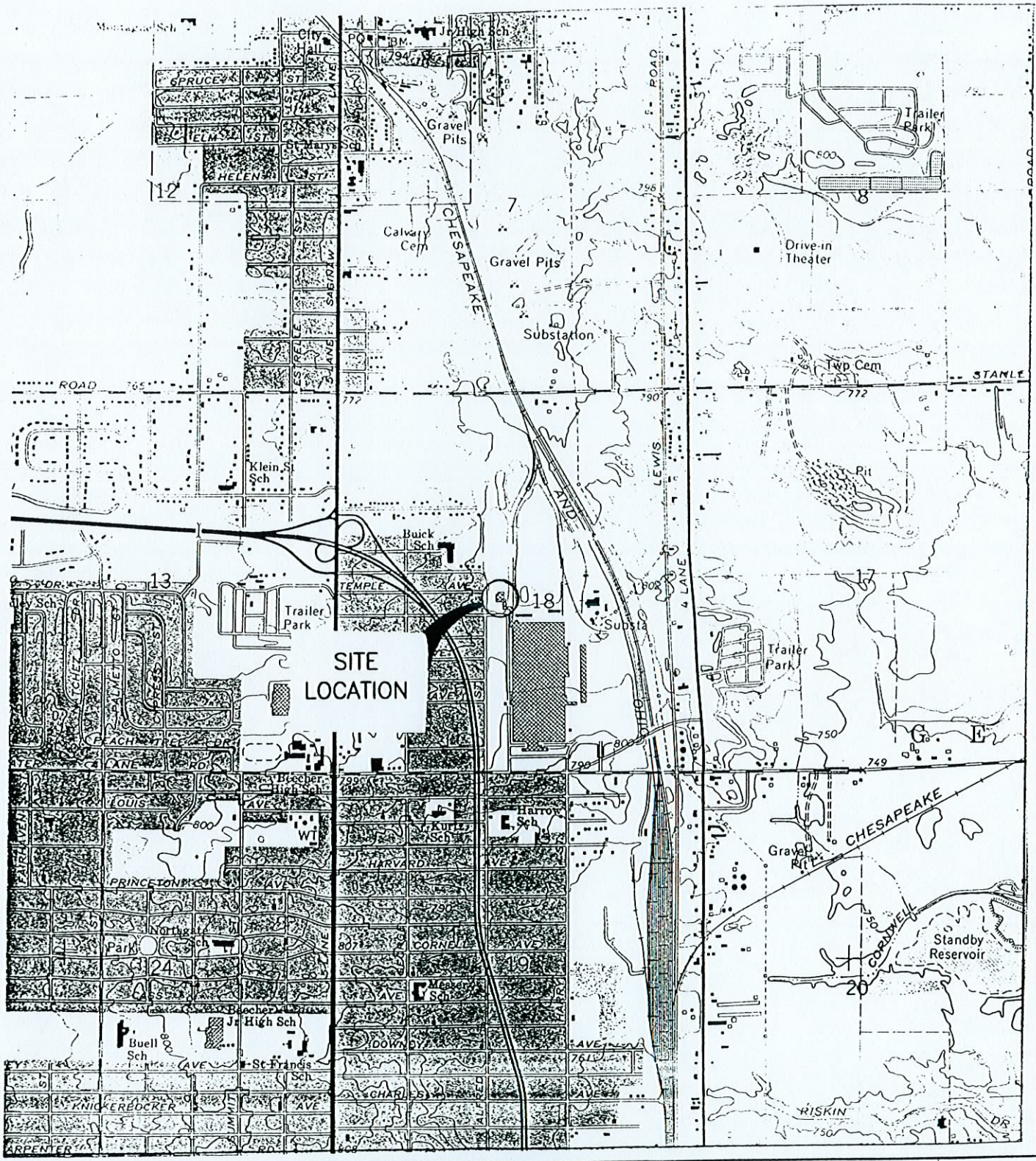
Sample Location	OBG MW-1	GW Duplicate	OBG MW-2	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	01/26/99	01/26/99	01/26/99	
Parameter				
Cadmium, Dissolved	0.2U	0.2U	0.4	5.0 (A)
Chromium, Dissolved	10U	10U	10U	100 (A)
Copper, Dissolved	10	10	20	1,000 (E)
Lead , Dissolved	**8**	**9**	**32**	4 (L)
Nickel , Dissolved	15	15	13	100 (A)
Zinc, Dissolved	20	20	50	5,000 (E)
Cyanide	5U	5U	5U	200 (A)

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
3) Bold type denotes exceedance of Part 201 Industrial Drinking Water criteria.
4) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in Operational Memorandum #18, dated June 7,2000.
5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
6) "E" denotes criterion is the aesthetic drinking water value, as required by Section 20120 (1)(5).
7) "L" denotes higher groundwater concentrations (up to 15 ug/L) may be acceptable if the soil concentration is less than 400 ppm and groundwater migrating off-site will not result in unacceptable exposures. Contact an ERD toxicologist if further explanatio is needed.
8) "U" denotes the analyte was analyzed for, but was not detected.
9) Ground water duplicate sample collected at OBG MW-1.

FIGURES

FIGURE 1



MICHIGAN

QUADRANGLE LOCATION

FLINT NORTH, MICH.

N4300—W8337.5/7.5

1969

PHOTOREVISED 1975

FILE NO. 4144/21487

REALM
COLDWATER ROAD WWTP BASIN INVESTIGATION
FLINT, MICHIGAN

SITE LOCATION MAP

0 1000 2000 3000 4000

SCALE IN FEET

O'BRIEN & GERE ENGINEERS, INC.

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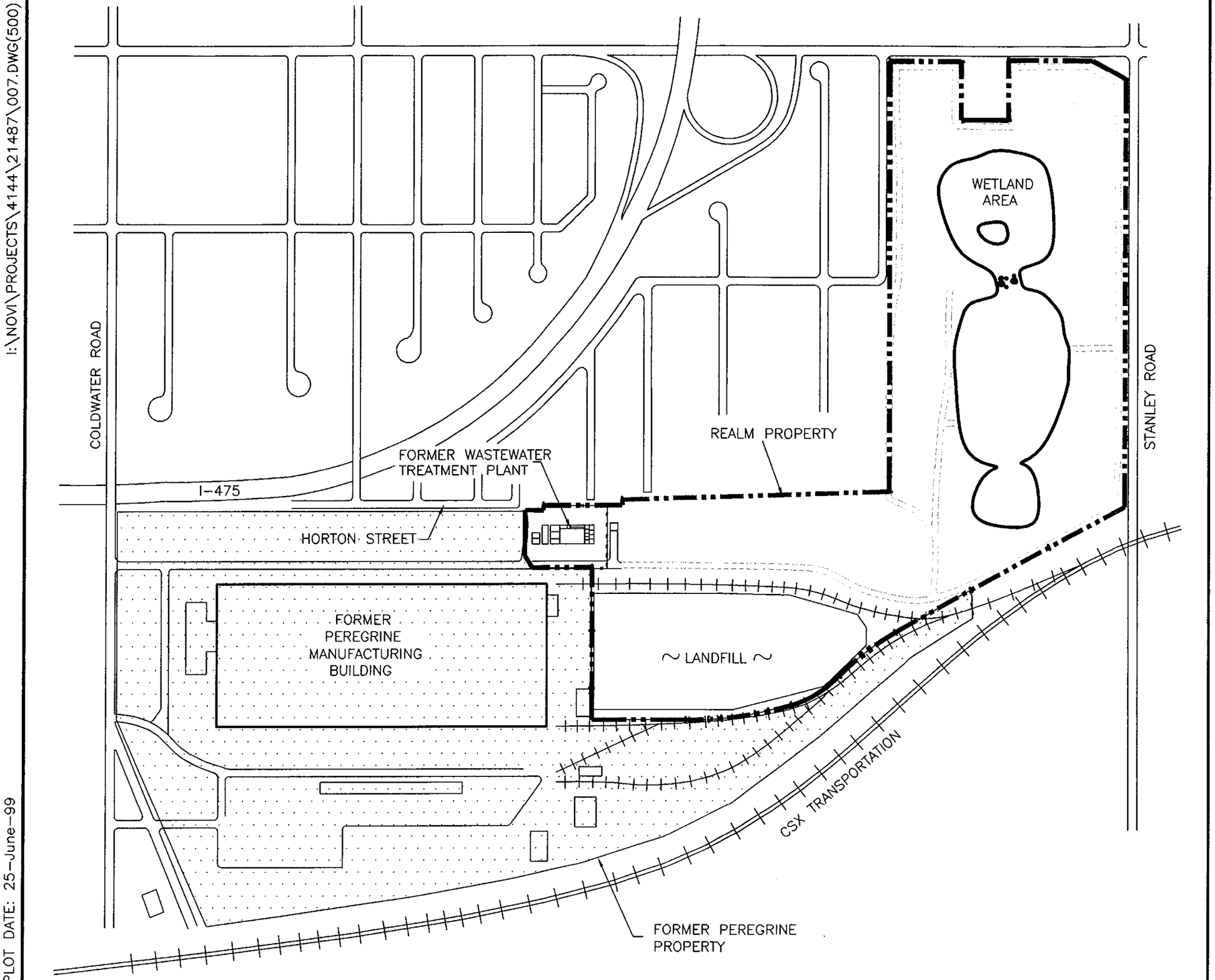
PLOT DATE: 25-June-99

FIGURE 2



LEGEND

- REALM PROPERTY BOUNDARY
- APPROXIMATE LOCATION OF RAILROAD TRACKS
- APPROXIMATE OUTLINE OF GRAVEL ROAD
- FORMER PEREGRINE PROPERTY

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

SITE PLAN

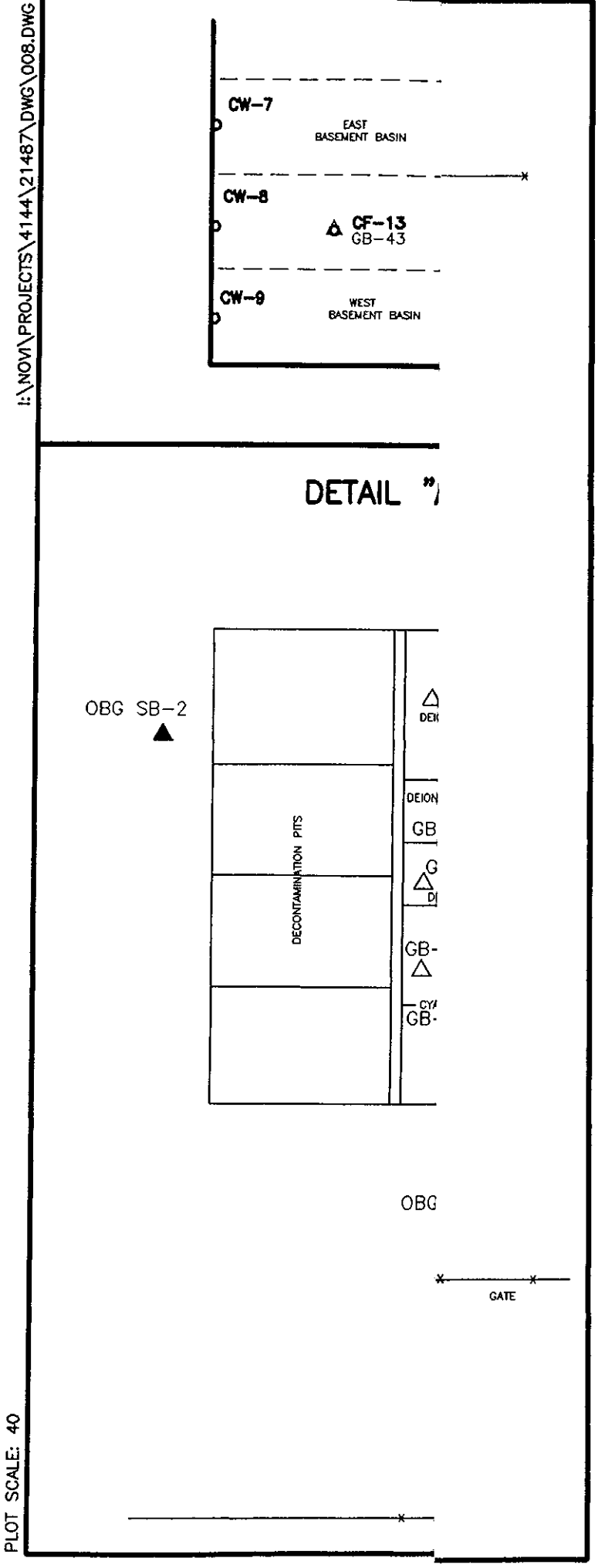
500 0 500

APPROXIMATE SCALE IN FEET

FILE NO. 4144/21487/007

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 3



LEGEND

- △ GEOPROBE SOIL SAMPLE LOCATION
- o **CONCRETE SAMPLE LOCATION**
- ▲ SOIL BORING LOCATION
- ⌖ MONITORING WELL LOCATION
- ⌖ ABANDONED MONITORING WELL LOCATION

REALM COLDWATER ROAD FORMER WWTP FLINT, MICHIGAN

SITE LAYOUT AND SAMPLE LOCATIONS

40 0 40

APPROXIMATE SCALE IN FEET

FILE NO. 4144\21487-009

O'BRIEN & GERE ENGINEERS, INC.

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FIGURE 4

FENCE

GB-18
BENZENE >IDWP

GB-39
NICKEL >IDWP

OBG SB-3

OBG SB-2

GB-17
DEIONIZED WATER

DEIONIZED WATER
GB-18

GB-19
DEIONIZED WATER

DECONTAMINATION PITS

GB-20

CYANIDE BASINS
GB-21

GB-39

FLOOR TRENCHES

GB-38
GB-40
GB-41

GB-37

GB-36

GB-42
GB-45
GB-43
GB-46
GB-44
GB-47

CYANATE BASIN
GB-23

MIXER TANK

GB-24

LIME STORAGE BASIN

GB-22
SLUDGE BASIN

GB-11

GB-10

GB-9

GB-2

GB-3

GB-30

GB-29

LANDFILL LEACHATE BASIN

NORTH ALKALI BASIN

GB-28

GB-27

GB-25

WEST ALKALI BASIN

GB-26

GB-33

SOUTH ALKALI BASIN

GB-32

GB-31

GB-7

GB-8

CHROMIUM REDUCTION BASIN

CHROMIUM REDUCTION BASIN

MW-11

OBG MW-1

GB-20
1,2,4-TRIMETHYLBENZENE >IDWP

OBG SB-1

GB-44
TRICHLOROETHENE >IDWP

GB-47
TRICHLOROETHENE >IDWP

GB-25
CYANIDE>IDWP

GB-21
1,2,4-TRIMETHYLBENZENE >IDWP

MW-12

OBG MW-2

GATE

FENCE

PLOT SCALE: 40

LEGEND

- △ GEOPROBE SOIL SAMPLE LOCATION
- ⊕ MONITORING WELL LOCATION
- ⊕ ABANDONED MONITORING WELL LOCATION
- ▲ SOIL BORING LOCATION
- IDWP MDEQ PART 201 INDUSTRIAL DRINKING WATER PROTECTION

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

PART 201
SOIL CRITERIA
EXCEEDANCES

40 0 40

APPROXIMATE SCALE IN FEET

FILE NO. 4144\21487\011

O'BRIEN & GERE
ENGINEERS, INC.

APPENDICES

APPENDIX A

Soil Boring Logs

O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-1 SHEET 1 OF 1
CLIENT: General Motors Corporation PROJECT LOCATION: Coldwater Road, Flint, MI	GROUND WATER — DATE: NA; DEPTH: NA; ELEVATION: NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
BORING CO.: EQL
MAN: Rob

BORING LOCATION: east of deionized water basins
GROUND ELEVATION: NA
DATES: STARTED: 8 25 98 ENDED: 8 25 98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp SAND (fill)		0.0	
		2'-4'	NA	full	NA	Moderate yellowish brown, damp SAND (fill)		0.0	
		4'-6'	NA	full	NA	Moderate yellowish brown, damp SAND (fill)		0.0	
5									
		6'-8'	NA	full	NA	Moderate yellowish brown, damp CLAY,trace sand	6'	0.0	
		8'-10'	NA	full	NA	Moderate yellowish brown, damp CLAY,trace sand		0.0	
10		10'-12'	NA	full	NA	Moderate yellowish brown, damp CLAY,trace sand		0.0	
		12'-14'	NA	full	NA	Medium grey, damp CLAY, trace silt		0.0	
		14'-15'	NA	full	NA	Medium grey, damp CLAY, trace silt		0.0	
15						EOB @ 15 fbg		0.0	
								0.0	
								0.0	
								0.0	
								0.0	

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-2 SHEET 1 OF 1
CLIENT General Motors Corporation **PROJECT LOCATION** Coldwater Road, Flint, MI	**GROUND WATER** DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na
O'BRIEN & GERE GEOLOGIST: Tony Finch DRILLING CO.: EQL DRILLER'S FOREMAN: Rob	BORING LOCATION: east of leachate basin GROUND ELEVATION: NA DATES: STARTED: 8/24/98 ENDED: 8/24/98	

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp medium to fine SAND (fill), trace silt		0.0	
		2'-4'	NA	full	NA	Moderate yellowish brown, damp medium to fine SAND (fill), trace silt			
		4'-6'	NA	full	NA	Moderate yellowish brown, damp medium to fine SAND (fill), trace silt		0.0	
5						Moderate yellowish brown, damp medium to fine SAND (fill), some clay lenses, trace silt			
		6'-8'	NA	full	NA				
		8'-10'	NA	full	NA	Moderate yellowish brown, damp medium to fine SAND (fill), some clay lenses, trace silt		0.0	
10		10'-12'	NA	full	NA	Moderate yellowish brown, damp medium to fine SAND (fill), some clay lenses, trace silt			
						sampler refusal			
		12'-14'	NA	full	NA	Medium grey, moist CLAY, little silt	12'	0.0	
		14'-15'	NA	full	NA	Medium grey, damp CLAY, trace silt		0.0	
						EOB @ 15 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-3 SHEET 1 OF 1
CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: east of soouth alkali basin
GROUND ELEVATION: NA
DATES: STARTED: 8/24/98 ENDED: 8/24/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp CLAY, little silt		0.0	
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, little silt			
		4'-6'	NA	full	NA	Moderate yellowish brown, damp CLAY and SAND lenses, little silt	4'	0.0	
5		6'-8'	NA	full	NA	Moderate yellowish brown, damp CLAY and SAND lenses, little silt			
		8'-10'	NA	full	NA	Moderate yellowish brown, damp CLAY and SAND lenses, little silt		0.0	
10		10'-12'	NA	full	NA	Medium grey, damp CLAY, trace silt	10'		
		12'-14'	NA	full	NA	Medium grey to moderate yellowish brown, moist, SILT and SAND lenses	12'	0.0	
		14'-15'	NA	full	NA	Medium grey to moderate yellowish brown, moist, SILT and SAND lenses		0.0	
15						EOB @ 15 fbg			
								0.0	
								0.0	
								0.0	
								0.0	
								0.0	

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-4 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
BORING CO.: EQL
MAN: Rob

BORING LOCATION: east of chrome basin
GROUND ELEVATION: NA
DATES: STARTED: 8/24/98 ENDED: 8/24/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp, medium SAND, trace silt		0.0	
		2'-4'	NA	full	NA	Moderate yellowish brown, damp, medium SAND, trace silt			
						Medium grey, damp CLAY, trace silt	3'		
		4'-6'	NA	full	NA			0.0	
5						Moderate yellowish brown, damp CLAY, some silt			
		6'-8'	NA	full	NA	Moderate yellowish brown, damp CLAY, some silt			
		8'-10'	NA	full	NA	Moderate yellowishbrown, damp CLAY and SILT	8'	0.0	
10		10'-12'	NA	full	NA	Moderate yellowishbrown, damp CLAY and SILT			
		12'-14'	NA	full	NA	Moderate yellowishbrown, damp CLAY and SILT		0.0	
		14'-15'	NA	full	NA	Moderate yellowishbrown, damp CLAY and SILT		0.0	
						EOB @ 15 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-5
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
ING CO.: EQL
.EMAN: Rob

BORING LOCATION: south of chrome basins
GROUND ELEVATION: NA
DATES: STARTED: 8/24/98 ENDED: 8/24/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp SAND (fill), trace silt, clay lense		0.0	
		2'-4'	NA	full	NA	Moderate yellowish brown, damp SAND (fill), trace silt, clay lense			
		4'-6'	NA	full	NA	Moderate yellowish brown, damp SAND and CLAY lenses, brick debris		0.0	
5									
		6'-8'	NA	full	NA	Moderate yellowish brown, damp SAND and CLAY lenses, brick debris			
		8'-10'	NA	full	NA	Moderate yellowish brown, damp CLAY, sand lense	8'	0.0	
10		10'-12'	NA	full	NA	Moderate yellowish brown, damp CLAY, sand lense			
		12'-14'	NA	full	NA	Moderate yellowish brown, damp CLAY, sand lense		0.0	
		14'-15'	NA	full	NA	Moderate yellowish brown, damp CLAY, sand lense		0.0	
.5						EOB@15 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-6 SHEET 1 OF 1

CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
I G CO.: EQL
FOREMAN: Rob

BORING LOCATION: west of chrome basoins
GROUND ELEVATION: NA
DATES: STARTED: 8/24/98 ENDED: 8/24/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp SAND, little clay		0.0	
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace sand	2'		
		4'-6'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace sand		0.0	
5									
		6'-8'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace sand			
		8'-10'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
10		10'-12'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		12'-14'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
		14'-15'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
						EOB @ 15 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-7 SHEET 1 OF 1
CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na
O'BRIEN & GERE GEOLOGIST: Tony Finch DRILLING CO.: EQL FOREMAN: Rob	BORING LOCATION: north of south alkali basin GROUND ELEVATION: NA DATES: STARTED: 8/24/98 ENDED: 8/24/98	

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp SAND, little silt		0.0	
		2'-4'	NA	full	NA	Moderate yellowish brown, damp SAND, little silt			
		4'-6'	NA	full	NA	Moderate yellowish brown, damp CLAY and SAND lenses		0.0	
5									
		6'-8'	NA	full	NA	Moderate yellowish brown, damp CLAY and SAND lenses			
		8'-10'	NA	full	NA	Moderate yellowish brown, damp CLAY,trace silt	8'	0.0	
10		10'-12'	NA	full	NA	Moderate yellowish brown, damp CLAY,trace silt			
		12'-14'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
		14'-15'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
						EOB @ 15 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-8 SHEET 1 OF 1
CLIENT General Motors Corporation **PROJECT LOCATION** Coldwater Road, Flint, MI	**GROUND WATER** DATE: NA DEPTH: NA ELEVATION: NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
NG CO.: EQL
MAN: Rob

BORING LOCATION: west of south alkali basin
GROUND ELEVATION: NA
DATES: STARTED: 8/24/98 ENDED: 8/24/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp SAND		0.0	
						Moderate yellowish brown, damp CLAY	4'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY			
		4'-6'	NA	full	NA	Moderate yellowish brown, damp CLAY		0.0	
5									
		6'-8'	NA	full	NA	Moderate yellowish brown, damp to moist fine SAND and SILT	6'		
		8'-10'	NA	full	NA	Moderate yellowish brown, damp to moist fine SAND and SILT		0.0	
10		10'-12'	NA	full	NA	Medium grey, damp CLAY, trace silt	10'		
		12'-14'	NA	full	NA	Medium grey, damp CLAY, trace silt		0.0	
		14'-15'	NA	full	NA	Medium grey, damp CLAY, trace silt		0.0	
						EOB @ 15 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-9 SHEET 1 OF 1
CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na
O'BRIEN & GERE GEOLOGIST: Tony Finch NG CO.: EQL [illegible]EMAN: Rob	BORING LOCATION: west of west alkali basin GROUND ELEVATION: NA DATES: STARTED: 8/24/98 ENDED: 8/24/98	

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish orange, damp medium SAND		0.0	
		2'-4'	NA	full	NA	Moderate yellowish orange, damp medium SAND			
		4'-6'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt	4'	0.0	
5									
		6'-8'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		8'-10'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
10		10'-12'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		12'-14'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
		14'-15'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
						EOB @ 15 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-10 SHEET 1 OF 1

CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
BORING CO.: EQL
REMAN: Rob

BORING LOCATION: west of lime storage basin
GROUND ELEVATION: NA
DATES: STARTED: 8/24/98 ENDED: 8/24/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish orange, damp SAND		0.0	
		2'-4'	NA	full	NA	Moderate yellowish orange, damp SAND			
		4'-6'	NA	full	NA	Moderate yellowish brown to medium grey, wet SAND		0.0	
5									
		6'-8'	NA	full	NA	Moderate yellowish brown to medium grey, wet SAND			
		8'-10'	NA	full	NA	Moderate yellowish brown, moist CLAY, little sand	8'	0.0	
10		10'-12'	NA	full	NA	Moderate yellowish brown, damp CLAY, little sand sampler refusal			
						EOB @ 12 fbg			
								0.0	
								0.0	

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-11
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: west of sludge basin
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	Moderate yellowish brown, damp SAND, trace silt		0.0	
		2'-4'	NA	full	NA	Moderate yellowish brown, damp SAND, trace silt			
		4'-6'	NA	full	NA	Moderate yellowish brown, damp SAND, trace silt		0.0	
5									
		6'-8'	NA	full	NA	Moderate yellowish brown, wet CLAY, trace silt	6'		
		8'-10'	NA	full	NA	Medium grey, moist CLAY, trace silt		0.0	
10		10'-12'	NA	full	NA	Medium grey, moist CLAY, trace silt			
		12'-14'	NA	full	NA	Medium grey, moist CLAY, trace silt		0.0	
		14'-15'	NA	full	NA	Medium grey, moist CLAY, trace silt		0.0	
15						EOB @ 15 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-13 SHEET 1 OF 1

CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
'NG CO.: EQL
.MAN: Rob

BORING LOCATION: inside eastern decon pit at south end
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp SAND			
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt	2'		
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-14
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside second from east decon pit at south end
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY, trace silt			
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-15 SHEET 1 OF 1

CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
F NG CO.: EQL
I MAN: Rob

BORING LOCATION: inside second from west decon pit at south end
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, moist SILT			
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt	2'		
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5									
						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-16
		SHEET 1 OF 1

CLIENT	GROUND WATER			FILE No.: 4144.21487
General Motors Corporation	DATE	DEPTH	ELEVATION	Drilling Method: hydraulic probe
PROJECT LOCATION	NA	NA	NA	Sampler Type: 3" dia. Stainless Steel Splitspoon
Coldwater Road, Flint, MI				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside west decon pit at south end
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						fill SAND	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt	2'		
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5						EOB @ 5 fbg			

NOTES:
PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-17
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
DRILLER/FOREMAN: Rob

BORING LOCATION: inside east deionized water basin at north end
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-18
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside center deionized water basin at south end
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMARKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, moist SILT	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, moist SILT			
		4'-5'	NA	full	NA	Moderate yellowish brown, moist SILT		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-19 SHEET 1 OF 1

CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
'NG CO.: EQL
:MAN: Rob

BORING LOCATION: inside west deionized water basin at north end
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, moist SILT	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, moist SILT			
		4'-5'	NA	full	NA	Moderate yellowish brown, moist SILT		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-20
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

IEN & GERE GEOLOGIST: Tony Finch
,NG CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside east cyanide basin at north end
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, moist SILT	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, moist SILT			
		4'-5'	NA	full	NA	Moderate yellowish brown, moist SILT		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-21 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
BORING CO.: EQL
MAN: Rob

BORING LOCATION: inside west cyanide basin at east side
GROUND ELEVATION: NA
DATES: STARTED: 8/25/98 ENDED: 8/25/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Medium grey, wet SILT	1'		
		2'-4'	NA	full	NA	Medium grey, wet SILT			
		4'-5'	NA	full	NA	Medium grey, wet SILT		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-22
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside sludge basin at north end
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY, trace silt	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-23
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
NG CO.: EQL
.. EMAN: Rob

BORING LOCATION: inside cyanate basin at south end
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY, trace silt, trace medium gravel	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt, trace medium gravel			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt, trace medium gravel		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-24
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside lime basin at south end
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Dark grey, moist CLAY, little silt	1'		
		2'-4'	NA	full	NA	Dark grey, moist CLAY, little silt			
		4'-5'	NA	full	NA	Dark grey, moist CLAY, little silt		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-25
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
'NG CO.: EQL
. .EMAN: Rob

BORING LOCATION: inside west alkali basin at northeast area
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, moist SILT, trace clay	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, moist SILT, trace clay			
		4'-5'	NA	full	NA	Moderate yellowish brown, moist SILT, trace clay		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-26
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside west alkali basin at southwest area
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Black stained, moist SILT, petroleum odor	1'		
						Moderate yellowish brown, moist SILT, trace clay			
		2'-4'	NA	full	NA	Moderate yellowish brown, moist SILT, trace clay			
		4'-5'	NA	full	NA	Moderate yellowish brown, moist SILT, trace clay		0.0	
5						EOB @ 5 fbg			

NOTES:
PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-27 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside north alkali basin at west area
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Medium grey, damp SILT, trace clay, petroleum odor	1'		
		2'-4'	NA	full	NA	Medium grey, damp SILT, trace clay			
		4'-5'	NA	full	NA	Medium grey, damp SILT, trace clay		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-28
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside north alkali basin at southeast area
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Medium grey, damp SILT and CLAY	1'		
		2'-4'	NA	full	NA	Medium grey, damp SILT and CLAY			
		4'-5'	NA	full	NA	Medium grey, damp SILT and CLAY		0.0	
5									
						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-29
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

"RIEN & GERE GEOLOGIST: Tony Finch
UING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside leachate basin at northwest area
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown to dark grey, moist SILT, some sand	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown to dark grey, moist SILT, some sand			
		4'-5'	NA	full	NA	Moderate yellowish brown to dark grey, moist SILT, some sand		0.0	
5									
						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-30
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside leachate basin at southeast area
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMARKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						fill sand	1'		
						Moderate yellowish brown, moist SILT	1'4"		
		2'-4'	NA	full	NA	Moderate yellowish brown, moist SILT			
		4'-5'	NA	full	NA	Moderate yellowish brown, moist SILT		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-31 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
DRILLER/FOREMAN: Rob

BORING LOCATION: inside south alkali basin at west area
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMARKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp SILT, little clay	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp SILT, little clay			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp SILT, little clay		0.0	
5						EOB @ 5 fbg			

NOTES:
PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-32
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside south alkali basin at center area
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY and SILT	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY and SILT			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY and SILT		0.0	
5						EOB @ 5 fbg			

NOTES:
PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-33 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside south alkali basin at east area
GROUND ELEVATION: NA
DATES: STARTED: 8/26/98 ENDED: 8/26/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, moist CLAY and SILT	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY and SILT			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY and SILT		0.0	
5						EOB @ 5 fbg			

NOTES:
PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-34 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation **PROJECT LOCATION** Coldwater Road, Flint, MI	DATE NA	DEPTH NA	ELEVATION NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
'ING CO.: EQL
:MAN: Rob

BORING LOCATION: inside west chrome basin at northwest area
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY, trace silt	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt grades to wet medium sand		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-35
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside east chrome basin at east area
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY		0.0	
5									
						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-36 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
F NG CO.: EQL
l .MAN: Rob

BORING LOCATION: just south of western basin in WWTP basement
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY, trace silt	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-37
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
DRILLER: Rob

BORING LOCATION: inside central basin in WWTP basement north area
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY, trace silt	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-38
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: inside eastern basin in WWTP basement south area
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Moderate yellowish brown, damp CLAY, trace silt	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-39
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
F 'G CO.: EQL
F MAN: Rob

BORING LOCATION: northeast area in WWTP basement adjacent to floor trench
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Black stained, moist SILT, solvent odor	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt			
		4'-5'	NA	full	NA	Moderate yellowish brown, damp CLAY, trace silt		0.0	
5									
						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-40 SHEET 1 OF 1

CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: hydraulic probe Sampler Type: 3" dia. Stainless Steel Splitspoon Hammer: na Fall: na

O'B' ' & GERE GEOLOGIST: Tony Finch
BO. CO.: EQL
FOREMAN: Rob

BORING LOCATION: center area in WWTP basement adjacent to floor trench
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Black stained, moist SILT	1'		
		2'-4'	NA	full	NA	Moderate yellowish brown to dark grey, damp CLAY	2'		
		4'-5'	NA	full	NA	Moderate yellowish brown to dark grey, damp CLAY		0.0	
5						EOB @ 5 fbg			

NOTES:
PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: GB-41 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: hydraulic probe
Coldwater Road, Flint, MI				Sampler Type: 3" dia. Stainless Steel Splitspoon
				Hammer: na Fall: na

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: EQL
FOREMAN: Rob

BORING LOCATION: south center area in WWTP basement adjacent to floor trench
GROUND ELEVATION: NA
DATES: STARTED: 8/27/98 ENDED: 8/27/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	concrete		0.0	
						Black stained, moist SAND, grades to silty CLAY, solvent odor	1'		
		2'-4'	NA	full	NA	Dark grey, damp CLAY	2'		
		4'-5'	NA	full	NA	Moderate yellowish brown to dark grey, damp CLAY		0.0	
5						EOB @ 5 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: OBG SB-1 SHEET 1 OF 1

CLIENT General Motors Corporation PROJECT LOCATION Coldwater Road, Flint, MI	GROUND WATER DATE / DEPTH / ELEVATION NA / NA / NA	FILE No.: 4144.21487 Drilling Method: Hollow Stem Auger Sampler Type: 2" dia. Stainless Steel Splitspoon Hammer: 140 lbs. Fall: 30"

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: Y.E.C.I.
FOREMAN: Scott

BORING LOCATION: southwest of southwest decon pit
GROUND ELEVATION: NA
DATES: STARTED: 9/21/98 ENDED: 9/21/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	hands augered to 5 ft Dark yellowish brown, damp CLAY			
		2'-4'	NA	full	NA				
	1	4'-6'	3 4 4 4	24"/24"	8	Dark yellowish brown, damp CLAY, trace fine gravel		0.0	
5									
	2	6'-8'	3 4 4 5	18"/24"	8	Moderate yellowish brown, damp CLAY, trace silt, trace fine gravel		0.0	
	3	8'-10'	5 6 9 11	24"/24"	15	Moderate yellowish brown, damp CLAY, trace silt, trace fine gravel		0.0	
10	4	10'-12'	5 6 8 9	24"/24"	14	Moderate yellowish brown, damp CLAY, little silt		0.0	
	5	12'-14'	4 5 6 7	24"/24"	11	Medium grey, damp CLAY, little silt		0.0	
	6	14'-16'	4 5 6 6	24"/24"	11	Medium grey, damp CLAY, trace silt, trace fine sand, trace fine gravel		0.0	
	7	16'-18'	5 5 6 7	24"/24"	11	Medium grey, damp CLAY, trace silt, trace fine sand, trace fine gravel		0.0	
	8	18'-20'	4 5 5 6	24"/24"	10	Medium grey, damp CLAY, trace silt		0.0	
20	9	20'-22'	4 4 5 5	24"/24"	9	Medium grey, damp CLAY, trace silt		0.0	
	10	22'-24'	4 5 5 5	24"/24"	5	Medium grey, damp CLAY, trace silt		0.0	
	11	24'-25'	5 6	12"/12"	6	Medium grey, damp CLAY, trace silt		0.0	

EOB @ 25 fbg

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Augers were pulled and hole was observed after a minimum of 2 hrs to not have water.
Subsequent to sampling activities borehole was backfilled with bentonite chips.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: OBG SB-2 SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 4144.21487
PROJECT LOCATION	NA	NA	NA	Drilling Method: Hollow Stem Auger
Coldwater Road, Flint, MI				Sampler Type: 2" dia. Stainless Steel Splitspoon
				Hammer: 140 lbs. Fall: 30"

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: Y.E.C.I.
DRILLERMAN: Scott

BORING LOCATION: south of souteast decon pit
GROUND ELEVATION: NA
DATES: STARTED: 9/21/98 ENDED: 9/21/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMARKS*
0		0'-2'	NA	full	NA	hands augered to 4 ft			
						concrete			
						Dark brown, silty SAND			
		2'-4'	NA	full	NA				
	1	4'-6'	7	24"/NR	16	no recovery		na	
			8						
5			8						
			7						
	2	6'-8'	6	24"/24"	15	Moderate yellowish brown, damp CLAY, trace silt		0.0	
			7						
			8						
			9						
	3	8'-10'	6	24"/24"	17	Moderate yellowish brown, damp CLAY, trace silt		0.0	
			8						
			9						
			10						
10	4	10'-12'	5	24"/24"	14	Moderate yellowish brown, damp CLAY, trace silt		0.0	
			7						
			7						
			8						
	5	12'-14'	5	24"/24"	13	Moderate yellowish brown, damp CLAY, trace silt		0.0	
			6						
			7						
			9						
	6	14'-16'	5	24"/24"	12	Medium grey, damp CLAY, trace silt		0.0	
			6						
			6						
			7						
	7	16'-18'	5	24"/24"	11	Medium grey, damp CLAY, trace silt		0.0	
			5						
			6						
			8						
	8	18'-20'	5	24"/24"	13	Medium grey, damp CLAY, trace silt		0.0	
			6						
			7						
			7						
20	9	20'-22'	5	24"/24"	13	Medium grey, damp CLAY, trace silt		0.0	
			6						
			7						
			8						
	10	22'-24'	4	24"/24"	10	Medium grey, damp CLAY, trace silt		0.0	
			5						
			5						
			6						
	11	24'-25'	5	12"/12"	6	Medium grey, damp CLAY, trace silt		0.0	
			6						

EOB @ 25 fbg

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Augers were pulled and hole was observed after a minimum of 2 hrs to not have water.
Subsequent to sampling activities borehole was backfilled with bentonite chips.
"NR" denotes no recovery.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: OBG SB-3
		SHEET 1 OF 1

CLIENT	GROUND WATER			FILE No.: 4144.21487
General Motors Corporation	DATE	DEPTH	ELEVATION	Drilling Method: Hollow Stem Auger
PROJECT LOCATION	NA	NA	NA	Sampler Type: 2" dia. Stainless Steel Splitspoon
Coldwater Road, Flint, MI				Hammer: 140 lbs. Fall: 30"

IEN & GERE GEOLOGIST: Tony Finch
NG CO.: Y.E.C.I.
FOREMAN: Scott

BORING LOCATION: northest of northeast corner of chrome basins
GROUND ELEVATION: NA
DATES: STARTED: 9/21/98 ENDED: 9/21/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0		0'-2'	NA	full	NA	hands augered to 5 ft			
						sandy fill material			
		2'-4'	NA	full	NA				
	1	4'-6'	5	24"/NR	17	no recovery		na	
			8						
5			9						
			9						
	2	6'-8'	4	24"/24"	8			0.0	
			4						
			4			Moderate yellowish brown, damp, fine SAND	7'		
			5						
	3	8'-10'	4	24"/24"	10			0.0	
			5						
			5			Moderate yellowish brown, damp sandy CLAY	9'		
			5						
10	4	10'-12'	4	24"/24"	11	Moderate yellowish brown, damp CLAY, little silt		0.0	
			5						
			6						
			6						
	5	12'-14'	4	24"/24"	9	Moderate yellowish brown, damp CLAY, little silt		0.0	
			4			Moderate yellowish brown, damp sandy CLAY, little silt			
			5						
			6						
	6	14'-16'	3	24"/24"	8	Moderate yellowish brown, damp CLAY, trace sand		0.0	
			4			Moderate yellowish brown, damp SAND, some clay	14'6"		
15			4						
			5						
	7	16'-18'	3	24"/24"	9			0.0	
			4						
			5			Medium grey, damp CLAY, trace silt	17'		
			6						
	8	18'-20'	3	24"/12"	8	Medium grey, damp CLAY, trace silt		0.0	
			4						
			4						
			5						
20	9	20'-22'	3	24"/12"	9	Medium grey, damp CLAY, trace silt		0.0	
			4						
			5						
			5						
	10	22'-24'	3	12"/12"	9	Medium grey, damp CLAY, trace silt		0.0	
			4						
			5						
			6						
	11	24'-25'	5	12"/12"	6	Medium grey, damp CLAY, trace silt		0.0	
			6						

EOB @ 25 fbg

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.
Augers were pulled and hole was observed after a minimum of 2 hrs to not have water.
Subsequent to sampling activities borehole was backfilled with bentonite chips.
"NR" denotes no recovery.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: OBG MW-1
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 21487
PROJECT LOCATION	1/26/99	5.51 fbg	803.29'	Drilling Method: Hollow Stem Auger
Coldwater Road, Flint, MI				Sampler Type: 2" dia. Stainless Steel Splitspoon
				Hammer: 140 lbs. Fall: 30"

O'BRIEN & GERE GEOLOGIST: Tony Finch
DRILLING CO.: CET
DRILLER MAN: Chad

BORING LOCATION: south of WWTP
GROUND ELEVATION: Not available
DATES: STARTED: 11/23/98 ENDED:11/23/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	REMKS
0	1	0'-2'	2	24"/24"	15	Moderate yewllowish brown, damp CLAY, trace silt surface vegetation		0.0	
			6						
			9						
			9						
	2	2'-4'	3	24"/12"	14	Moderate yewllowish brown, damp CLAY, trace silt		0.0	
			6						
			8						
			8						
	3	4'-6'	2	24"/24"	14	Moderate yewllowish brown, damp CLAY, trace silt , piece of large gravel		0.0	
			6						
5			8						
			10						
	4	6'-8'	3	24"/12"	15	Moderate yewllowish brown, damp CLAY, trace silt, little sand		0.0	
			7						
			8						
			9						
	5	8'-10'	3	24"/24"	11	Moderate yewllowish brown, damp CLAY, trace silt, little sand		0.0	
			4						
			7						
			9						
10	6	10'-12'	1	24"/12"	11	Moderate yewllowish brown, damp CLAY, trace silt, little sand		0.0	
			2						
			9			Moderate yellowish brown, wet sandy SILT	11'		
			9						
	7	12'-14'	2	24"/12"	10			0.0	
			4						
			6			Moderate yellowish brown to medium grey, damp CLAY	13'		
			7						
	8	14'-16'	2	24"/24"	9	Moderate yellowish brown to medium grey, damp CLAY		0.0	
			3						
			6						
			7						
						EOB @ 16 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.

Monitoring well OBG MW-1 constructed of 2" diameter schedule 40 PVC with 0.010 inch slot well screen extending from 9-14'.

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O'BRIEN & GERE ENGINEERS, INC.	SOIL BORING LOG	LOG NUMBER: OBG MW-2
		SHEET 1 OF 1

CLIENT	GROUND WATER			
General Motors Corporation	DATE	DEPTH	ELEVATION	FILE No.: 21487
PROJECT LOCATION	1/26/99	6.01 fbg	804.80'	Drilling Method: Hollow Stem Auger
Coldwater Road, Flint, MI				Sampler Type: 2" dia. Stainless Steel Splitspoon
				Hammer: 140 lbs. Fall: 30"

O'BRIEN & GERE GEOLOGIST: Tony Finch
B_ NG CO.: CET
F MAN: Chad

BORING LOCATION: southwest of WWTP
GROUND ELEVATION: Not available
DATES: STARTED: 11/23/98 ENDED:11/23/98

DEPTH	SAMPLE No.	SAMPLE DEPTH	BLOWS /6"	PENETRATION/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	PID	RMKS*
0	1	0'-2'	5	24"/18"	20	Dark brown, damp CLAY, surface vegetation		0.0	
			7						
			13						
			11						
	2	2'-4'	2	24"/12"	11	Dark brown, damp CLAY		0.0	
			4						
			7						
			8						
	3	4'-6'	3	24"/6"	14			0.0	
			7						
5			7						
			7			Moderate yellowish brown, damp SILT and SAND	5'6"		
	4	6'-8'	11	24"/12"	16			0.0	
			8						
			8			Moderate yellowish brown, damp CLAY, trace silt	7'		
			13						
	5	8'-10'	59	24"/24"	38	Moderate yellowish brown, damp CLAY, trace silt, drove a rock		0.0	
			27						
			11						
			14						
10	6	10'-12'	12	24"/12"	23	Moderate yellowish brown, damp CLAY, trace silt		0.0	
			11						
			12						
			17						
	7	12'-14'	10	24"/12"	18			0.0	
			8						
			10						
			11			Moderate yellowish brown, wet fine SAND, some silt	13'		
	8	14'-16'	10	24"/12"	27			0.0	
			10						
			17						
			12			Moderate yellowish brown to grey, damp CLAY, trace silt	15'		
						EOB @ 16 fbg			

NOTES:

PID (Microtip HL-2000) readings shown in parts per million. Background reading=0.0 ppm.

Monitoring well OBG MW-2 constructed of 2" diameter schedule 40 PVC with 0.010 inch slot well screen extending from 12-17'.

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APPENDIX B

Soil Data Validation Reports

DATA VALIDATION REPORT

General Motors
Coldwater Road Investigation

Flint, Michigan

August 1999

Data Validation Report - Soil Samples

General Motors Corporation
Coldwater Road WWTP Basin Investigation
Flint, Michigan

Swiatoslav W. Kaczmar, Ph.D., C.I.H.
Vice President, Environmental Toxicology
and Industrial Hygiene

August 1999

O'Brien & Gere Engineers, Inc.
5000 Brittonfield Parkway
Syracuse, New York 13221

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Appendix A USEPA method sample results for: Volatile Organics, Semivolatile Organics, Metals, and Cyanide.

Executive summary

This data validation report addresses data quality for soil samples collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) from 8/24/98 to 8/27/98.

The environmental samples and trip blanks collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of cadmium, chromium, copper, lead, zinc, and nickel), and cyanide United States Environmental Protection Agency (USEPA) Methods. The analytical data generated for this investigation were evaluated by O'Brien & Gere using the quality assurance/quality control (QA/QC) criteria established in the USEPA Methods. Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process, 1.4 percent of the SVOC data were rejected as a result of major deficiencies which were detected in the data generation process. For this project, semivolatile data were rejected as a result of a low response factor for hexachlorocyclopentadiene in the initial calibration analyzed on 7/29/98. The rejected data are considered unusable for either quantitative or qualitative purposes. The SVOC data were determined to be 98.6 percent usable for qualitative and quantitative purposes. The volatile organic, metal, and cyanide data for each matrix analyzed were determined to be 100% usable for qualitative and quantitative purposes.

1. Introduction

This data validation report addresses the results of a data quality evaluation for soil samples and trip blanks collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere from 8/24 to 8/27/98. The environmental samples and trip blanks collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of cadmium, chromium, copper, lead, nickel, and zinc) and cyanide using United States Environmental Protection Agency (USEPA) Methods listed in Table 1-1. The quantity and types of samples that were submitted for data validation are presented in Table 1-1 below.

Table 1-1. ***Sample cross reference list***

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Client ID	Laboratory ID	
AA64306-AA64323	8/24/98	GB-2(12-14') GB-3 (13-15') GB-7 (13-15') GB-8 (12-14') GB-9 (13-15') GB-10 (10-12')	64306 64307 64311 64312 64313 64314	volatile organics by USEPA methods 5035/8260B, semivolatile organics by USEPA methods 3550B/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3051/6020, cyanide by USEPA method 335.2
AA64306-AA64323	8/25/98	GB-11 (7-9') GB-17 (0-2')	64315 64322	volatile organics by USEPA methods 5035/8260B, semivolatile organics by USEPA methods 3550B/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3051/6020, cyanide by USEPA method 335.2
AA64306-AA64323	8/25/98	Trip Blank	64323	volatile organics by USEPA method 8260B

Table 1-1. *Sample cross reference list*

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Client ID	Laboratory ID	
AA64401-AA64421	8/26/98	GB-22 (0-2') GB-23 (0-2') GB-24 (0-2') GB-25 (0-2') GB-26 (0-2') GB-27 (0-2') GB-28 (0-2') GB-32 (0-2') GB-31 (0-2') GB-33 (0-2')	64401 64402 64403 64404 64405 64406 64407 64408 64409 64410	volatile organics by USEPA methods 5035/8260B, semivolatile organics by USEPA methods 3550B/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3051/6020, cyanide by USEPA method 335.2
AA64401-AA64421	8/27/98	GB-30 (0-2') GB-29 (0-2') GB-41 (0-2') GB-40 (0-2') GB-39 (0-2')	64413 64414 64415 64416 64417	volatile organics by USEPA methods 5035/8260B, semivolatile organics by USEPA methods 3550B/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3051/6020, cyanide by USEPA method 335.2
AA64401-AA64421	8/27/98	GB-37 (0-2') GB-36 (0-2') GB-38 (0-2')	64418 64419 64420	metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3051/6020, cyanide by USEPA method 335.2
AA64401-AA64421	8/27/98	Trip Blank	64421	volatile organics by USEPA methods 5035/8260B
AA64360-AA64363	8/25/98	GB-18 (0-2') GB-19 (0-2') GB-20 (0-2') GB-21 (0-2')	64360 64361 64362 64363	volatile organics by USEPA methods 5035/8260B, semivolatile organics by USEPA methods 3550B/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3051/6020, cyanide by USEPA method 335.2

Note:
References:
USEPA Methods 5035/8260B, 3550B/8270C, 3051/6020 - USEPA. 1996. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846,* 3rd Edition. Washington D.C.
USEPA Method 335.2 - USEPA. 1983. *Methods for Chemical Analysis of Water & Wastes,* Cincinnati, Ohio.

1.1. General considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the system and especially to samples, their measurement, and the actual data output. Accordingly, this report outlines deviations from the applicable quality control (QC) criteria outlined in the following documents:

- USEPA. 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*, 3rd Edition. Washington DC.

- USEPA. 1983. *Methods For Chemical Analysis of Water and Wastes*, Cincinnati, Ohio.

Excursions from the QA/QC criteria were qualified based on guidance provided in the following documents:

- USEPA. 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA-540/R-94/012. Washington D.C.

- USEPA. 1994b. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540/R-94/013. Washington D.C.

1.2. Analytical methods

The environmental samples and trip blanks collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of VOCs, SVOCs, metals (consisting of cadmium, chromium, copper, lead, nickel, and zinc) and cyanide using USEPA Methods listed in Table 1-1.

The following chapters of this document address distinct aspects of the validation process. Chapter 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Finally, data completeness and usability are discussed in Chapter 4.

The annotated analytical results generated by this validation are presented in Appendix A.

2. Data validation protocols

2.1. Sample analyses parameters

The validation of organic and inorganic analyses for this project followed the requirements presented in the analytical methodology and the data validation guidelines. Qualification of sample data was based on the validation guidelines. The following QA/QC parameters were evaluated for organic analyses where applicable:

1. Holding times and sample preservation
2. Percent solids
3. Calibration
4. Blank analysis
5. Surrogate analysis
6. Matrix spike/matrix spike duplicate (MS/MSD) analysis
7. Laboratory control sample (LCS) analysis
8. Internal standard performance
9. Gas chromatograph/mass spectrometry (GC/MS) tune performance
10. Field duplicate sample analysis
11. Target identification
12. Compound quantitation and reported detection limits
13. System performance
14. Documentation completeness

The following QA/QC parameters were evaluated for inorganic analyses where applicable:

1. Holding Times and sample preservation
2. Percent solids
3. Calibration
4. Inductively coupled plasma (ICP)/MS tune performance
5. Blank analysis
6. Internal standard performance
7. ICP interference check sample
8. MS/MSD analysis
9. Laboratory duplicate analysis
10. LCS analysis

11. ICP serial dilution test
12. Field duplicate sample analysis
13. Analyte quantitation and reported detection limits
14. System performance
15. Documentation completeness

The following qualifiers have been used in this data validation:

R Indicates that the reporting limit or sample result has been determined to be unusable due to a major deficiency in the data generation process. The data should not be used for any qualitative or quantitative purposes.

U Indicates that the analyte was analyzed for, but was not detected. The sample-specific reporting limit is presented and adjusted for dilution, as appropriate.

J Indicates that the concentration should be considered approximate. This qualifier indicates that the data validation process identifies a deficiency in the data generation process.

UJ Indicates that the sample-specific reporting limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

3. Data quality evaluation

3.1. Background

This chapter summarizes the quality assurance/quality control QA/QC parameters, validation criteria, and qualifications performed on the sample data when the QA/QC parameters specified in Chapter 2 did not meet criteria. Samples that required qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records as listed in Table 1-1. The data quality evaluation resulted in only one qualifier for an individual sample result. QA/QC excursions which did not result in the qualification of a target analyte result or additional qualification if the target analyte result was previously qualified are not discussed. In a case when several qualifiers are applied to one target analyte result, the cumulative effect of the various excursions were employed in assigning the final data qualifier.

3.2. VOC analyses

3.2.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for VOAs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Calibration
3. Blank analysis
4. Surrogate analysis
5. Internal standard performance
6. Target identification
7. Compound quantitation and reported detection limits
8. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.2.2. Percent solids

As part of the laboratory's reporting policy, the detected limits reported for the compounds analyzed for by USEPA Method 8260B not found in these samples were not corrected for percent solids content.

3.2.3. GC/MS tune performance

According to USEPA Method 8260B, Section 7.4, 4-bromofluorobenzene is injected and must meet tune criteria for each 12 hour analytical sequence. In addition, according to the *USEPA CLP National Functional Guidelines For Organic Data Review* (USEPA 1994a), the GC/MS tune performance must be performed at the beginning of each 12 hour period during which samples and standards are analyzed. For the analysis of volatile organics on 8/27/98, the 4-bromofluorobenzene was injected at 23:24 and sample GB26 (0-2'), which was the last sample in that analytical sequence, was injected at 11:31. As a result of the 12 hour time excursion, the results for sample GB26 (0-2') were qualified as approximate.

3.2.4. MS/MSD analysis

Since MS/MSD samples were not identified by the field sampler, the laboratory performed MS/MSD analyses on samples that were analyzed at the same time as samples included in this project. The MS/MSD samples contained the selected compounds listed in USEPA Method 8260B.

3.2.5. LCS analysis

LCS analyses were not performed by the laboratory during this project. According to USEPA Method 8260B, Section 8.4.3, a laboratory control sample should be included with each analytical batch. Matrix spike recoveries were within laboratory recovery limits.

3.2.6. Field duplicate analysis

Field duplicates were not collected for volatile organic analysis for this project. As a result, field sample collection precision was not evaluated for these sampling events for volatile organic analyses. Laboratory analytical precision was evaluated through the review of MS/MSD analyses.

3.2.7. Documentation completeness

The reference spectra for compounds detected in several samples were not initially provided in the data package. Mass spectra generated from standard analyses performed prior to this project were provided by the laboratory in a supplemental data package. The initial injection logs utilized by the analyst during the sample analysis was not provided in the data package for review.

3.3. SVOC analyses

3.3.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for SVOCs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Blank analysis
3. Surrogate analysis
4. MS/MSD analysis
5. GC/MS tune performance
6. Field duplicate sample analysis
7. Target identification
8. Compound quantitation
9. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.3.2. Percent solids

The results for compounds not detected in samples analyzed by USEPA Method 8270C were not corrected for percent solids.

3.3.3. Initial calibration

The response factor for hexachlorocyclopentadiene in the initial calibration performed 7/29/98 was less than the acceptable limit of 0.05. According to USEPA Method 8270C, Section 7.4.4.1, the system performance check compounds (SPCC) in the continuing calibration must meet a minimum

response factor of 0.05 or the system must be evaluated and corrective action taken before the sample analysis can begin. Since hexachlorocyclopentadiene is an SPCC and is required to meet the response factor criteria, the nondetected results for hexachlorocyclopentadiene in the samples analyzed by USEPA Method 8270C were rejected in accordance with *USEPA CLP National Functional Guidelines For Organic Data Review* (USEPA 1994a). The samples qualified as a result of the low response factor are summarized in the following table:

Table 3-1. *Initial calibration response factor excursion for SVOC analyses*

Affected analyte	Affected Samples	Action
hexachlorocyclopentadiene	GB-2(12-14') GB-3 (13-15') GB-7 (13-15') GB-8 (12-14') GB-9 (13-15') GB-10 (10-12') GB-11 (7-9') GB-17 (0-2') GB-22 (0-2') GB-23 (0-2') GB-24 (0-2') GB-25 (0-2') GB-26 (0-2') GB-27 (0-2') GB-28 (0-2') GB-32 (0-2') GB-31 (0-2') GB-33 (0-2') GB-30 (0-2') GB-29 (0-2') GB-41 (0-2') GB-40 (0-2') GB-39 (0-2') GB-18 (0-2') GB-19 (0-2') GB-20 (0-2') GB-21 (0-2')	R

According to USEPA Method 8270C, Section 7.3.5, calibration check compounds (CCCs) listed in the method are analyzed to evaluate the calibration from the standpoint of the integrity of the system. The relative standard deviation (RSD) for each CCC must be ≤30 percent or corrective action must be performed and the calibration repeated. For semivolatile organics, the laboratory has chosen to monitor the surrogate and matrix

spiking compounds as the CCCs instead of the compounds listed in the method. Therefore, the CCCs provided by the laboratory were evaluated during the data validation process.

3.3.4. Continuing calibration

According to USEPA Method 8270C, Section 5.12.3, it is the intent of USEPA that all target analytes for a particular analysis be included in the initial calibration and the continuing calibration. Several compounds were not included in the continuing calibrations performed in analytical sequences prior to sample analysis. Since continuing calibrations were not performed for these compounds, the performance of the instrument was not evaluated on a daily basis. As a result, the results for these compounds were qualified as approximate in the samples analyzed by USEPA Method 8270C. The samples qualified as a result of the continuing calibration excursions are summarized in the following table:

Table 3-2. *Continuing calibration excursions for SVOC analyses*

Affected analytes	Affected Samples	Action
acetophenone aniline 4-amino biphenyl benzoic acid benzyl alcohol 4-chloroaniline 1-chloronaphthalene dibenz(a)anthracene dibenzofuran 2,6-dichlorophenol p-dimethylaminoazobenzene 7,12-dimethylphenethylamine diphenylamine a,a-dimethyl phenylamine 1,2-diphenylhydrazine ethyl methane sulfonate 3-methyl cholanthrene methyl methane sulfonate 2-methylnaphthalene 1-naphthyl amine 2-naphthyl amine 2-nitroaniline 3-nitroaniline 4-nitroaniline n-nitroso-di-n-butylamine n-nitrosopiperdine pentachlorobenzene pentachloronitrobenzene phenacetin 2-picoline pronamide 1,2,4,5-tetrachlorobenzene 2,3,4,6-tetra chlorophenol 2,4,5-trichlorophenol o-cresol m,p-cresol 3,3'-dichlorobenzidine benzidine	GB-2(12-14') GB-3 (13-15') GB-7 (13-15') GB-8 (12-14') GB-9 (13-15') GB-10 (10-12') GB-11 (7-9') GB-17 (0-2') GB-22 (0-2') GB-23 (0-2') GB-24 (0-2') GB-25 (0-2') GB-26 (0-2') GB-27 (0-2') GB-28 (0-2') GB-32 (0-2') GB-32 (0-2') GB-33 (0-2') GB-30 (0-2') GB-29 (0-2') GB-41 (0-2') GB-40 (0-2') GB-39 (0-2') GB-18 (0-2') GB-19 (0-2') GB-20 (0-2') GB-21 (0-2')	UJ

3.3.5. LCS analysis

LCS analyses were not performed by the laboratory during this project. According to USEPA Method 8270C, Section 8.4.3, a laboratory control sample should be included with each analytical batch. Matrix spike recoveries were within laboratory recovery limits.

3.3.6. Internal standards performance

The recoveries for internal standards in several samples were lower than the control limits. These samples were not reanalyzed to confirm matrix interferences. According to the *USEPA CLP National Functional Guidelines For Organic Data Review* (USEPA 1994a), internal standard performance criteria ensure that GC/MS sensitivity and response are stable during every analytical run. In accordance with the data validation guidelines, positive and nondetected results for analytes associated with internal standards with area counts that are less than 50 percent of the continuing calibration standard were qualified as approximate. The internal standard areas excursions are summarized in the following table:

Table 3-3. *Internal standard area excursions for SVOC analyses*

Sample ID	Internal standard	Affected analytes	Internal standard area recovery	Action
GB-26 (0-2')	chrysene-d12	benzidine pyrene butyl benzyl phthalate Benz(a)anthracene 3,3'-dichlorobenzidine chrysene bis(2-ethyl hexyl) phthalate p- dimethylaminoazobenzene	43%	UJ UJ UJ UJ UJ UJ J UJ
GB-26 (0-2')	perylene-d12	di-n-octyl phthalate Benz(b)fluoranthene Benz(k)fluoranthene Benz(a)pyrene indeno(1,2,3-cd)pyrene dibenzo(ah)anthracene Benz(ghi)perylene 7,12- dimethylbenz(a)anthracene 3-methyl cholanthrene dibenz(a,j)acridine	18%	UJ
GB-10 (10-12')	perylene-d12	di-n-octyl phthalate Benz(b)fluoranthene Benz(k)fluoranthene Benz(a)pyrene indeno(1,2,3-cd)pyrene dibenzo(ah)anthracene Benz(ghi)perylene 7,12- dimethylbenz(a)anthracene 3-methyl cholanthrene dibenz(a,j)acridine	35%	UJ J J J J UJ J UJ UJ UJ

3.3.7. Reported detection limits

Dilutions were performed during the analysis of several samples due to matrix interferences. The analytes which were analyzed using dilutions are summarized in the following table:

Table 3-4. *Analytes reported from diluted SVOC analyses*

Sample ID	Reason for dilution
GB-26 (0-2') GB-39 (0-2') GB-10 (10-12')	Matrix interferences

3.3.8. Documentation completeness

The reference spectra for compounds detected in several samples were not initially provided in the data package. Mass spectra generated from standard analyses performed prior to this project were provided by the laboratory in a supplemental data package. The initial injection logs utilized by the analyst during the sample analysis were not provided in the data package for review.

3.4. Metals and cyanide analyses

3.4.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for metals and cyanide were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding Times and sample preservation
2. Calibration
3. ICP/MS tune performance
4. Blank analysis
5. MS/MSD analysis
6. Laboratory duplicate analysis
7. LCS analysis
8. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.4.2. Percent solids

As part of the laboratory reporting policy, the detected limits reported for the analytes not found in the samples analyzed by USEPA Methods 6020, 7471A, and 335.2 were not corrected for percent solids.

3.4.3. Internal standard performance

According to USEPA Method 6020, Section 803, the intensities of all internal standards must be monitored for every analysis. An evaluation of the internal standard intensity for each analysis was performed by the laboratory but was not documented. The internal standard intensity for each analysis performed for this project was re-evaluated during the data validation process and was found to have met method criteria.

3.4.4. ICP interference check sample analysis

According to USEPA Method 6020, Section 5.6, the interference check solution (ICS) is prepared to contain known concentration of interfering elements that will demonstrate the magnitude of interference and provide an adequate test of any corrections. The ICS is used to verify that the interference levels are corrected by the data system within quality control limits. ICS samples containing A and AB solutions were analyzed once every 12 hours as is required by USEPA Method 6020. Summary sheets for the ICS solutions were not provided by the laboratory. The evaluation of the ICSA and ICSAB solutions was performed by the laboratory but was not documented. Therefore, a review of the ICSA and ICSAB recoveries was not performed during the data validation process.

3.4.5. ICP serial dilution test

According to USEPA Method 6020, Section 8.5, for every 20 samples containing analytes at concentrations of at least 100 times the reagent blank, the analysis of a fivefold dilution must agree with 10 percent of the original determination or an interference effect must be suspected. Target analytes which were detected at concentrations which were considerably higher than the linear range were reanalyzed at a dilution. However, a five-fold dilution was not performed for every 20 samples and the recovery of the dilution evaluated.

3.4.6 Field duplicate analysis

Field duplicates were not collected for inorganic analyses for this project. As a result, field sample collection precision was not evaluated for these sampling events for inorganic analyses. Laboratory analytical precision was evaluated through the review of MS/MSD analyses.

3.4.7. Analyte quantitation and reported detection limits

According to USEPA Method 6020, Section 7.10, samples that are more concentrated than the linear range for an analyte are diluted and reanalyzed. Dilutions were performed during the analysis of several samples due to high concentrations of target analytes. The analytes which were analyzed using dilutions are summarized in the following table:

Table 3-5. *Analytes reported from diluted metal analyses*

Sample ID	Dilution performed	Analyte	Reason for dilution
GB-24 (0-2') GB-18 (0-2')	1:25	chromium	High concentration of target analyte

At the discretion of the analyst, the result for zinc in sample GB-24 (0-2') was reported by the laboratory using the Zn_{68} isotope data. The laboratory reported the other zinc results using Zn_{66}.

3.4.8. Documentation completeness

ICSA and ICSAB recovery evaluations and internal standard intensity recovery evaluations were not provided by the laboratory during the data validation process.

4. Summary and data usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process.

The soil samples and trip blanks collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan, were evaluated based on QA/QC criteria established by USEPA Methods as listed in Section 1-2 and the USEPA National Functional data validation guidelines. Major deficiencies in the data generation process resulted in data being rejected, indicating that the data is considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity. The use of approximated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

Since the laboratory did not analyze or evaluate some of method-specific quality control items discussed in Section 3 of this report, only a limited review of some of the data was performed during data validation.

The following paragraphs present the precision, sensitivity, accuracy, representativeness, comparability, and completeness (PSARCC) parameters used in the evaluation of the sample data.

Precision is measured through the evaluation of field duplicate samples and MS/MSD samples. None of the VOC, SVOC, metal and cyanide data were rejected as a result of precision excursions.

Sensitivity is established by reported detection limits which represent measurable concentrations of analytes which can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project.

Matrix spike samples, internal standard recoveries, surrogate recoveries, LCS recoveries, and initial and continuing calibration criteria indicate the accuracy of the data. For this project, 1.4 percent of the semivolatile data were rejected as a result of a low response factor for hexachlorocyclopentadiene in the initial calibration analyzed on 7/29/98. None of the VOC, metal, and cyanide data were rejected as a result of accuracy excursions.

Holding times, sample preservation, blank analysis, and compound identification and quantification are indicators of the representativeness of the analytical data. None of the VOC, SVOC, metal and cyanide data were rejected as a result of representativeness excursions.

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

As a result of the data validation process, 1.4 percent of the SVOC data were rejected as a result of a major deficiency which was detected in the data generation process. The rejected data is considered unusable for either quantitative or qualitative purposes. The semivolatile data were determined to be 98.6 percent usable for qualitative and quantitative purposes. The volatile organic, metal, and cyanide data were determined to be 100% usable for qualitative and quantitative purposes.

References

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FECL

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O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64306
Tag: GB-2 (12-14')
Date/Time Collected: 08/24/98 09:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/9
pH	7.88	STD Units	0.01	9040	JH	08/25/9
Total Solids	88	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	13.2	mg/kg	1.0	6020	P R	08/31/9
Copper	20.1	mg/kg	1.0	6020	P R	08/31/9
Lead	10.3	mg/kg	1.0	6020	P R	08/31/9
Nickel	19.5	mg/kg	0.50	6020	P R	08/31/9
Zinc	45.5	mg/kg	1.0	6020	P R	08/31/9
Organics						
DNA Extraction	Completed			625/8270	S G	08/26/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Acetophenone	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Aniline	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Aminobiphenyl	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzidine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzoic acid	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzo(a)anthracene	0.4	mg/kg	0.3	8270	JB	08/27/9
Benzo(b)fluoranthene	0.8	mg/kg	0.3	8270	JB	08/27/9
Benzo(k)fluoranthene	0.8	mg/kg	0.3	8270	JB	08/27/9
Benzo(ghi)perylene	[illegible]	mg/kg	0.3	8270	JB	08/27/9
Benzo(a)pyrene	0.9	mg/kg	0.3	8270	JB	08/27/9
Benzyl alcohol	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/27/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9

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September 01, 1998

FECL #: AA64306 (Continued)
Tag: GB-2 (12-14')
Date/Time Collected: 08/24/98 09:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
1-Chloronaphthalene	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Chrysene	0.6	mg/kg	0.3	8270	JB	08/27/98
p,m-Cresol	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
o-Cresol	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenz(a,j)acridine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenzofuran	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/9[illegible]
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/[illegible]
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
3,3'-Dichlorobenzidine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,6-Dichlorophenol	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
p-Dimethylaminoazobenzene	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
7,12-Dimethylbenz(a)anthacene	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
a-,a-Dimethylphenethylamine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Diphenylamine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2-Diphenylhydrazine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
Ethyl methanesulfonate	UJ Not detected	mg/kg	0.3	8270	JB	08/27/98
Fluoranthene	1.0	mg/kg	0.3	8270	JB	08/27/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/27/98

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September 01, 1998

FECL #: AA64306 (Continued)
Tag: GB-2 (12-14')
Date/Time Collected: 08/24/98 09:35
Matrix: Soil

Analysis		Results	Units	MDL	Method	Analyst	Date Ru:
Organics (Continued)							
GC/MS for Semi-Volatile Organic (Continued)							
Hexachlorobenzene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorobutadiene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorocyclopentadiene	R	~~Not detected~~	mg/kg	0.3	8270	JB	08/27/98
Hexachloroethane		Not detected	mg/kg	0.3	8270	JB	08/27/98
Indeno(1,2,3-cd)pyrene		0.4	mg/kg	0.3	8270	JB	08/27/98
Isophorone		Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Methylcholanthrene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Methyl methanesulfonate	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Methylnaphthalene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Naphthalene		Not detected	mg/kg	0.3	8270	JB	08/27/98
1-Naphthylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Naphthylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitoraniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Nitroaniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitroaniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Nitrobenzene		Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitrophenol		Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitrophenol		Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitroso-di-n-butylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodimethylamine		Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodiphenylamine		Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosopiperidine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachloronitrobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorophenol		Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenacetin	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenanthrene		0.7	mg/kg	0.3	8270	JB	08/27/98
Phenol		Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Picoline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pronamide	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pyrene		1.1	mg/kg	0.3	8270	JB	08/27/98
1,2,4,5-Tetrachlorobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,3,4,6-Tetrachlorophenol	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4-Trichlorobenzene		Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4,5-Trichlorophenol	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98

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O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64306 (Continued)
Tag: GB-2 (12-14')
Date/Time Collected: 08/24/98 09:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/27/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9

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FECL #: AA64306 (Continued)
Tag: GB-2 (12-14')
Date/Time Collected: 08/24/98 09:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
etrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

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FECL #: AA64307
Tag: GB-3 (13-15')
Date/Time Collected: 08/24/98 10:35
Matrix: Soil

Analysis		Results	Units	MDL	Method	Analyst	Date Ru
Inorganics							
Cyanide		Not detected	mg/kg	0.5	9010	J P	08/28/98
pH		8.09	STD Units	0.01	9040	JH	08/25/98
Total Solids		89	%	1	160.3	JH	08/29/98
Metals							
Cadmium		Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium		7.6	mg/kg	1.0	6020	P R	08/31/98
Copper		5.9	mg/kg	1.0	6020	P R	08/31/98
Lead		3.4	mg/kg	1.0	6020	P R	08/31/98
Nickel		11.5	mg/kg	0.50	6020	P R	08/31/98
Zinc		28.1	mg/kg	1.0	6020	P R	08/31/98
Organics							
BNA Extraction		Completed			625/8270	S G	08/26/9
GC/MS for Semi-Volatile Organic							
Acenaphthene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Acenaphthylene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Acetophenone	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Aniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Anthracene		Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Aminobiphenyl	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzidine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzoic acid	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(a)anthracene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(b)fluoranthene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(k)fluoranthene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(ghi)perylene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(a)pyrene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzyl alcohol	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chloroethoxy)methane		Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chloroethyl)ether		Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chlorisopropyl)ether		Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-ethylhexyl)phthalate		Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Bromophenyl phenyl ether		Not detected	mg/kg	0.3	8270	JB	08/27/98
utyl benzyl phthalate		Not detected	mg/kg	0.3	8270	JB	08/27/98

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FECL #: AA64307 (Continued)
Tag: GB-3 (13-15')
Date/Time Collected: 08/24/98 10:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
1-Chloronaphthalene	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/27/9
p,m-Cresol	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
o-Cresol	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenz(a,j)acridine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenzofuran	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/9
3,3'-Dichlorobenzidine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,6-Dichlorophenol	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
p-Dimethylaminoazobenzene	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
7,12-Dimethylbenz(a)anthacene	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
a-,a-Dimethylphenethylamine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Diphenylamine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
1,2-Diphenylhydrazine	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
Ethyl methanesulfonate	UJ Not detected	mg/kg	0.3	8270	JB	08/27/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/27/9

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FECL #: AA64307 (Continued)
Tag: GB-3 (13-15')
Date/Time Collected: 08/24/98 10:35
Matrix: Soil

Analysis		Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)							
GC/MS for Semi-Volatile Organic (Continued)							
Hexachlorobenzene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorobutadiene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorocyclopentadiene	R	~~Not detected~~	mg/kg	0.3	8270	JB	08/27/98
Hexachloroethane		Not detected	mg/kg	0.3	8270	JB	08/27/98
Indeno(1,2,3-cd)pyrene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Isophorone		Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Methylcholanthrene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Methyl methanesulfonate	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Methylnaphthalene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Naphthalene		Not detected	mg/kg	0.3	8270	JB	08/27/98
1-Naphthylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Naphthylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitoraniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Nitroaniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitroaniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/
Nitrobenzene		Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitrophenol		Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitrophenol		Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitroso-di-n-butylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodimethylamine		Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodiphenylamine		Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosopiperidine	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachloronitrobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorophenol		Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenacetin	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenanthrene		Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenol		Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Picoline	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pronamide	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pyrene		Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4,5-Tetrachlorobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,3,4,6-Tetrachlorophenol	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4-Trichlorobenzene		Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4,5-Trichlorophenol	UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98

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FECL #: AA64307 (Continued)
Tag: GB-3 (13-15')
Date/Time Collected: 08/24/98 10:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
ec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
rt-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

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FECL #: AA64307 (Continued)
Tag: GB-3 (13-15')
Date/Time Collected: 08/24/98 10:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
',1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
ı,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/2
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/2
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9

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FECL #: AA64311
Tag: GB-7 (13-15')
Date/Time Collected: 08/24/98 13:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/9
pH	7.93	STD Units	0.01	9040	JH	08/25/9
Total Solids	87	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	5.9	mg/kg	1.0	6020	P R	08/31/9
Copper	6.5	mg/kg	1.0	6020	P R	08/31/9
Lead	4.6	mg/kg	1.0	6020	P R	08/31/9
Nickel	16.4	mg/kg	0.50	6020	P R	08/31/9
Zinc	24.6	mg/kg	1.0	6020	P R	08/31/9
Organics						
NA Extraction	Completed			625/8270	S G	08/26/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Acetophenone VJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Aniline VJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Aminobiphenyl VJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzidine VJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzoic acid VJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Benzyl alcohol VJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/27/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9

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September 01, 1998

FECL #: AA64311 (Continued)
Tag: GB-7 (13-15')
Date/Time Collected: 08/24/98 13:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/27/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/27/98

FECL

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FECL #: AA64311 (Continued)
Tag: GB-7 (13-15')
Date/Time Collected: 08/24/98 13:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	08/27/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/27/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98

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FECL #: AA64311 (Continued)
Tag: GB-7 (13-15')
Date/Time Collected: 08/24/98 13:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/27/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/2
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
.3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9

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FECL #: AA64311 (Continued)
Tag: GB-7 (13-15')
Date/Time Collected: 08/24/98 13:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
oluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

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FECL #: AA64312
Tag: GB-8 (12-14')
Date/Time Collected: 08/24/98 14:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/98
pH	7.93	STD Units	0.01	9040	JH	08/25/98
Total Solids	86	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	10.4	mg/kg	1.0	6020	P R	08/31/98
Copper	10.7	mg/kg	1.0	6020	P R	08/31/98
Lead	4.8	mg/kg	1.0	6020	P R	08/31/98
Nickel	23.8	mg/kg	0.50	6020	P R	08/31/98
Zinc	33.2	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/26/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98

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O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64312 (Continued)
Tag: GB-8 (12-14')
Date/Time Collected: 08/24/98 14:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/27/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/27/98

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FECL #: AA64312 (Continued)
Tag: GB-8 (12-14')
Date/Time Collected: 08/24/98 14:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rec
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	08/27/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/27/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/98
[illegible]-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
[illegible]-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98

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FECL #: AA64312 (Continued)
Tag: GB-8 (12-14')
Date/Time Collected: 08/24/98 14:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

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FECL #: AA64312 (Continued)
Tag: GB-8 (12-14')
Date/Time Collected: 08/24/98 14:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
',1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
ı,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

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FECL #: AA64313
Tag: GB-9 (13-15')
Date/Time Collected: 08/24/98 15:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/98
pH	7.92	STD Units	0.01	9040	JH	08/25/98
Total Solids	86	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	10.2	mg/kg	1.0	6020	P R	08/31/98
Copper	11.7	mg/kg	1.0	6020	P R	08/31/98
Lead	5.8	mg/kg	1.0	6020	P R	08/31/98
Nickel	22.2	mg/kg	0.50	6020	P R	08/31/98
Zinc	33.3	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/26/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98

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FECL #: AA64313 (Continued)
Tag: GB-9 (13-15')
Date/Time Collected: 08/24/98 15:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/27/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/ /9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/ /9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/9
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/27/9

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FECL #: AA64313 (Continued)
Tag: GB-9 (13-15')
Date/Time Collected: 08/24/98 15:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorocyclopentadiene	R ~~Not detected~~	mg/kg	0.3	8270	JB	08/27/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/27/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98

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FECL #: AA64313 (Continued)
Tag: GB-9 (13-15')
Date/Time Collected: 08/24/98 15:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
ec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

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FECL #: AA64313 (Continued)
Tag: GB-9 (13-15')
Date/Time Collected: 08/24/98 15:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
ı,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64314
Tag: GB-10 (10-12')
Date/Time Collected: 08/24/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/9
pH	7.83	STD Units	0.01	9040	JH	08/25/9
Total Solids	79	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	1.9	mg/kg	1.0	6020	P R	08/31/9
Copper	4.9	mg/kg	1.0	6020	P R	08/31/9
Lead	3.0	mg/kg	1.0	6020	P R	08/31/9
Nickel	3.1	mg/kg	0.50	6020	P R	08/31/9
Zinc	15.2	mg/kg	1.0	6020	P R	08/31/9
Organics						
BNA Extraction	Completed			625/8270	S G	08/26/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Acenaphthylene	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Acetophenone	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Aniline	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Anthracene	1.4	mg/kg	*0.6	8270	JB	08/27/9
4-Aminobiphenyl	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Benzidine	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Benzoic acid	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Benzo(a)anthracene	1.6	mg/kg	*0.6	8270	JB	08/27/9
Benzo(b)fluoranthene	2.2	mg/kg	*0.6	8270	JB	08/27/9
Benzo(k)fluoranthene	2.9	mg/kg	*0.6	8270	JB	08/27/9
Benzo(ghi)perylene	~~0.6~~	mg/kg	*0.6	8270	JB	08/27/9
Benzo(a)pyrene	2.7	mg/kg	*0.6	8270	JB	08/27/9
Benzyl alcohol	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	*0.6	8270	JB	08/27/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Butyl benzyl phthalate	Not detected	mg/kg	*0.6	8270	JB	08/27/9

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64314 (Continued)
Tag: GB-10 (10-12')
Date/Time Collected: 08/24/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
1-Chloronaphthalene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
2-Chloronaphthalene	Not detected	mg/kg	*0.6	8270	JB	08/27/9
4-Chloro-3-methylphenol	Not detected	mg/kg	*0.6	8270	JB	08/27/9
2-Chlorophenol	Not detected	mg/kg	*0.6	8270	JB	08/27/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Chrysene	1.7	mg/kg	*0.6	8270	JB	08/27/9
p,m-Cresol UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
o-Cresol UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Dibenzo(ah)anthracene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Dibenzofuran UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Di-n-butyl phthalate	Not detected	mg/kg	*0.6	8270	JB	08/27/9
1,2-Dichlorobenzene	Not detected	mg/kg	*0.6	8270	JB	08/27/9
1,3-Dichlorobenzene	Not detected	mg/kg	*0.6	8270	JB	08/27/9
1,4-Dichlorobenzene	Not detected	mg/kg	*0.6	8270	JB	08/27/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
2,4-Dichlorophenol	Not detected	mg/kg	*0.6	8270	JB	08/27/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Diethyl phthalate	Not detected	mg/kg	*0.6	8270	JB	08/27/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
2,4-Dimethylphenol	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Dimethyl phthalate	Not detected	mg/kg	*0.6	8270	JB	08/27/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	*0.6	8270	JB	08/27/9
2,4-Dinitrophenol	Not detected	mg/kg	*0.6	8270	JB	08/27/9
2,4-Dinitrotoluene	Not detected	mg/kg	*0.6	8270	JB	08/27/9
2,6-Dinitrotoluene	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Diphenylamine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Di-n-octyl phthalate UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
Fluoranthene	4.0	mg/kg	*0.6	8270	JB	08/27/9
Fluorene	Not detected	mg/kg	*0.6	8270	JB	08/27/9

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64314 (Continued)
Tag: GB-10 (10-12')
Date/Time Collected: 08/24/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Hexachlorobutadiene	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	*0.6	8270	JB	08/27/98
Hexachloroethane	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Indeno(1,2,3-cd)pyrene J	0.8	mg/kg	*0.6	8270	JB	08/27/98
Isophorone	Not detected	mg/kg	*0.6	8270	JB	08/27/98
3-Methylcholanthrene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Methyl methanesulfonate UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
2-Methylnaphthalene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Naphthalene	Not detected	mg/kg	*0.6	8270	JB	08/27/98
1-Naphthylamine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
2-Naphthylamine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
2-Nitoraniline UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
3-Nitroaniline UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/9
4-Nitroaniline UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/
Nitrobenzene	Not detected	mg/kg	*0.6	8270	JB	08/27/98
2-Nitrophenol	Not detected	mg/kg	*0.6	8270	JB	08/27/98
4-Nitrophenol	Not detected	mg/kg	*0.6	8270	JB	08/27/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
N-Nitrosodimethylamine	Not detected	mg/kg	*0.6	8270	JB	08/27/98
N-Nitrosodiphenylamine	Not detected	mg/kg	*0.6	8270	JB	08/27/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Pentachlorobenzene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Pentachlorophenol	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Phenacetin UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Phenanthrene	2.8	mg/kg	*0.6	8270	JB	08/27/98
Phenol	Not detected	mg/kg	*0.6	8270	JB	08/27/98
2-Picoline UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Pronamide UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
Pyrene	4.6	mg/kg	*0.6	8270	JB	08/27/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	*0.6	8270	JB	08/27/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	*0.6	8270	JB	08/27/98

Higher detection limits due to matrix interference and/or high target concentrations.

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64314 (Continued)
Tag: GB-10 (10-12')
Date/Time Collected: 08/24/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	*0.6	8270	JB	08/27/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	*0.6	8270	JB	08/27/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
ec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
rt-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64314 (Continued)
Tag: GB-10 (10-12')
Date/Time Collected: 08/24/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
',1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
ı,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64315
Tag: GB-11 (7-9')
Date/Time Collected: 08/25/98 09:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R...
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/98
pH	8.22	STD Units	0.01	9040	JH	08/25/98
Total Solids	80	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	4.5	mg/kg	1.0	6020	P R	08/31/98
Copper	8.7	mg/kg	1.0	6020	P R	08/31/98
Lead	3.3	mg/kg	1.0	6020	P R	08/31/98
Nickel	5.9	mg/kg	0.50	6020	P R	08/31/98
Zinc	15.3	mg/kg	1.0	6020	P R	08/31/98
Organics						
DNA Extraction	Completed			625/8270	S G	08/26/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/98

AA64306

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64315 (Continued)
Tag: GB-11 (7-9')
Date/Time Collected: 08/25/98 09:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/27/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/27/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/27/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/27/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/27/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/27/9

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64315 (Continued)
Tag: GB-11 (7-9')
Date/Time Collected: 08/25/98 09:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Hexachlorocyclopentadiene	R ~~Not detected~~	mg/kg	0.3	8270	JB	08/27/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/27/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/27/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/27/98

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O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64315 (Continued)
Tag: GB-11 (7-9')
Date/Time Collected: 08/25/98 09:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/27/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/27/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

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O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64315 (Continued)
Tag: GB-11 (7-9')
Date/Time Collected: 08/25/98 09:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64322
Tag: GB-17 (0-2')
Date/Time Collected: 08/25/98 13:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/98
pH	8.62	STD Units	0.01	9040	JH	08/25/98
Total Solids	87	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	12.3	mg/kg	1.0	6020	P R	08/31/98
Copper	10.6	mg/kg	1.0	6020	P R	08/31/98
Lead	6.1	mg/kg	1.0	6020	P R	08/31/98
Nickel	26.9	mg/kg	0.50	6020	P R	08/31/98
Zinc	36.7	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/26/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/26/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/26/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/26/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/26/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/26/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/26/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/26/98

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64322 (Continued)
Tag: GB-17 (0-2')
Date/Time Collected: 08/25/98 13:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/26/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/26/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/26/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/26/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/26/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/26/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/26/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/26/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/26/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/26/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/26/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/26/98

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64322 (Continued)
Tag: GB-17 (0-2')
Date/Time Collected: 08/25/98 13:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R...
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	08/26/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/26/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/26/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/26/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/26/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/26/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/26/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/26/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/26/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/26/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/26/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/26/98

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O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64322 (Continued)
Tag: GB-17 (0-2')
Date/Time Collected: 08/25/98 13:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/26/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/26/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
ec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
ert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9
3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64322 (Continued)
Tag: GB-17 (0-2')
Date/Time Collected: 08/25/98 13:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/26/98

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64323
Tag: Trip Blank
Date/Time Collected:
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics						
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	08/28/9
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
Bromoform	Not detected	mg/L	0.001	8260	VFM	08/28/9
Bromomethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	08/28/9
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	08/28/9
Chloroethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
2-Chloroethylvinyl ether	Not detected	mg/L	0.001	8260	VFM	08/28/9
Chloroform	Not detected	mg/L	0.001	8260	VFM	08/28/9
Chloromethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	08/28/9
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	08/28/9
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	08/28/9
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	08/28/9
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	08/28/9
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	08/28/9
Methylene Chloride	Not detected	mg/L	0.001	8260	VFM	08/28/9
Styrene	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	08/28/9
Toluene	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	08/28/9
Trichlorofluoromethane	Not detected	mg/L	0.001	8260	VFM	08/28/9
Vinyl Chloride	Not detected	mg/L	0.001	8260	VFM	08/28/9
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	08/28/9
o-Xylene	Not detected	mg/L	0.001	8260	VFM	08/28/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 01, 1998

FECL #: AA64323 (Continued)
Tag: Trip Blank
Date/Time Collected:
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
Acetone	Not detected	mg/L	0.05	8260	VFM	08/28/98
2-Butanone	Not detected	mg/L	0.05	8260	VFM	08/28/98
Carbon disulfide	Not detected	mg/L	0.05	8260	VFM	08/28/98
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	08/28/98
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	08/28/98

Note: Methods may be modified for improved performance.
Results reported on a dry weight basis, where applicable.
Results relate only to items tested.
Report shall not be reproduced except in full, without the written approval of FECL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64360
Tag: GB-18 (0-2')
Date/Time Collected: 08/25/98 13:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/9
pH	9.69	STD Units	0.01	9040	JH	08/26/9
Total Solids	85	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	349	mg/kg	1.0	6020	P R	08/31/9
Copper	9.8	mg/kg	1.0	6020	P R	08/31/9
Lead	5.7	mg/kg	1.0	6020	P R	08/31/9
Nickel	23.1	mg/kg	0.50	6020	P R	08/31/9
Zinc	37.5	mg/kg	1.0	6020	P R	08/31/9
Organics						
BNA Extraction	Completed			625/8270	S G	08/27/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64360 (Continued)
Tag: GB-18 (0-2')
Date/Time Collected: 08/25/98 13:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/28/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/2
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/2
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/28/9

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64360 (Continued)
Tag: GB-18 (0-2')
Date/Time Collected: 08/25/98 13:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	08/28/9
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/28/9
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/28/9
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64360 (Continued)
Tag: GB-18 (0-2')
Date/Time Collected: 08/25/98 13:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/28/9
GC/MS for Volatile Organics 5035						
Benzene	0.20	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9

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FECL #: AA64360 (Continued)
Tag: GB-18 (0-2')
Date/Time Collected: 08/25/98 13:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Toluene	0.48	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9

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FECL #: AA64361
Tag: GB-19 (0-2')
Date/Time Collected: 08/25/98 14:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/9
pH	9.23	STD Units	0.01	9040	JH	08/26/9
Total Solids	86	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	58.3	mg/kg	1.0	6020	P R	08/31/9
Copper	14.4	mg/kg	1.0	6020	P R	08/31/9
Lead	3.9	mg/kg	1.0	6020	P R	08/31/9
Nickel	13.8	mg/kg	0.50	6020	P R	08/31/9
Zinc	29.8	mg/kg	1.0	6020	P R	08/31/9
Organics						
BNA Extraction	Completed			625/8270	S G	08/27/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9

FECL

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FECL #: AA64361 (Continued)
Tag: GB-19 (0-2')
Date/Time Collected: 08/25/98 14:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/28/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/28/9

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FECL #: AA64361 (Continued)
Tag: GB-19 (0-2')
Date/Time Collected: 08/25/98 14:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru:
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/28/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	08/28/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/28/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/28/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/28/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/28/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/28/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/28/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/28/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/98

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FECL #: AA64361 (Continued)
Tag: GB-19 (0-2')
Date/Time Collected: 08/25/98 14:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/28/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9

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FECL #: AA64361 (Continued)
Tag: GB-19 (0-2')
Date/Time Collected: 08/25/98 14:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Toluene	0.08	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/2
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9

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FECL #: AA64362
Tag: GB-20 (0-2')
Date/Time Collected: 08/25/98 15:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/9
pH	9.70	STD Units	0.01	9040	JH	08/26/9
Total Solids	85	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	12.8	mg/kg	1.0	6020	P R	08/31/9
Copper	13.5	mg/kg	1.0	6020	P R	08/31/9
Lead	5.4	mg/kg	1.0	6020	P R	08/31/9
Nickel	29.0	mg/kg	0.50	6020	P R	08/31/9
Zinc	39.4	mg/kg	1.0	6020	P R	08/31/9
Organics						
BNA Extraction	Completed			625/8270	S G	08/27/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9

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O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64362 (Continued)
Tag: GB-20 (0-2')
Date/Time Collected: 08/25/98 15:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/28/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/2
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/28/9

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64362 (Continued)
Tag: GB-20 (0-2')
Date/Time Collected: 08/25/98 15:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	08/28/9
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/28/9
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/28/9
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64362 (Continued)
Tag: GB-20 (0-2')
Date/Time Collected: 08/25/98 15:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/28/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
n-Butylbenzene	1.22	mg/kg	0.05	5035/8260	VFM	08/27/9
sec-Butylbenzene	0.38	mg/kg	0.05	5035/8260	VFM	08/27/9
tert-Butylbenzene	0.35	mg/kg	0.05	5035/8260	VFM	08/27/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64362 (Continued)
Tag: GB-20 (0-2')
Date/Time Collected: 08/25/98 15:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Ethylbenzene	0.26	mg/kg	0.05	5035/8260	VFM	08/27/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Isopropylbenzene	0.15	mg/kg	0.05	5035/8260	VFM	08/27/9
p-Isopropyltoluene	0.69	mg/kg	0.05	5035/8260	VFM	08/27/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Naphthalene	3.43	mg/kg	0.05	5035/8260	VFM	08/27/9
n-Propylbenzene	0.34	mg/kg	0.05	5035/8260	VFM	08/27/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Toluene	0.08	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
1,2,4-Trimethylbenzene	3.12	mg/kg	0.05	5035/8260	VFM	08/27/9
1,3,5-Trimethylbenzene	1.60	mg/kg	0.05	5035/8260	VFM	08/27/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9
o-Xylene	0.34	mg/kg	0.05	5035/8260	VFM	08/27/9
p,m-Xylene	0.92	mg/kg	0.05	5035/8260	VFM	08/27/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/27/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64363
Tag: GB-21 (0-2')
Date/Time Collected: 08/25/98 16:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	08/28/9
pH	9.78	STD Units	0.01	9040	JH	08/26/9
Total Solids	86	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	10.4	mg/kg	1.0	6020	P R	08/31/9
Copper	20.8	mg/kg	1.0	6020	P R	08/31/9
Lead	6.0	mg/kg	1.0	6020	P R	08/31/9
Nickel	11.2	mg/kg	0.50	6020	P R	08/31/9
Zinc	34.8	mg/kg	1.0	6020	P R	08/31/9
Organics						
BNA Extraction	Completed			625/8270	S G	08/27/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64363 (Continued)
Tag: GB-21 (0-2')
Date/Time Collected: 08/25/98 16:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/28/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/28/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/28/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/28/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/28/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/28/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64363 (Continued)
Tag: GB-21 (0-2')
Date/Time Collected: 08/25/98 16:00
Matrix: Soil

Analysis	(Q)	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)							
GC/MS for Semi-Volatile Organic (Continued)							
Hexachlorobenzene		Not detected	mg/kg	0.3	8270	JB	08/28/9
Hexachlorobutadiene		Not detected	mg/kg	0.3	8270	JB	08/28/9
Hexachlorocyclopentadiene	R	~~Not detected~~	mg/kg	0.3	8270	JB	08/28/9
Hexachloroethane		Not detected	mg/kg	0.3	8270	JB	08/28/9
Indeno(1,2,3-cd)pyrene		Not detected	mg/kg	0.3	8270	JB	08/28/9
Isophorone		Not detected	mg/kg	0.3	8270	JB	08/28/9
3-Methylcholanthrene	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Methyl methanesulfonate	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Methylnaphthalene	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Naphthalene		Not detected	mg/kg	0.3	8270	JB	08/28/9
'-Naphthylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Naphthylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Nitoraniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
3-Nitroaniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Nitroaniline	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/
Nitrobenzene		Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Nitrophenol		Not detected	mg/kg	0.3	8270	JB	08/28/9
4-Nitrophenol		Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitroso-di-n-butylamine	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodimethylamine		Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodiphenylamine		Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosopiperidine	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachlorobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachloronitrobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pentachlorophenol		Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenacetin	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenanthrene		Not detected	mg/kg	0.3	8270	JB	08/28/9
Phenol		Not detected	mg/kg	0.3	8270	JB	08/28/9
2-Picoline	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pronamide	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
Pyrene		Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2,4,5-Tetrachlorobenzene	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
2,3,4,6-Tetrachlorophenol	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9
1,2,4-Trichlorobenzene		Not detected	mg/kg	0.3	8270	JB	08/28/9
2,4,5-Trichlorophenol	UJ	Not detected	mg/kg	0.3	8270	JB	08/28/9

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FECL #: AA64363 (Continued)
Tag: GB-21 (0-2')
Date/Time Collected: 08/25/98 16:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/28/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/28/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
n-Butylbenzene	0.55	mg/kg	0.05	5035/8260	VFM	09/04/9
sec-Butylbenzene	0.22	mg/kg	0.05	5035/8260	VFM	09/04/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Chloroform	0.19	mg/kg	0.05	5035/8260	VFM	09/04/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9

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FECL #: AA64363 (Continued)
Tag: GB-21 (0-2')
Date/Time Collected: 08/25/98 16:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Ethylbenzene	0.18	mg/kg	0.05	5035/8260	VFM	09/04/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Isopropylbenzene	0.14	mg/kg	0.05	5035/8260	VFM	09/04/9
p-Isopropyltoluene	0.78	mg/kg	0.05	5035/8260	VFM	09/04/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Naphthalene	1.14	mg/kg	0.05	5035/8260	VFM	09/04/9
n-Propylbenzene	0.39	mg/kg	0.05	5035/8260	VFM	09/04/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Toluene	0.10	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
1,2,4-Trimethylbenzene	2.10	mg/kg	0.05	5035/8260	VFM	09/04/9
1,3,5-Trimethylbenzene	1.62	mg/kg	0.05	5035/8260	VFM	09/04/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9
o-Xylene	0.17	mg/kg	0.05	5035/8260	VFM	09/04/9
p,m-Xylene	0.57	mg/kg	0.05	5035/8260	VFM	09/04/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	09/04/9

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FECL #: AA64401
Tag: GB-22 (0-2')
Date/Time Collected: 08/26/98 09:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/98
pH	7.68	STD Units	0.01	9040	JH	08/27/98
Total Solids	87	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	9.7	mg/kg	1.0	6020	P R	08/31/98
Copper	7.6	mg/kg	1.0	6020	P R	08/31/98
Lead	5.5	mg/kg	1.0	6020	P R	08/31/98
Nickel	18.0	mg/kg	0.50	6020	P R	08/31/98
Zinc	32.2	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed					
GC/MS for Semi-Volatile Organic				625/8270	S G	08/28/98
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98

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September 04, 1998

FECL #: AA64401 (Continued)
Tag: GB-22 (0-2')
Date/Time Collected: 08/26/98 09:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/01 98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01 98
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/01 98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01 98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01 98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/01/98

FECL

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FECL #: AA64401 (Continued)
Tag: GB-22 (0-2')
Date/Time Collected: 08/26/98 09:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	09/01/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64401 (Continued)
Tag: GB-22 (0-2')
Date/Time Collected: 08/26/98 09:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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FECL #: AA64401 (Continued)
Tag: GB-22 (0-2')
Date/Time Collected: 08/26/98 09:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64402
Tag: GB-23 (0-2')
Date/Time Collected: 08/26/98 10:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rec
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/98
pH	7.78	STD Units	0.01	9040	JH	08/27/98
Total Solids	87	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	8.1	mg/kg	1.0	6020	P R	08/31/98
Copper	7.6	mg/kg	1.0	6020	P R	08/31/98
Lead	5.9	mg/kg	1.0	6020	P R	08/31/98
Nickel	22.7	mg/kg	0.50	6020	P R	08/31/98
Zinc	28.9	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/28/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-ethylhexyl)phthalate	0.6	mg/kg	0.3	8270	JB	09/01/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98

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O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64402 (Continued)
Tag: GB-23 (0-2')
Date/Time Collected: 08/26/98 10:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/01/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64402 (Continued)
Tag: GB-23 (0-2')
Date/Time Collected: 08/26/98 10:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorocyclopentadiene	R ~~Not detected~~	mg/kg	0.3	8270	JB	09/01/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64402 (Continued)
Tag: GB-23 (0-2')
Date/Time Collected: 08/26/98 10:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/01 98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28 98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28 98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28 98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28 98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28 98
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28 98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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FECL #: AA64402 (Continued)
Tag: GB-23 (0-2')
Date/Time Collected: 08/26/98 10:25
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
',1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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FECL #: AA64403
Tag: GB-24 (0-2')
Date/Time Collected: 08/26/98 11:05
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru:
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02 98
pH	8.51	STD Units	0.01	9040	JH	08 27 98
Total Solids	88	%	1	160.3	JH	08 29 98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08 31 98
Chromium	~~1,210~~ DC	mg/kg	1.0	6020	P R	08 31 98
Copper	14.5	mg/kg	1.0	6020	P R	08/31/98
Lead	5.4	mg/kg	1.0	6020	P R	08-31-98
Nickel	39.0	mg/kg	0.50	6020	P R	08/31/98
Zinc	~~85.2~~ DC	mg/kg	1.0	6020	P R	08 31 98
Organics						
BNA Extraction	Completed			625/8270	S G	08/28 98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64403 (Continued)
Tag: GB-24 (0-2')
Date/Time Collected: 08/26/98 11:05
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/01 98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01.98
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/01.98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01.98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01.98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/01.98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01 98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01.98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01.98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/01/98

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O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64403 (Continued)
Tag: GB-24 (0-2')
Date/Time Collected: 08/26/98 11:05
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	09/01/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64403 (Continued)
Tag: GB-24 (0-2')
Date/Time Collected: 08/26/98 11:05
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/01 98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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FECL #: AA64403 (Continued)
Tag: GB-24 (0-2')
Date/Time Collected: 08/26/98 11:05
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

FECL

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FECL #: AA64404
Tag: GB-25 (0-2')
Date/Time Collected: 08/26/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	4.8	mg/kg	0.5	9010	J P	09/02/98
pH	8.20	STD Units	0.01	9040	JH	08/27/98
Total Solids	87	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	9.6	mg/kg	1.0	6020	P R	08/31/98
Copper	66.0	mg/kg	1.0	6020	P R	08/31/98
Lead	5.5	mg/kg	1.0	6020	P R	08/31/98
Nickel	22.4	mg/kg	0.50	6020	P R	08/31/98
Zinc	32.3	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/28/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
utyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98

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September 04, 1998

FECL #: AA64404 (Continued)
Tag: GB-25 (0-2')
Date/Time Collected: 08/26/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/29/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/29/98

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FECL #: AA64404 (Continued)
Tag: GB-25 (0-2')
Date/Time Collected: 08/26/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	08/29/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/29/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/29/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98

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FECL #: AA64404 (Continued)
Tag: GB-25 (0-2')
Date/Time Collected: 08/26/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/29
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28

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O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64404 (Continued)
Tag: GB-25 (0-2')
Date/Time Collected: 08/26/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R...
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
',1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
ı,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28...
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64405
Tag: GB-26 (0-2')
Date/Time Collected: 08/26/98 12:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02
pH	7.62	STD Units	0.01	9040	JH	08/27
Total Solids	86	%	1	160.3	JH	08/29
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31
Chromium	~~16.6~~	mg/kg	1.0	6020	P R	08/31
Copper	~~22.0~~	mg/kg	1.0	6020	P R	08/31
Lead	~~5.6~~	mg/kg	1.0	6020	P R	08/31
Nickel	~~63.3~~	mg/kg	0.50	6020	P R	08/31
Zinc	~~59.9~~	mg/kg	1.0	6020	P R	08/31
Organics						
BNA Extraction	Completed			625/8270	S G	08/28/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	*3	8270	JB	09/03/98
Acenaphthylene	Not detected	mg/kg	*3	8270	JB	09/03/98
Acetophenone	Not detected	mg/kg	*3	8270	JB	09/03/98
Aniline UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Anthracene	Not detected	mg/kg	*3	8270	JB	09/03/98
4-Aminobiphenyl UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Benzidine	Not detected	mg/kg	*3	8270	JB	09/03/98
Benzoic acid UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Benzo(a)anthracene	Not detected	mg/kg	*3	8270	JB	09/03/98
Benzo(b)fluoranthene	Not detected	mg/kg	*3	8270	JB	09/03/98
Benzo(k)fluoranthene	Not detected	mg/kg	*3	8270	JB	09/03/98
Benzo(ghi)perylene	Not detected	mg/kg	*3	8270	JB	09/03/98
Benzo(a)pyrene	Not detected	mg/kg	*3	8270	JB	09/03/98
Benzyl alcohol UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	*3	8270	JB	09/03/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	*3	8270	JB	09/03/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	*3	8270	JB	09/03/98
Bis(2-ethylhexyl)phthalate J	4	mg/kg	*3	8270	JB	09/03/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	*3	8270	JB	09/03/98
Butyl benzyl phthalate UJ	Not detected	mg/kg	*3	8270	JB	09/03/98

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64405 (Continued)
Tag: GB-26 (0-2')
Date/Time Collected: 08/26/98 12:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rc
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
1-Chloronaphthalene UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
2-Chloronaphthalene	Not detected	mg/kg	*3	8270	JB	09/03/98
4-Chloro-3-methylphenol	Not detected	mg/kg	*3	8270	JB	09/03/98
2-Chlorophenol	Not detected	mg/kg	*3	8270	JB	09/03/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	*3	8270	JB	09/03/98
Chrysene UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
p,m-Cresol UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
o-Cresol UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Dibenz(a,j)acridine	Not detected	mg/kg	*3	8270	JB	09/03/98
Dibenzo(ah)anthracene UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Dibenzofuran UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Di-n-butyl phthalate	Not detected	mg/kg	*3	8270	JB	09/03/98
1,2-Dichlorobenzene	Not detected	mg/kg	*3	8270	JB	09/0[illegible]
1,3-Dichlorobenzene	Not detected	mg/kg	*3	8270	JB	09/03/98
1,4-Dichlorobenzene	Not detected	mg/kg	*3	8270	JB	09/03/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
2,4-Dichlorophenol	Not detected	mg/kg	*3	8270	JB	09/03/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Diethyl phthalate	Not detected	mg/kg	*3	8270	JB	09/03/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
2,4-Dimethylphenol	Not detected	mg/kg	*3	8270	JB	09/03/98
Dimethyl phthalate	Not detected	mg/kg	*3	8270	JB	09/03/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	*3	8270	JB	09/03/98
2,4-Dinitrophenol	Not detected	mg/kg	*3	8270	JB	09/03/98
2,4-Dinitrotoluene	Not detected	mg/kg	*3	8270	JB	09/03/98
2,6-Dinitrotoluene	Not detected	mg/kg	*3	8270	JB	09/03/98
Diphenylamine UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Di-n-octyl phthalate UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	*3	8270	JB	09/03/98
Fluoranthene	Not detected	mg/kg	*3	8270	JB	09/03/98
Fluorene	Not detected	mg/kg	*3	8270	JB	09/03/98

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64405 (Continued)
Tag: GB-26 (0-2')
Date/Time Collected: 08/26/98 12:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	*3	8270	JB	09/03/98
Hexachlorobutadiene	Not detected	mg/kg	*3	8270	JB	09/03/98
Hexachlorocyclopentadiene	~~Not detected~~	mg/kg	*3	8270	JB	09/03/98
Hexachloroethane	Not detected	mg/kg	*3	8270	JB	09/03/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	*3	8270	JB	09/03/98
Isophorone	Not detected	mg/kg	*3	8270	JB	09/03/98
3-Methylcholanthrene	Not detected	mg/kg	*3	8270	JB	09/03/98
Methyl methanesulfonate	Not detected	mg/kg	*3	8270	JB	09/03/98
2-Methylnaphthalene	Not detected	mg/kg	*3	8270	JB	09/03/98
Naphthalene	Not detected	mg/kg	*3	8270	JB	09/03/98
1-Naphthylamine	Not detected	mg/kg	*3	8270	JB	09/03/98
2-Naphthylamine	Not detected	mg/kg	*3	8270	JB	09/03/98
2-Nitoraniline	Not detected	mg/kg	*3	8270	JB	09/03/98
3-Nitroaniline	Not detected	mg/kg	*3	8270	JB	09/03/98
4-Nitroaniline	Not detected	mg/kg	*3	8270	JB	09/03/98
Nitrobenzene	Not detected	mg/kg	*3	8270	JB	09/03/98
2-Nitrophenol	Not detected	mg/kg	*3	8270	JB	09/03/98
4-Nitrophenol	Not detected	mg/kg	*3	8270	JB	09/03/98
N-Nitroso-di-n-butylamine	Not detected	mg/kg	*3	8270	JB	09/03/98
N-Nitrosodimethylamine	Not detected	mg/kg	*3	8270	JB	09/03/98
N-Nitrosodiphenylamine	Not detected	mg/kg	*3	8270	JB	09/03/98
N-Nitrosopiperidine	Not detected	mg/kg	*3	8270	JB	09/03/98
Pentachlorobenzene	Not detected	mg/kg	*3	8270	JB	09/03/98
Pentachloronitrobenzene	Not detected	mg/kg	*3	8270	JB	09/03/98
Pentachlorophenol	Not detected	mg/kg	*3	8270	JB	09/03/98
Phenacetin	Not detected	mg/kg	*3	8270	JB	09/03/98
Phenanthrene	Not detected	mg/kg	*3	8270	JB	09/03/98
Phenol	Not detected	mg/kg	*3	8270	JB	09/03/98
2-Picoline	Not detected	mg/kg	*3	8270	JB	09/03/98
Pronamide	Not detected	mg/kg	*3	8270	JB	09/03/98
Pyrene	Not detected	mg/kg	*3	8270	JB	09/03/98
1,2,4,5-Tetrachlorobenzene	Not detected	mg/kg	*3	8270	JB	09/03/98
2,3,4,6-Tetrachlorophenol	Not detected	mg/kg	*3	8270	JB	09/03/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	*3	8270	JB	09/03/98
2,4,5-Trichlorophenol	Not detected	mg/kg	*3	8270	JB	09/03/98

* Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64405 (Continued)
Tag: GB-26 (0-2')
Date/Time Collected: 08/26/98 12:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	*3	8270	JB	09/03/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	*3	8270	JB	09/03/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Butylbenzene	0.33	mg/kg	0.05	5035/8260	VFM	08/28/98
sec-Butylbenzene	0.15	mg/kg	0.05	5035/8260	VFM	08/28/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
September 04, 1998

FECL #: AA64405 (Continued)
Tag: GB-26 (0-2')
Date/Time Collected: 08/26/98 12:50
Matrix: Soil

Analysis	Q	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)							
GC/MS for Volatile Organics 5035 (Continued)							
2,2-Dichloropropane	U	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloropropene	U	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Ethylbenzene		0.21	mg/kg	0.05	5035/8260	VFM	08/28/9
Hexachlorobutadiene	U	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Isopropylbenzene	J	0.06	mg/kg	0.05	5035/8260	VFM	08/28/9
p-Isopropyltoluene		0.39	mg/kg	0.05	5035/8260	VFM	08/28/9
Methylene chloride	U	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Naphthalene		0.65	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Propylbenzene		0.13	mg/kg	0.05	5035/8260	VFM	08/28/9
Styrene	U	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1,2-Tetrachloroethane		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2,2-Tetrachloroethane		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Tetrachloroethene		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Toluene	J	0.14	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichlorobenzene	U	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trichlorobenzene		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1-Trichloroethane		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2-Trichloroethane		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichloroethene		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichlorofluoromethane		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichloropropane		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trimethylbenzene		Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3,5-Trimethylbenzene	J	0.96	mg/kg	0.05	5035/8260	VFM	08/28/9
Vinyl chloride	J	0.62	mg/kg	0.05	5035/8260	VFM	08/28/9
o-Xylene	U	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p,m-Xylene	J	0.18	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,3-Dichloropropene	J	0.72	mg/kg	0.05	5035/8260	VFM	08/28/9
	U	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64406
Tag: GB-27 (0-2')
Date/Time Collected: 08/26/98 13:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/9
pH	8.32	STD Units	0.01	9040	JH	08/27/9
Total Solids	89	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	10.3	mg/kg	1.0	6020	P R	08/31/9
Copper	9.4	mg/kg	1.0	6020	P R	08/31/9
Lead	5.2	mg/kg	1.0	6020	P R	08/31/9
Nickel	24.7	mg/kg	0.50	6020	P R	08/31/9
Zinc	31.8	mg/kg	1.0	6020	P R	08/31/9
Organics						
BNA Extraction	Completed			625/8270	S G	08/28
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9

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FECL #: AA64406 (Continued)
Tag: GB-27 (0-2')
Date/Time Collected: 08/26/98 13:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/01/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64406 (Continued)
Tag: GB-27 (0-2')
Date/Time Collected: 08/26/98 13:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru:
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	09/01/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64406 (Continued)
Tag: GB-27 (0-2')
Date/Time Collected: 08/26/98 13:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru:
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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FECL #: AA64406 (Continued)
Tag: GB-27 (0-2')
Date/Time Collected: 08/26/98 13:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rur
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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FECL #: AA64407
Tag: GB-28 (0-2')
Date/Time Collected: 08/26/98 13:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/98
pH	8.44	STD Units	0.01	9040	JH	08/27/98
Total Solids	89	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	12.1	mg/kg	1.0	6020	P R	08/31/98
Copper	12.0	mg/kg	1.0	6020	P R	08/31/98
Lead	5.8	mg/kg	1.0	6020	P R	08/31/98
Nickel	25.1	mg/kg	0.50	6020	P R	08/31/98
Zinc	48.2	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/28/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98

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O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64407 (Continued)
Tag: GB-28 (0-2')
Date/Time Collected: 08/26/98 13:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/29/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/29

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FECL #: AA64407 (Continued)
Tag: GB-28 (0-2')
Date/Time Collected: 08/26/98 13:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Hexachlorocyclopentadiene	~~Not detected~~ R	mg/kg	0.3	8270	JB	08/29/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/29/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/29/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98

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O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64407 (Continued)
Tag: GB-28 (0-2')
Date/Time Collected: 08/26/98 13:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R_r
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/29/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Butylbenzene	0.10	mg/kg	0.05	5035/8260	VFM	08/28/98
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichlorobenzene	0.32	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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FECL #: AA64414
Tag: GB-29 (0-2')
Date/Time Collected: 08/27/98 10:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/9
pH	8.25	STD Units	0.01	9040	JH	08/27/9
Total Solids	87	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	9.1	mg/kg	1.0	6020	P R	08/31/9
Copper	10.1	mg/kg	1.0	6020	P R	08/31/9
Lead	5.5	mg/kg	1.0	6020	P R	08/31/9
Nickel	20.9	mg/kg	0.50	6020	P R	08/31/9
Zinc	30.8	mg/kg	1.0	6020	P R	08/31/9
Organics						
DNA Extraction	Completed			625/8270	S G	08/28/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64407 (Continued)
Tag: GB-28 (0-2')
Date/Time Collected: 08/26/98 13:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Ethylbenzene	0.21	mg/kg	0.05	5035/8260	VFM	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p-Isopropyltoluene	0.27	mg/kg	0.05	5035/8260	VFM	08/28/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Naphthalene	0.23	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
',1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	0.32	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	0.25	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	0.17	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	0.63	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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September 04, 1998

FECL #: AA64409 (Continued)
Tag: GB-31 (0-2')
Date/Time Collected: 08/26/98 15:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorocyclopentadiene R	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98

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O'Brien & Gere Engineers, Inc.
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FECL #: AA64409 (Continued)
Tag: GB-31 (0-2')
Date/Time Collected: 08/26/98 15:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/01/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64409 (Continued)
Tag: GB-31 (0-2')
Date/Time Collected: 08/26/98 15:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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O'Brien & Gere Engineers, Inc.
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FECL #: AA64409 (Continued)
Tag: GB-31 (0-2')
Date/Time Collected: 08/26/98 15:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/ 9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/ 9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
			0.05	5035/8260	VFM	08/28

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FECL #: AA64413 (Continued)
Tag: GB-30 (0-2')
Date/Time Collected: 08/27/98 10:10
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rc
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/01/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/01/9

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FECL #: AA64413
Tag: GB-30 (0-2')
Date/Time Collected: 08/27/98 10:10
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02 9
pH	7.70	STD Units	0.01	9040	JH	08/27 9
Total Solids	88	%	1	160.3	JH	08/29 9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31 9
Chromium	5.6	mg/kg	1.0	6020	P R	08/31 9
Copper	5.9	mg/kg	1.0	6020	P R	08/31/9
Lead	3.9	mg/kg	1.0	6020	P R	08/31/9
Nickel	15.2	mg/kg	0.50	6020	P R	08/31 9
Zinc	27.0	mg/kg	1.0	6020	P R	08/31 9
Organics						
BNA Extraction	Completed			625/8270	S G	08/2 9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/01 9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/01 9
Acetophenone	Not detected	mg/kg	0.3	8270	JB	09/01/9
Aniline	Not detected	mg/kg	0.3	8270	JB	09/01/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Aminobiphenyl	Not detected	mg/kg	0.3	8270	JB	09/01 9
Benzidine	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzoic acid	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Benzyl alcohol	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9

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FECL #: AA64413 (Continued)
Tag: GB-30 (0-2')
Date/Time Collected: 08/27/98 10:10
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ra
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

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FECL #: AA64413 (Continued)
Tag: GB-30 (0-2')
Date/Time Collected: 08/27/98 10:10
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rc
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	09/01/9
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/01/9
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/01/9
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/9
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Phenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9

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FECL #: AA64409
Tag: GB-31 (0-2')
Date/Time Collected: 08/26/98 15:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/98
pH	8.03	STD Units	0.01	9040	JH	08/27/98
Total Solids	91	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	12.6	mg/kg	1.0	6020	P R	08/31/98
Copper	9.3	mg/kg	1.0	6020	P R	08/31/98
Lead	6.3	mg/kg	1.0	6020	P R	08/31/98
Nickel	28.2	mg/kg	0.50	6020	P R	08/31/98
Zinc	35.8	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/28/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98

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FECL #: AA64413 (Continued)
Tag: GB-30 (0-2')
Date/Time Collected: 08/27/98 10:10
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/2[illegible]
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/2[illegible]
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

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FECL #: AA64414 (Continued)
Tag: GB-29 (0-2')
Date/Time Collected: 08/27/98 10:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	09/01/9
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/01/9
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/01/9
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/9
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Phenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64414 (Continued)
Tag: GB-29 (0-2')
Date/Time Collected: 08/27/98 10:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rc
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/01/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/[illegible]9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/[illegible]
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/01/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64414 (Continued)
Tag: GB-29 (0-2')
Date/Time Collected: 08/27/98 10:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date RL
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Toluene	1.37	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64414 (Continued)
Tag: GB-29 (0-2')
Date/Time Collected: 08/27/98 10:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/[illegible]9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/[illegible]9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64408
Tag: GB-32 (0-2')
Date/Time Collected: 08/26/98 15:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/98
pH	8.64	STD Units	0.01	9040	JH	08/27/98
Total Solids	88	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	8.9	mg/kg	1.0	6020	P R	08/31/98
Copper	8.2	mg/kg	1.0	6020	P R	08/31/98
Lead	5.3	mg/kg	1.0	6020	P R	08/31/98
Nickel	20.7	mg/kg	0.50	6020	P R	08/31/98
Zinc	31.3	mg/kg	1.0	6020	P R	08/31/98
Organics						
DNA Extraction	Completed			625/8270	S G	08/28/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64408 (Continued)
Tag: GB-32 (0-2')
Date/Time Collected: 08/26/98 15:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rur
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	08/29/98
Chrysene	Not detected	mg/kg	0.3	8270	JB	08/29/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	08/29/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	08/29/98

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64408 (Continued)
Tag: GB-32 (0-2')
Date/Time Collected: 08/26/98 15:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Hexachlorocyclopentadiene	R ~~Not detected~~	mg/kg	0.3	8270	JB	08/29/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	08/29/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	08/29/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
Phenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	08/29/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	08/29/98

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64408 (Continued)
Tag: GB-32 (0-2')
Date/Time Collected: 08/26/98 15:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	08/29/98
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	08/29/98
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
ec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
' 3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64408 (Continued)
Tag: GB-32 (0-2')
Date/Time Collected: 08/26/98 15:00
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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O'Brien & Gere Engineers, Inc.
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FECL #: AA64410
Tag: GB-33 (0-2')
Date/Time Collected: 08/26/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru:
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/98
pH	10.46	STD Units	0.01	9040	JH	08/27/98
Total Solids	90	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	9.5	mg/kg	1.0	6020	P R	08/31/98
Copper	11.9	mg/kg	1.0	6020	P R	08/31/98
Lead	5.4	mg/kg	1.0	6020	P R	08/31/98
Nickel	23.1	mg/kg	0.50	6020	P R	08/31/98
Zinc	31.3	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/28/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01/98
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64410 (Continued)
Tag: GB-33 (0-2')
Date/Time Collected: 08/26/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01 98
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/01 98
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01 98
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/01.98
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/01/98
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-butyl phthalate	0.4	mg/kg	0.3	8270	JB	09/01/98
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/01/98
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/01/98

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64410 (Continued)
Tag: GB-33 (0-2')
Date/Time Collected: 08/26/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	09/01/98
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/01/98
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/01/98
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
Phenol	Not detected	mg/kg	0.3	8270	JB	09/01/98
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/01/98
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/01/98

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September 04, 1998

FECL #: AA64410 (Continued)
Tag: GB-33 (0-2')
Date/Time Collected: 08/26/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/01/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/01/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64410 (Continued)
Tag: GB-33 (0-2')
Date/Time Collected: 08/26/98 15:50
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/98

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FECL #: AA64415
Tag: GB-41 (0-2')
Date/Time Collected: 08/27/98 11:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rı
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/9
pH	8.59	STD Units	0.01	9040	JH	08/27/9
Total Solids	84	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	7.5	mg/kg	1.0	6020	P R	08/31/9
Copper	6.4	mg/kg	1.0	6020	P R	08/31/9
Lead	4.0	mg/kg	1.0	6020	P R	08/31/9
Nickel	17.1	mg/kg	0.50	6020	P R	08/31/9
Zinc	19.9	mg/kg	1.0	6020	P R	08/31/9
Organics						
NA Extraction	Completed			625/8270	S G	08/28/9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Benzidine UJ UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Benzoic acid	Not detected	mg/kg	0.3	8270	JB	09/03/9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/03/9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/03/9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/03/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/03/9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9

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O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64415 (Continued)
Tag: GB-41 (0-2')
Date/Time Collected: 08/27/98 11:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/03/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/03/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Di-n-butyl phthalate	0.6	mg/kg	0.3	8270	JB	09/0[illegible]
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/0?

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O'Brien & Gere Engineers, Inc.
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FECL #: AA64415 (Continued)
Tag: GB-41 (0-2')
Date/Time Collected: 08/27/98 11:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/03/9
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/03/9
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/03/9
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Phenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9

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O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64415 (Continued)
Tag: GB-41 (0-2')
Date/Time Collected: 08/27/98 11:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/03/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/2
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/2
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

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FECL #: AA64415 (Continued)
Tag: GB-41 (0-2')
Date/Time Collected: 08/27/98 11:15
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

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September 04, 1998

FECL #: AA64416
Tag: GB-40 (0-2')
Date/Time Collected: 08/27/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02 9
pH	7.87	STD Units	0.01	9040	JH	08/27 9
Total Solids	89	%	1	160.3	JH	08/29 9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31 9
Chromium	6.1	mg/kg	1.0	6020	P R	08/31 9
Copper	5.7	mg/kg	1.0	6020	P R	08/31 9
Lead	5.3	mg/kg	1.0	6020	P R	08/31 9
Nickel	16.3	mg/kg	0.50	6020	P R	08/31 9
Zinc	21.5	mg/kg	1.0	6020	P R	08/31 9
Organics						
BNA Extraction	Completed			625/8270	S G	08/28 9
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	09/03 9
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	09/03 9
Acetophenone UJ	Not detected	mg/kg	0.3	8270	JB	09/03 9
Aniline UJ	Not detected	mg/kg	0.3	8270	JB	09/03 9
Anthracene	Not detected	mg/kg	0.3	8270	JB	09/03 9
4-Aminobiphenyl UJ	Not detected	mg/kg	0.3	8270	JB	09/03 9
Benzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/03 9
Benzoic acid UJ	Not detected	mg/kg	0.3	8270	JB	09/03 9
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	09/03 9
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/03 9
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/03 9
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	09/03 9
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	09/03 9
Benzyl alcohol UJ	Not detected	mg/kg	0.3	8270	JB	09/03 9
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	09/03 9
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	09/03 9
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	09/03 9
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	09/03 9
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/03 9
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03

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September 04, 1998

FECL #: AA64416 (Continued)
Tag: GB-40 (0-2')
Date/Time Collected: 08/27/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
1-Chloronaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	09/03/9
Chrysene	Not detected	mg/kg	0.3	8270	JB	09/03/9
p,m-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
o-Cresol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Dibenz(a,j)acridine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Dibenzo(ah)anthracene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Dibenzofuran UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
3,3'-Dichlorobenzidine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,6-Dichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9
p-Dimethylaminoazobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
7,12-Dimethylbenz(a)anthacene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
a-,a-Dimethylphenethylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Diphenylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,2-Diphenylhydrazine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	09/03/9
Ethyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Fluorene	Not detected	mg/kg	0.3	8270	JB	09/03/9

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O'Brien & Gere Engineers, Inc.
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FECL #: AA64416 (Continued)
Tag: GB-40 (0-2')
Date/Time Collected: 08/27/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	0.3	8270	JB	09/03/9
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	09/03/9
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Isophorone	Not detected	mg/kg	0.3	8270	JB	09/03/9
3-Methylcholanthrene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Methyl methanesulfonate UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Methylnaphthalene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Naphthalene	Not detected	mg/kg	0.3	8270	JB	09/03/9
1-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Naphthylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Nitoraniline UJ	Not detected	mg/kg	0.3	8270	JB	09/0
3-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/0
4-Nitroaniline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitrosodimethylamine	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitrosopiperidine UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pentachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pentachloronitrobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
Phenacetin UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	09/03/9
Phenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
2-Picoline UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pronamide UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
Pyrene	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	09/03/9
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	0.3	8270	JB	09/03/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64416 (Continued)
Tag: GB-40 (0-2')
Date/Time Collected: 08/27/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	09/03/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	09/03/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64416 (Continued)
Tag: GB-40 (0-2')
Date/Time Collected: 08/27/98 11:35
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64417
Tag: GB-39 (0-2')
Date/Time Collected: 08/27/98 11:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/98
pH	7.85	STD Units	0.01	9040	JH	08/27/98
Total Solids	78	%	1	160.3	JH	08/29/98
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/98
Chromium	200	mg/kg	1.0	6020	P R	08/31/98
Copper	47.3	mg/kg	1.0	6020	P R	08/31/98
Lead	7.2	mg/kg	1.0	6020	P R	08/31/98
Nickel	651	mg/kg	0.50	6020	P R	08/31/98
Zinc	46.8	mg/kg	1.0	6020	P R	08/31/98
Organics						
BNA Extraction	Completed			625/8270	S G	08/28/98
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	*5	8270	JB	09/03/98
Acenaphthylene	Not detected	mg/kg	*5	8270	JB	09/03/98
Acetophenone	Not detected	mg/kg	*5	8270	JB	09/03/98
Aniline	Not detected	mg/kg	*5	8270	JB	09/03/98
Anthracene	Not detected	mg/kg	*5	8270	JB	09/03/98
4-Aminobiphenyl	Not detected	mg/kg	*5	8270	JB	09/03/98
Benzidine	Not detected	mg/kg	*5	8270	JB	09/03/98
Benzoic acid	Not detected	mg/kg	*5	8270	JB	09/03/98
Benzo(a)anthracene	Not detected	mg/kg	*5	8270	JB	09/03/98
Benzo(b)fluoranthene	Not detected	mg/kg	*5	8270	JB	09/03/98
Benzo(k)fluoranthene	Not detected	mg/kg	*5	8270	JB	09/03/98
Benzo(ghi)perylene	Not detected	mg/kg	*5	8270	JB	09/03/98
Benzo(a)pyrene	Not detected	mg/kg	*5	8270	JB	09/03/98
Benzyl alcohol	Not detected	mg/kg	*5	8270	JB	09/03/98
Bis(2-chloroethoxy)methane	Not detected	mg/kg	*5	8270	JB	09/03/98
Bis(2-chloroethyl)ether	Not detected	mg/kg	*5	8270	JB	09/03/98
Bis(2-chlorisopropyl)ether	Not detected	mg/kg	*5	8270	JB	09/03/98
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	*5	8270	JB	09/03/98
4-Bromophenyl phenyl ether	Not detected	mg/kg	*5	8270	JB	09/03/98
Butyl benzyl phthalate	Not detected	mg/kg	*5	8270	JB	09/03/98

* Higher detection limits due to matrix interference and/or high target concentrations.

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64417 (Continued)
Tag: GB-39 (0-2')
Date/Time Collected: 08/27/98 11:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
4-Chloroaniline	Not detected	mg/kg	* 5	8270	JB	09/03/9
1-Chloronaphthalene	Not detected	mg/kg	* 5	8270	JB	09/03/9
2-Chloronaphthalene	Not detected	mg/kg	* 5	8270	JB	09/03/9
4-Chloro-3-methylphenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
2-Chlorophenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
4-Chlorophenyl phenyl ether	Not detected	mg/kg	* 5	8270	JB	09/03/9
Chrysene	Not detected	mg/kg	* 5	8270	JB	09/03/9
p,m-Cresol	Not detected	mg/kg	* 5	8270	JB	09/03/9
o-Cresol	Not detected	mg/kg	* 5	8270	JB	09/03/9
Dibenz(a,j)acridine	Not detected	mg/kg	* 5	8270	JB	09/03/9
Dibenzo(ah)anthracene	Not detected	mg/kg	* 5	8270	JB	09/03/9
Dibenzofuran	Not detected	mg/kg	* 5	8270	JB	09/03/9
Di-n-butyl phthalate	Not detected	mg/kg	* 5	8270	JB	09/0
1,2-Dichlorobenzene	Not detected	mg/kg	* 5	8270	JB	09/03/9
1,3-Dichlorobenzene	Not detected	mg/kg	* 5	8270	JB	09/03/9
1,4-Dichlorobenzene	Not detected	mg/kg	* 5	8270	JB	09/03/9
3,3'-Dichlorobenzidine	Not detected	mg/kg	* 5	8270	JB	09/03/9
2,4-Dichlorophenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
2,6-Dichlorophenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
Diethyl phthalate	Not detected	mg/kg	* 5	8270	JB	09/03/9
p-Dimethylaminoazobenzene	Not detected	mg/kg	* 5	8270	JB	09/03/9
7,12-Dimethylbenz(a)anthacene	Not detected	mg/kg	* 5	8270	JB	09/03/9
a-,a-Dimethylphenethylamine	Not detected	mg/kg	* 5	8270	JB	09/03/9
2,4-Dimethylphenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
Dimethyl phthalate	Not detected	mg/kg	* 5	8270	JB	09/03/9
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
2,4-Dinitrophenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
2,4-Dinitrotoluene	Not detected	mg/kg	* 5	8270	JB	09/03/9
2,6-Dinitrotoluene	Not detected	mg/kg	* 5	8270	JB	09/03/9
Diphenylamine	Not detected	mg/kg	* 5	8270	JB	09/03/9
1,2-Diphenylhydrazine	Not detected	mg/kg	* 5	8270	JB	09/03/9
Di-n-octyl phthalate	Not detected	mg/kg	* 5	8270	JB	09/03/9
Ethyl methanesulfonate	Not detected	mg/kg	* 5	8270	JB	09/03/9
Fluoranthene	Not detected	mg/kg	* 5	8270	JB	09/03/9
Fluorene	Not detected	mg/kg	* 5	8270	JB	09/03/9

* Higher detection limits due to matrix interference and/or high target concentrations.

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64417 (Continued)
Tag: GB-39 (0-2')
Date/Time Collected: 08/27/98 11:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Rt
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	* 5	8270	JB	09/03/9
Hexachlorobutadiene	Not detected	mg/kg	* 5	8270	JB	09/03/9
Hexachlorocyclopentadiene R	~~Not detected~~	mg/kg	* 5	8270	JB	09/03/9
Hexachloroethane	Not detected	mg/kg	* 5	8270	JB	09/03/9
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	* 5	8270	JB	09/03/9
Isophorone	Not detected	mg/kg	* 5	8270	JB	09/03/9
3-Methylcholanthrene UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Methyl methanesulfonate UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
2-Methylnaphthalene UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Naphthalene	Not detected	mg/kg	* 5	8270	JB	09/03/9
1-Naphthylamine UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
2-Naphthylamine UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
)-Nitoraniline UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
3-Nitroaniline UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
4-Nitroaniline UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Nitrobenzene	Not detected	mg/kg	* 5	8270	JB	09/03/9
2-Nitrophenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
4-Nitrophenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
N-Nitroso-di-n-butylamine UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
N-Nitrosodimethylamine	Not detected	mg/kg	* 5	8270	JB	09/03/9
N-Nitrosodiphenylamine	Not detected	mg/kg	* 5	8270	JB	09/03/9
N-Nitrosopiperidine UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Pentachlorobenzene UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Pentachloronitrobenzene UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Pentachlorophenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
Phenacetin UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Phenanthrene	Not detected	mg/kg	* 5	8270	JB	09/03/9
Phenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
2-Picoline UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Pronamide UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
Pyrene	Not detected	mg/kg	* 5	8270	JB	09/03/9
1,2,4,5-Tetrachlorobenzene UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
2,3,4,6-Tetrachlorophenol UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	* 5	8270	JB	09/03/9
2,4,5-Trichlorophenol UJ	Not detected	mg/kg	* 5	8270	JB	09/03/9

* Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64417 (Continued)
Tag: GB-39 (0-2')
Date/Time Collected: 08/27/98 11:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/kg	* 5	8270	JB	09/03/9
N-Nitrosodi-n-propylamine	Not detected	mg/kg	* 5	8270	JB	09/03/9
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichlorobenzene	0.63	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichlorobenzene	0.11	mg/kg	0.05	5035/8260	VFM	08/28/9
1,4-Dichlorobenzene	0.13	mg/kg	0.05	5035/8260	VFM	08/28/9
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

* Higher detection limits due to matrix interference and/or high target concentrations.

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O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64417 (Continued)
Tag: GB-39 (0-2')
Date/Time Collected: 08/27/98 11:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Ethylbenzene	0.10	mg/kg	0.05	5035/8260	VFM	08/28/9
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Methylene chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Trichlorofluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,3-Trichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	08/28/9

FECL

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FECL #: AA64418
Tag: GB-37 (0-2')
Date/Time Collected: 08/27/98 12:30
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	JP	09/02/
pH	8.81	STD Units	0.01	9040	JH	08/27/
Total Solids	88	%	1	160.3	JH	08/29/
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	PR	08/31/
Chromium	8.5	mg/kg	1.0	6020	PR	08/31/
Copper	9.4	mg/kg	1.0	6020	PR	08/31/
Lead	5.0	mg/kg	1.0	6020	PR	08/31/
Nickel	20.9	mg/kg	0.50	6020	PR	08/31/
Zinc	27.1	mg/kg	1.0	6020	PR	08/31/

FECL #: AA64419
Tag: GB-36 (0-2')
Date/Time Collected: 08/27/98 12:55
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	JP	09/02/
pH	9.19	STD Units	0.01	9040	JH	08/27/
Total Solids	88	%	1	160.3	JH	08/29/
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	PR	08/31/
Chromium	8.6	mg/kg	1.0	6020	PR	08/31/
Copper	9.6	mg/kg	1.0	6020	PR	08/31/
Lead	14.5	mg/kg	1.0	6020	PR	08/31/
Nickel	20.4	mg/kg	0.50	6020	PR	08/31/
Zinc	27.6	mg/kg	1.0	6020	PR	08/31/

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September 04, 1998

FECL #: AA64420
Tag: GB-38 (0-2')
Date/Time Collected: 08/27/98 12:45
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/kg	0.5	9010	J P	09/02/9
pH	9.10	STD Units	0.01	9040	JH	08/27/9
Total Solids	90	%	1	160.3	JH	08/29/9
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	P R	08/31/9
Chromium	9.1	mg/kg	1.0	6020	P R	08/31/9
Copper	10.1	mg/kg	1.0	6020	P R	08/31/9
Lead	5.7	mg/kg	1.0	6020	P R	08/31/9
Nickel	23.7	mg/kg	0.50	6020	P R	08/31/9
Zinc	27.6	mg/kg	1.0	6020	P R	08/31/9

FECL #: AA64421
Tag: TB-2
Date/Time Collected:
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics						
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	08/30/9
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
Bromoform	Not detected	mg/L	0.001	8260	VFM	08/30/9
Bromomethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	08/30/9
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	08/30/9
Chloroethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
2-Chloroethylvinyl ether	Not detected	mg/L	0.001	8260	VFM	08/30/9
Chloroform	Not detected	mg/L	0.001	8260	VFM	08/30/9
Chloromethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	08/30/9

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O'Brien & Gere Engineers, Inc.
September 04, 1998

FECL #: AA64421 (Continued)
Tag: TB-2
Date/Time Collected:
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
Volatile Organics (Continued)						
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	08/30/9
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	08/30/9
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	08/30/9
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	08/30/9
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	08/30/9
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	08/30/9
Methylene Chloride	Not detected	mg/L	0.001	8260	VFM	08/30/9
Styrene	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	08/3(
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	08/30
Toluene	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	08/30/9
Trichlorofluoromethane	Not detected	mg/L	0.001	8260	VFM	08/30/9
Vinyl Chloride	Not detected	mg/L	0.001	8260	VFM	08/30/9
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	08/30/9
o-Xylene	Not detected	mg/L	0.001	8260	VFM	08/30/9
Acetone	Not detected	mg/L	0.05	8260	VFM	08/30/9
2-Butanone	Not detected	mg/L	0.05	8260	VFM	08/30/9
Carbon disulfide	Not detected	mg/L	0.05	8260	VFM	08/30/9
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	08/30/9
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	08/30/9

Data Validation Report - Soil Samples

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Coldwater Road Investigation
Flint, Michigan

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August 1999

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Appendix A USEPA method sample results for: Volatile Organics, Semivolatile Organics, Metals and Cyanide

Executive summary

This data validation report addresses data quality for soil samples collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) on 5/3/99.

The environmental samples, equipment blank and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of cadmium, chromium, copper, lead, nickel, and zinc), and cyanide by United States Environmental Protection Agency (USEPA) Methods. The analytical data generated for this investigation were evaluated by O'Brien & Gere using the quality assurance/quality control (QA/QC) criteria established in the USEPA Methods and the Quality Assurance Project Plan (QAPP) generated for this project (O'Brien & Gere 1999). Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process, none of the data were rejected as a result of major deficiencies which were detected in the data generation process. The volatile organic, semivolatile organic, metal, and cyanide data analyzed were determined to be 100% usable for qualitative and quantitative purposes.

1. Introduction

This data validation report addresses the results of a data quality evaluation for soil samples, equipment blank, and trip blank collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere on 5/3/99. The environmental samples, equipment blank, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of cadmium, chromium, copper, lead, nickel, and zinc), and cyanide using United States Environmental Protection Agency (USEPA) Methods listed in Table 1-1. The quantity and types of samples that were submitted for data validation are presented in Table 1-1 below.

Table 1-1. ***Sample cross reference list***

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Laboratory ID	Client ID	
AA75879-AA75889	5/3/99	AA75879	GB-42(0-2')	volatile organics by USEPA methods 5035/8260B, semivolatile organics by USEPA methods 3550B/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3051/6020, cyanide by USEPA method 335.2
		AA75880	GB-43(0-2')	
		AA75881	GB-44(0-2')	
		AA75882	GB-45(0-2	
		AA75883	GB-46(0-2')	
		AA75884	GB-47(0-2')	
		AA75885	GB-44(0-2')/MS	
		AA75886	GB-44(0-2')/MSD	
		AA75887	Duplicate Soil [GB-44(0-2')]	
		AA75888	Equipment Blank Soil	
		AA75889	Trip Blank Soil	

Note:

MS indicates matrix spike.
MSD indicates matrix spike duplicate.

References:

USEPA Methods 5035/8260B, 3550B/8270C, 3051/6020 - USEPA. 1996. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846,* 3rd Edition. Washington D.C.

USEPA Method 335.2 - USEPA. 1983. *Methods for Chemical Analysis of Water & Wastes,* Cincinnati, Ohio.

1.1. General considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the system and especially to samples, their measurement, and the actual data output. Accordingly, this report outlines deviations from the applicable quality control (QC) criteria outlined in the following documents:

- O'Brien & Gere Engineers, Inc. 1999. *Quality Assurance Project Plan, Coldwater Road Facility Remedial Investigation*, Syracuse, New York.
- USEPA. 1983. *Methods For Chemical Analysis of Water and Wastes*, Cincinnati, Ohio.
- USEPA. 1996 *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*, 3rd Edition. Washington DC.

Excursions from the QA/QC criteria were qualified based on guidance provided in the following documents:

- USEPA. 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA-540/R-94/012. Washington D.C.
- USEPA. 1994b. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540/R-94/013. Washington D.C.

1.2. Analytical methods

The environmental samples, equipment blank, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of VOCs, SVOCs, metals (consisting of cadmium, chromium, copper, lead, nickel, and zinc), and cyanide using USEPA Methods listed in Table 1-1.

The following chapters of this document address distinct aspects of the validation process. Chapter 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Finally, data completeness and usability are discussed in Chapter 4.

The annotated analytical results generated by this validation are presented in Appendix A.

2. Data validation protocols

2.1. Sample analyses parameters

The validation of organic and inorganic analyses for this project utilized the requirements presented in the analytical methodology and the Quality Assurance Project Plan (QAPP) (O'Brien & Gere 1999) generated for this project. Qualification of sample data was based on the data validation guidelines. The following QA/QC parameters were evaluated for organic analyses where applicable:

1. Holding times and sample preservation
2. Percent solids
3. Calibration
4. Blank analysis
5. Surrogate analysis
6. Matrix spike/matrix spike duplicate (MS/MSD) analysis
7. Laboratory control sample (LCS) analysis
8. Internal standard performance
9. Gas chromatograph/mass spectrometry (GC/MS) tune performance
10. Field duplicate sample analysis
11. Target identification
12. Compound quantitation and reported detection limits
13. System performance
14. Documentation completeness

The following QA/QC parameters were evaluated for inorganic analyses where applicable:

1. Holding Times and sample preservation
2. Percent solids
3. Calibration
4. Inductively coupled plasma (ICP)/MS tune performance
5. Blank analysis
6. Internal standard performance
7. ICP interference check sample
8. MS/MSD analysis
9. Laboratory duplicate analysis

10. LCS analysis
11. ICP serial dilution test
12. Field duplicate sample analysis
13. Analyte quantitation and reported detection limits
14. System performance
15. Documentation completeness

The following qualifiers have been used in this data validation:

U Indicates that the analyte was analyzed for, but was not detected. The sample-specific reporting limit is presented and adjusted for dilution, as appropriate.

J Indicates that the concentration should be considered approximate. This qualifier indicates that the data validation process identifies a deficiency in the data generation process.

UJ Indicates that the sample-specific reporting limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

3. Data quality evaluation

3.1. Background

This chapter summarizes the quality assurance/quality control (QA/QC) parameters, validation criteria, and qualifications performed on the sample data when the QA/QC parameters specified in Chapter 2 did not meet criteria. Samples that required qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records as listed in Table 1-1. The data quality evaluation resulted in only one qualifier for an individual sample result. QA/QC excursions which did not result in the qualification of a target analyte result or additional qualification if the target analyte result was previously qualified are not discussed. In a case when several qualifiers are applied to one target analyte result, the cumulative effect of the various excursions were employed in assigning the final data qualifier.

3.2. VOC analyses

3.2.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for VOAs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Percent solids
3. Surrogate analysis
4. MS/MSD analysis
5. LCS analysis
6. Internal standard performance
7. GC/MS tune performance
8. Compound quantitation and reported detection limits
9. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.2.2 Calibration

The percent drift (%D) for methylene chloride and acetone in the continuing calibration analyzed 5/4/99 exceeded the criterion of 50 %D. As a result of the continuing calibration excursion, the results for methylene chloride and acetone in samples associated with the calibration were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the calibration excursion:

Table 3-1. *Calibration excursions for volatile organic analyses*

Continuing calibration ID	Analyte	Excursion	Affected Sample Results	Action
5/4/99	methylene chloride	201.6%D	GB-42(0-2') GB-43(0-2') GB-44(0-2') GB-45(0-2 GB-46(0-2') GB-47(0-2') Duplicate Soil [GB-44(0-2')]	UJ
5/4/99	acetone	102.6%D	GB-42(0-2') GB-43(0-2') GB-44(0-2') GB-45(0-2 GB-46(0-2') GB-47(0-2') Duplicate Soil [GB-44(0-2')]	J

Note: %D indicates percent drift.

3.2.3. Blank analysis

Methylene chloride and toluene were detected in blanks analyzed for volatile organics. The blank with the highest target analyte concentration was used to evaluate the associated samples. Samples which contained toluene at less than five times the blank concentration, or ten times the blank concentration in the case of methylene chloride, were qualified as undetected due to the blank contamination, as required by the USEPA data validation guidelines. The following table presents a summary of the samples qualified as a result of the blank excursions:

Table 3-2. Blank excursions for volatile organic analyses

Blank ID	Analyte	Detected Concentration	Affected Sample Results	Action
Preparation Blank 990504	methylene chloride	37.7 ug/L	GB-42(0-2') GB-43(0-2') GB-44(0-2') GB-45(0-2 GB-46(0-2') GB-47(0-2') Duplicate Soil [GB-44(0-2')]	3.19 mg/Kg U 2.95 mg/Kg U 2.46 mg/Kg U 2.4 mg/Kg U 2.36 mg/Kg U 2.55 mg/Kg U 2.44 mg/Kg U
Equipment Blank 5/3/99	acetone	1.1 mg/L	GB-42(0-2') GB-43(0-2') GB-44(0-2') GB-45(0-2 GB-46(0-2') GB-47(0-2') Duplicate Soil [GB-44(0-2')]	3.6 mg/Kg U 3.0 mg/Kg U 1.3 mg/Kg U 0.8 mg/Kg U 1.1 mg/Kg U 1.2 mg/Kg U 1.1 mg/Kg U
Equipment Blank 5/3/99	toluene	0.001 mg/L	GB-42(0-2')	0.15 mg/Kg U

3.2.4. Field duplicate analysis

The difference between the field duplicate and the associated sample for trichloroethene was greater than the limit used in the data validation process. As a result of this excursion the results for trichloroethene were qualified as approximate (UJ, J). The following table summarizes the samples qualified as a result of the field duplicate excursion:

Table 3-3. Field duplicate excursion for volatile organic analyses

Field Duplicate ID	Analyte	Excursion	Affected Sample Results	Action
Duplicate Soil [GB-44(0-2')]	trichloroethene	difference greater than 2 times the detection limit	Duplicate Soil [GB-44(0-2')] GB-44(0-2')	UJ J

3.2.5. Target identification

As a result of retention time and mass spectral evaluation, the detected result reported for bromochloromethane in sample Duplicate Soil [GB-44(0-2')] was corrected to nondetected.

3.2.6. Documentation completeness

The information pertaining to the transfer of the samples within the laboratory which was recorded on the external chain-of-custody was incomplete for samples collected 5/3/99. The laboratory Quality Assurance Officer documented the missing information and this information was included in the project file.

The results for methylene chloride and acetone were not reported in the sample results. The corrected sample results were provided by the laboratory at a later date as supplemental data. A second set of corrected results was later submitted since the percent solids data were not included in the first set of corrected results. Compounds that were not supported with calibration, LCS, MS/MSD and blank information were incorrectly reported in the sample results.

A complete listing of the injections utilized by the analyst during the sample analysis was not provided for review. Supplemental injection sequence information was provided at a later date.

The LCS recoveries for the complete target list were not provided by the laboratory. This information was provided at a later date as supplemental data.

The surrogate and internal standard recoveries were not provided for the LCS and blank analyses. This information was provided at a later date as supplemental data.

The percent drift for the complete target list in the continuing calibrations were not provided by the laboratory. This information was provided at a later date as supplemental data.

3.3. SVOC analyses

3.3.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for SVOCs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation

2. Percent solids
3. Calibration
4. Blank analysis
5. Surrogate analysis
6. MS/MSD analysis
7. Internal standard performance
8. GC/MS tune performance
9. Field duplicate sample analysis
10. Target identification
11. Compound quantitation
12. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.3.2. LCS analysis

The recovery for analytes in the LCS analyzed for semivolatile organics was less than the lower limit listed in the QAPP. As a result of this excursion the results were qualified as approximate (UJ). The following table presents a summary of the samples qualified as a result of the LCS excursion:

Table 3-4. *LCS excursions for semivolatile organic analyses*

LCS ID	Analyte	Excursion	Affected Sample Results	Action
LCS 5/4/99	bis(2-chloroisopropyl)ether	43.9%R	GB-42(0-2') GB-43(0-2') GB-44(0-2') GB-45(0-2 GB-46(0-2') GB-47(0-2') Duplicate Soil	UJ
LCS 5/4/99	n-nitroso-di-n-propylamine	48.5%R	GB-42(0-2') GB-43(0-2') GB-44(0-2') GB-45(0-2 GB-46(0-2') GB-47(0-2') Duplicate Soil	UJ

Note:
%R indicates percent recovery.

3.3.3. Reported detection limits

The detection limits for the following samples were elevated due to matrix interference: GB-45(0-2'), GB-47(0-2').

3.3.4. Documentation completeness

The information pertaining to the transfer of the samples within the laboratory which was recorded on the external chain-of-custody was incomplete for samples collected 5/3/99. The laboratory Quality Assurance Officer documented the missing information and this information was included in the project file.

A complete listing of the injections utilized by the analyst during the sample analysis was not provided for review. Supplemental injection sequence information was provided at a later date.

The LCS recoveries for the complete target list were not provided by the laboratory. This information was provided at a later date as supplemental data.

The surrogate and internal standard recoveries were not provided for the LCS and blank analyses. This information was provided at a later date as supplemental data.

The percent drift for the complete target list in the continuing calibrations were not provided by the laboratory. This information was provided at a later date as supplemental data.

3.4. Metals and cyanide analyses

3.4.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for metals and mercury were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Percent solids
3. Calibration
4. ICP/MS tune performance
5. Blank analysis

6. Internal standard performance
7. ICP interference check sample
8. MS/MSD analysis
9. Laboratory duplicate analysis
10. LCS analysis
11. Analyte quantitation and reported detection limits
12. System performance
13. Documentation completeness

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.4.2. Field duplicate analysis

The difference between the field duplicate result and the associated sample result for cadmium was greater than the limit used in the data validation process. As a result of this excursion the results for cadmium were qualified as approximate (UJ, J). The following table presents a summary of the samples qualified as a result of the field duplicate excursion:

Table 3-5. *Field duplicate excursion for metal analyses*

Field Duplicate ID	Analyte	Excursion	Affected Sample Results	Action
Duplicate Soil (GB-44(0-2')	cadmium	difference greater than 2 times the detection limit	GB-42(0-2')	UJ
			GB-43(0-2')	J
			GB-44(0-2')	J
			GB-45(0-2	J
			GB-46(0-2')	J
			GB-47(0-2')	J
			Duplicate Soil [GB-44(0-2')]	J

3.4.3. ICP serial dilution

The relative percent difference for zinc and lead in the ICP serial dilution were outside of the method limits. The analysis was repeated with similar results. As a result of these excursions the results were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the ICP serial dilution excursions:

Table 3-6. ***ICP serial dilution excursions for metal analyses***

Serial Dilution ID	Analyte	Excursion	Affected Sample Results	Action
GB-44(0-2')	zinc	12RPD	GB-42(0-2')	J
	lead	12RPD	GB-43(0-2')	
			GB-44(0-2')	
			GB-45(0-2	
			GB-46(0-2')	
			GB-47(0-2')	
			Duplicate Soil	

Note:
RPD indicates relative percent difference.

4. Summary and data usability

The information pertaining to the transfer of the samples within the laboratory which was recorded on the external chain-of-custody was incomplete for samples collected 5/3/99. The laboratory Quality Assurance Officer documented the missing information and this information was included in the project file.

The soil samples, equipment blank, and trip blank collected from the GM Coldwater Road WWTP Basin Investigation in Flint, Michigan, were evaluated based on QA/QC criteria established by USEPA Methods as listed in Section 1-2 and the QAPP. Data validation qualifiers were applied utilizing the USEPA data validation guidelines. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data is considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity. The use of approximated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

The following paragraphs present the precision, sensitivity, accuracy, representativeness, comparability, and completeness (PSARCC) parameters used in the evaluation of the sample data.

Precision is measured through the evaluation of field duplicate samples and MS/MSD samples. None of the VOC, SVOC, metals, and cyanide data were rejected due to precision excursions.

Sensitivity is established by reported detection limits which represent measurable concentrations of analytes which can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project.

Matrix spike samples, internal standard recoveries, surrogate recoveries, LCS recoveries, and initial and continuing calibration criteria indicate the

accuracy of the data. None of the VOC, SVOC, metals, and cyanide data were rejected due to accuracy excursions.

Holding times, sample preservation, blank analysis, and compound identification and quantification are indicators of the representativeness of the analytical data. None of the VOC, SVOC, metals, and cyanide data were rejected due to representativeness excursions.

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

As a result of the data validation process, none of the data were rejected as a result of major deficiencies which were detected in the data generation process. The volatile organic, semivolatile organic, metal, and cyanide data analyzed were determined to be 100% usable for qualitative and quantitative purposes.

References

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FECL

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O'Brien & Gere Engineers, Inc.
June 17, 1999

FECL #: AA75879
Tag: GB-42 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.6	9010	J P	05/03/99
pH	9.18	STD Units	0.1	9040	I M	05/04/99
Total Solids	87.4	%	1	160.3	AH	05/03/99
Metals						
Cadmium	UJ Not detected	mg/kg	0.05	6020	E B	05/05/99
Chromium	7.59	mg/kg	0.20	6020	E B	05/05/99
Copper	8.6	mg/kg	1.0	6020	E B	05/05/99
Lead	J 7.6	mg/kg	1.0	6020	E B	05/05/99
Nickel	16.9	mg/kg	0.50	6020	E B	05/05/99
Zinc	J 28.6	mg/kg	1.0	6020	E B	05/05/99
Organics						
DNA Extraction	Completed			625/8270	C E	05/03/99
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	UJ Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Chrysene	Not detected	mg/kg	0.3	8270	JB	05/05/99

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FECL #: AA75879 (Continued)
Tag: GB-42 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
p,m-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
o-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
`.4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluorene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Isophorone	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Naphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99

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FECL #: AA75879 (Continued)
Tag: GB-42 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,5-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

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FECL #: AA75879 (Continued)
Tag: GB-42 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,3-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~2,2-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1-Dichloropropene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Hexachlorobutadiene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride 3.19 UJ	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1,1,2-Tetrachloroethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Toluene	U 0.15	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,4-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Trichlorofluoromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	0.22	mg/kg	0.05	5035/8260	VFM	05/04/99
p,m-Xylene	0.07	mg/kg	0.05	5035/8260	VFM	05/04/99
~~cis-1,3-Dichloropropene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone 3.6 UJ	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99

FECL #: AA75879 (Continued)
Tag: GB-42 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
Carbon disulfide	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
~~Benzyl chloride~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75880
Tag: GB-43 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.6	9010	J P	05/03/99
pH	8.81	STD Units	0.1	9040	I M	05/04/99
Total Solids	87.9	%	1	160.3	AH	05/03/99
Metals						
Cadmium	0.12 J	mg/kg	0.05	6020	E B	05/05/99
Chromium	9.20	mg/kg	0.20	6020	E B	05/05/99
Copper	14.2	mg/kg	1.0	6020	E B	05/05/99
Lead	8.5 J	mg/kg	1.0	6020	E B	05/05/99
Nickel	18.0	mg/kg	0.50	6020	E B	05/05/99
Zinc	35.5 J	mg/kg	1.0	6020	E B	05/05/99
Organics						
BNA Extraction	Completed			625/8270	C E	05/03/99
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99

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FECL #: AA75880 (Continued)
Tag: GB-43 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
'-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Chrysene	Not detected	mg/kg	0.3	8270	JB	05/05/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
o-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluorene	Not detected	mg/kg	0.3	8270	JB	05/05/99

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
June 17, 1999

FECL #: AA75880 (Continued)
Tag: GB-43 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Isophorone	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Naphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodi-n-propylamine (U)	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,5-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Bromobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Bromochloromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

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June 17, 1999

FECL #: AA75880 (Continued)
Tag: GB-43 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/0_)
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride 2.95 U	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

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FECL #: AA75880 (Continued)
Tag: GB-43 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
~~1,2,3-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,4-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Trichlorofluoromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
Carbon disulfide	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
~~Benzyl chloride~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75881
Tag: GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.6	9010	J P	05/03/99
pH	8.72	STD Units	0.1	9040	I M	05/04/99
Total Solids	87.9	%	1	160.3	AH	05/03/99

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O'Brien & Gere Engineers, Inc
June 17, 1999

FECL #: AA75881 (Continued)
Tag: GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Metals						
Cadmium	J 0.26	mg/kg	0.05	6020	E B	05/05/99
Chromium	10.0	mg/kg	1.0	6020	E B	05/05/99
Copper	15.0	mg/kg	1.0	6020	E B	05/05/99
Lead	J 8.5	mg/kg	1.0	6020	E B	05/05/99
Nickel	18.9	mg/kg	0.50	6020	E B	05/05/99
Zinc	J 39.7	mg/kg	1.0	6020	E B	05/05/99
Organics						
BNA Extraction	Completed			625/8270	C E	05/03/99
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Butyl benzyl phthalate	0.6	mg/kg	0.3	8270	JB	05/05/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Chrysene	Not detected	mg/kg	0.3	8270	JB	05/05/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
o-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99

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FECL #: AA75881 (Continued)
Tag: GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluorene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Isophorone	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Naphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99

FECL #: AA75881 (Continued)
Tag: GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,5-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	0.07	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

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O'Brien & Gere Engineers, Inc.
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FECL #: AA75881 (Continued)
Tag: GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
~~1,3-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~2,2-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1-Dichloropropene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Hexachlorobutadiene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride	~~Not detected~~ 2.4 J	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1,2-Tetrachloroethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,4-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene	0.57 J	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Trichlorofluoromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone	Not detected 1.3 XJ	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
Carbon disulfide	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
~~Benzyl chloride~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99

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O'Brien & Gere Engineers, Inc
June 17, 1999

FECL #: AA75882
Tag: GB-45 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.6	9010	J P	05/03/99
pH	9.94	STD Units	0.1	9040	I M	05/04/99
Total Solids	90.2	%	1	160.3	AH	05/03/99
Metals						
Cadmium	UJ Not detected	mg/kg	0.05	6020	E B	05/05/99
Chromium	9.08	mg/kg	1.0	6020	E B	05/05/99
Copper	15.5	mg/kg	1.0	6020	E B	05/05/99
Lead	J 7.9	mg/kg	1.0	6020	E B	05/05/99
Nickel	18.4	mg/kg	0.50	6020	E B	05/05/99
Zinc	J 29.1	mg/kg	1.0	6020	E B	05/05/99
Organics						
BNA Extraction	Completed			625/8270	C E	05/0[illegible]
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Acenaphthylene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Anthracene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Benzo(a)anthracene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Benzo(ghi)perylene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Benzo(a)pyrene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.6	8270	JB	05/05/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.6	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	UJ Not detected	mg/kg	0.6	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	4.0	mg/kg	0.6	8270	JB	05/05/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.6	8270	JB	05/05/99
Butyl benzyl phthalate	Not detected	mg/kg	0.6	8270	JB	05/05/99
4-Chloroaniline	Not detected	mg/kg	0.6	8270	JB	05/05/99
2-Chloronaphthalene	Not detected	mg/kg	0.6	8270	JB	05/05/99
4-Chloro-3-methylphenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
2-Chlorophenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.6	8270	JB	05/05/99
Chrysene	Not detected	mg/kg	0.6	8270	JB	05/05/99

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FECL #: AA75882 (Continued)
Tag: GB-45 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
p,m-Cresol	Not detected	mg/kg	0.6	8270	JB	05/05/99
o-Cresol	Not detected	mg/kg	0.6	8270	JB	05/05/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Dibenzofuran	Not detected	mg/kg	0.6	8270	JB	05/05/99
Di-n-butyl phthalate	Not detected	mg/kg	0.6	8270	JB	05/05/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.6	8270	JB	05/05/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.6	8270	JB	05/05/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.6	8270	JB	05/05/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.6	8270	JB	05/05/99
2,4-Dichlorophenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
Diethyl phthalate	Not detected	mg/kg	0.6	8270	JB	05/05/99
,4-Dimethylphenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
)imethyl phthalate	Not detected	mg/kg	0.6	8270	JB	05/05/99
,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
2,4-Dinitrophenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
2,4-Dinitrotoluene	Not detected	mg/kg	0.6	8270	JB	05/05/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Di-n-octyl phthalate	Not detected	mg/kg	0.6	8270	JB	05/05/99
Fluoranthene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Fluorene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Hexachlorobenzene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Hexachlorobutadiene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Hexachloroethane	Not detected	mg/kg	0.6	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Isophorone	Not detected	mg/kg	0.6	8270	JB	05/05/99
2-Methylnaphthalene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Naphthalene	Not detected	mg/kg	0.6	8270	JB	05/05/99
2-Nitroaniline	Not detected	mg/kg	0.6	8270	JB	05/05/99
3-Nitroaniline	Not detected	mg/kg	0.6	8270	JB	05/05/99
4-Nitroaniline	Not detected	mg/kg	0.6	8270	JB	05/05/99
Nitrobenzene	Not detected	mg/kg	0.6	8270	JB	05/05/99
2-Nitrophenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
4-Nitrophenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.6	8270	JB	05/05/99

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FECL #: AA75882 (Continued)
Tag: GB-45 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.6	8270	JB	05/05/99
Pentachlorophenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
Phenanthrene	Not detected	mg/kg	0.6	8270	JB	05/05/99
Phenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
Pyrene	Not detected	mg/kg	0.6	8270	JB	05/05/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.6	8270	JB	05/05/99
2,4,5-Trichlorophenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
2,4,6-Trichlorophenol	Not detected	mg/kg	0.6	8270	JB	05/05/99
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Bromobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Bromochloromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~2-Chlorotoluene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~4-Chlorotoluene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2-Dibromo-3-chloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2-Dibromoethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Dibromomethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Dichlorodifluoromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

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FECL #: AA75882 (Continued)
Tag: GB-45 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,3-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~2,2-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1-Dichloropropene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Hexachlorobutadiene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride 2.4 UJ	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	0.09	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1,1,2-Tetrachloroethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,4-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Trichlorofluoromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone 0.8 UJ	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99

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FECL #: AA75882 (Continued)
Tag: GB-45 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
Carbon disulfide	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
Benzyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75883
Tag: GB-46 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.6	9010	J P	05/03/99
pH	9.84	STD Units	0.1	9040	I M	05/04/99
Total Solids	88.5	%	1	160.3	AH	05/03/99
Metals						
Cadmium	U Not detected	mg/kg	0.05	6020	E B	05/05/99
Chromium	9.40	mg/kg	1.0	6020	E B	05/05/99
Copper	13.8	mg/kg	1.0	6020	E B	05/05/99
Lead	J 10.6	mg/kg	1.0	6020	E B	05/05/99
Nickel	19.6	mg/kg	0.50	6020	E B	05/05/99
Zinc	J 31.4	mg/kg	1.0	6020	E B	05/05/99
Organics						
BNA Extraction	Completed			625/8270	C E	05/03/99
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99

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FECL #: AA75883 (Continued)
Tag: GB-46 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Chrysene	Not detected	mg/kg	0.3	8270	JB	05/05/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
o-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluorene	Not detected	mg/kg	0.3	8270	JB	05/05/99

FECL #: AA75883 (Continued)
Tag: GB-46 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Isophorone	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Naphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,5-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Bromobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Bromochloromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

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O'Brien & Gere Engineers, Inc
June 17, 1999

FECL #: AA75883 (Continued)
Tag: GB-46 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
2,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Hexachlorobutadiene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride	2.36 J Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	0.06	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75883 (Continued)
Tag: GB-46 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
~~1,2,3-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,4-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Trichlorofluoromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
Carbon disulfide	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
~~Benzyl chloride~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75884
Tag: GB-47 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.6	9010	J P	05/03/99
pH	8.23	STD Units	0.1	9040	I M	05/04/99
Total Solids	86.5	%	1	160.3	AH	05/03/99

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O'Brien & Gere Engineers, Inc.
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FECL #: AA75884 (Continued)
Tag: GB-47 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Metals						
Cadmium	UJ Not detected	mg/kg	0.05	6020	E B	05/05/99
Chromium	8.14	mg/kg	1.0	6020	E B	05/05/99
Copper	12.8	mg/kg	1.0	6020	E B	05/05/99
Lead	J 8.9	mg/kg	1.0	6020	E B	05/05/99
Nickel	16.4	mg/kg	0.50	6020	E B	05/05/99
Zinc	J 28.5	mg/kg	1.0	6020	E B	05/05/99
Organics						
BNA Extraction	Completed			625/8270	C E	05/03/99
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Acenaphthylene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Anthracene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Benzo(a)anthracene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Benzo(b)fluoranthene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Benzo(k)fluoranthene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Benzo(ghi)perylene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Benzo(a)pyrene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	1.2	8270	JB	05/05/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	1.2	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	UJ Not detected	mg/kg	1.2	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	1.2	8270	JB	05/05/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	1.2	8270	JB	05/05/99
Butyl benzyl phthalate	Not detected	mg/kg	1.2	8270	JB	05/05/99
4-Chloroaniline	Not detected	mg/kg	1.2	8270	JB	05/05/99
2-Chloronaphthalene	Not detected	mg/kg	1.2	8270	JB	05/05/99
4-Chloro-3-methylphenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
2-Chlorophenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	1.2	8270	JB	05/05/99
Chrysene	Not detected	mg/kg	1.2	8270	JB	05/05/99
p,m-Cresol	Not detected	mg/kg	1.2	8270	JB	05/05/99
o-Cresol	Not detected	mg/kg	1.2	8270	JB	05/05/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Dibenzofuran	Not detected	mg/kg	1.2	8270	JB	05/05/99
Di-n-butyl phthalate	Not detected	mg/kg	1.2	8270	JB	05/05/99

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O'Brien & Gere Engineers, Inc.
June 17, 1999

FECL #: AA75884 (Continued)
Tag: GB-47 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
1,2-Dichlorobenzene	Not detected	mg/kg	1.2	8270	JB	05/05/99
1,3-Dichlorobenzene	Not detected	mg/kg	1.2	8270	JB	05/05/99
1,4-Dichlorobenzene	Not detected	mg/kg	1.2	8270	JB	05/05/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	1.2	8270	JB	05/05/99
2,4-Dichlorophenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
Diethyl phthalate	Not detected	mg/kg	1.2	8270	JB	05/05/99
2,4-Dimethylphenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
Dimethyl phthalate	Not detected	mg/kg	1.2	8270	JB	05/05/99
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
2,4-Dinitrophenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
2,4-Dinitrotoluene	Not detected	mg/kg	1.2	8270	JB	05/05/99
6-Dinitrotoluene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Di-n-octyl phthalate	Not detected	mg/kg	1.2	8270	JB	05/05/99
Fluoranthene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Fluorene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Hexachlorobenzene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Hexachlorobutadiene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Hexachlorocyclopentadiene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Hexachloroethane	Not detected	mg/kg	1.2	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Isophorone	Not detected	mg/kg	1.2	8270	JB	05/05/99
2-Methylnaphthalene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Naphthalene	Not detected	mg/kg	1.2	8270	JB	05/05/99
2-Nitroaniline	Not detected	mg/kg	1.2	8270	JB	05/05/99
3-Nitroaniline	Not detected	mg/kg	1.2	8270	JB	05/05/99
4-Nitroaniline	Not detected	mg/kg	1.2	8270	JB	05/05/99
Nitrobenzene	Not detected	mg/kg	1.2	8270	JB	05/05/99
2-Nitrophenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
4-Nitrophenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
N-Nitrosodiphenylamine	Not detected	mg/kg	1.2	8270	JB	05/05/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	1.2	8270	JB	05/05/99
Pentachlorophenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
Phenanthrene	Not detected	mg/kg	1.2	8270	JB	05/05/99
Phenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
Pyrene	Not detected	mg/kg	1.2	8270	JB	05/05/99

FECL #: AA75884 (Continued)
Tag: GB-47 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
1,2,4-Trichlorobenzene	Not detected	mg/kg	1.2	8270	JB	05/05/99
2,4,5-Trichlorophenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
2,4,6-Trichlorophenol	Not detected	mg/kg	1.2	8270	JB	05/05/99
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
ec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75884 (Continued)
Tag: GB-47 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
~~1,3-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~2,2-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1-Dichloropropene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Hexachlorobutadiene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride 2.66 U5	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1,2-Tetrachloroethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,4-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene	0.77	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Trichlorofluoromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone 1.2 U5	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
Carbon disulfide	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
~~Benzyl chloride~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
June 17, 1999

FECL #: AA75885
Tag: MS (GB-44 (0-2'))
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.089	mg/kg	0.6	9010	J P	05/03/99
pH	8.55	STD Units	0.1	9040	I M	05/04/99
Total Solids	88.7	%	1	160.3	AH	05/03/99
Metals						
Cadmium	21.9	mg/kg	0.05	6020	E B	05/05/99
Chromium	28.9	mg/kg	1.0	6020	E B	05/05/99
Copper	33.7	mg/kg	1.0	6020	E B	05/05/99
Lead	35.1	mg/kg	1.0	6020	E B	05/05/99
Nickel	39.8	mg/kg	0.50	6020	E B	05/05/99
Zinc	50.8	mg/kg	1.0	6020	E B	05/05/99
Organics						
NA Extraction	Completed			625/8270	C E	05/03/99
GC/MS for Semi-Volatile Organic						
Acenaphthene	1.2	mg/kg	0.3	8270	JB	05/05/99
Acenaphthylene	1.2	mg/kg	0.3	8270	JB	05/05/99
Anthracene	1.2	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)anthracene	1.2	mg/kg	0.3	8270	JB	05/05/99
Benzo(b)fluoranthene	1.1	mg/kg	0.3	8270	JB	05/05/99
Benzo(k)fluoranthene	1.1	mg/kg	0.3	8270	JB	05/05/99
Benzo(ghi)perylene	1.1	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)pyrene	1.1	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	1.1	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethyl)ether	1.1	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	0.8	mg/kg	0.3	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	1.6	mg/kg	0.3	8270	JB	05/05/99
4-Bromophenyl phenyl ether	1.0	mg/kg	0.3	8270	JB	05/05/99
Butyl benzyl phthalate	1.5	mg/kg	0.3	8270	JB	05/05/99
4-Chloroaniline	1.1	mg/kg	0.3	8270	JB	05/05/99
2-Chloronaphthalene	1.2	mg/kg	0.3	8270	JB	05/05/99
4-Chloro-3-methylphenol	1.2	mg/kg	0.3	8270	JB	05/05/99
2-Chlorophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	1.0	mg/kg	0.3	8270	JB	05/05/99
Chrysene	1.2	mg/kg	0.3	8270	JB	05/05/99

FECL #: AA75885 (Continued)
Tag: MS (GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
p,m-Cresol	1.1	mg/kg	0.3	8270	JB	05/05/99
o-Cresol	1.1	mg/kg	0.3	8270	JB	05/05/99
Dibenzo(a,h)anthracene	1.1	mg/kg	0.3	8270	JB	05/05/99
Dibenzofuran	1.2	mg/kg	0.3	8270	JB	05/05/99
Di-n-butyl phthalate	1.2	mg/kg	0.3	8270	JB	05/05/99
1,2-Dichlorobenzene	1.2	mg/kg	0.3	8270	JB	05/05/99
1,3-Dichlorobenzene	1.2	mg/kg	0.3	8270	JB	05/05/99
1,4-Dichlorobenzene	1.1	mg/kg	0.3	8270	JB	05/05/99
3,3'-Dichlorobenzidine	1.2	mg/kg	0.3	8270	JB	05/05/99
2,4-Dichlorophenol	1.4	mg/kg	0.3	8270	JB	05/05/99
Diethyl phthalate	1.2	mg/kg	0.3	8270	JB	05/05/99
,4-Dimethylphenol	1.2	mg/kg	0.3	8270	JB	05/05/99
Dimethyl phthalate	1.2	mg/kg	0.3	8270	JB	05/05/99
4,6-Dinitro-2-methylphenol	1.0	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrotoluene	1.2	mg/kg	0.3	8270	JB	05/05/99
2,6-Dinitrotoluene	1.2	mg/kg	0.3	8270	JB	05/05/99
Di-n-octyl phthalate	1.4	mg/kg	0.3	8270	JB	05/05/99
Fluoranthene	1.1	mg/kg	0.3	8270	JB	05/05/99
Fluorene	1.2	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobenzene	1.1	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobutadiene	1.1	mg/kg	0.3	8270	JB	05/05/99
Hexachlorocyclopentadiene	0.8	mg/kg	0.3	8270	JB	05/05/99
Hexachloroethane	1.0	mg/kg	0.3	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	1.1	mg/kg	0.3	8270	JB	05/05/99
Isophorone	1.0	mg/kg	0.3	8270	JB	05/05/99
2-Methylnaphthalene	1.2	mg/kg	0.3	8270	JB	05/05/99
Naphthalene	1.2	mg/kg	0.3	8270	JB	05/05/99
2-Nitroaniline	1.1	mg/kg	0.3	8270	JB	05/05/99
3-Nitroaniline	1.1	mg/kg	0.3	8270	JB	05/05/99
4-Nitroaniline	1.0	mg/kg	0.3	8270	JB	05/05/99
Nitrobenzene	1.1	mg/kg	0.3	8270	JB	05/05/99
2-Nitrophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
4-Nitrophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodiphenylamine	1.2	mg/kg	0.3	8270	JB	05/05/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
June 17, 1999

FECL #: AA75885 (Continued)
Tag: MS (GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
1,2-Dichloroethane	1.59	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	1.50	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	1.57	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	1.53	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	1.35	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,3-Dichloropropane~~	~~1.75~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~2,2-Dichloropropane~~	~~1.51~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1-Dichloropropene~~	~~1.62~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	1.44	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Hexachlorobutadiene~~	~~1.48~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	1.43	mg/kg	0.05	5035/8260	VFM	05/04/99
-Isopropyltoluene	1.62	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride	4.24	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	1.48	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	1.47	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	1.48	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1,1,2-Tetrachloroethane~~	~~1.27~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	1.44	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	1.18	mg/kg	0.05	5035/8260	VFM	05/04/99
Toluene	1.53	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichlorobenzene~~	~~1.27~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,4-Trichlorobenzene~~	~~1.27~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	1.60	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	1.44	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene	1.44	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Trichlorofluoromethane~~	~~1.38~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichloropropane~~	~~1.49~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	1.31	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	1.65	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	1.31	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	1.49	mg/kg	0.05	5035/8260	VFM	05/04/99
p,m-Xylene	3.17	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,3-Dichloropropene	1.35	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone	5.0	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	1.5	mg/kg	0.5	5035/8260	VFM	05/04/99

FECL #: AA75885 (Continued)
Tag: MS (GB-44 (0-2'))
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
Carbon disulfide	1.5	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	1.5	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	1.5	mg/kg	0.5	5035/8260	VFM	05/04/99
Benzyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75886
Tag: MSD (GB-44 (0-2'))
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.087	mg/kg	0.6	9010	JP	05/03/99
pH	8.71	STD Units	0.1	9040	IM	05/04/99
Total Solids	87.9	%	1	160.3	AH	05/03/99
Metals						
Cadmium	22.4	mg/kg	0.05	6020	EB	05/05/99
Chromium	29.3	mg/kg	1.0	6020	EB	05/05/99
Copper	33.2	mg/kg	1.0	6020	EB	05/05/99
Lead	32.5	mg/kg	1.0	6020	EB	05/05/99
Nickel	39.9	mg/kg	0.50	6020	EB	05/05/99
Zinc	54.8	mg/kg	1.0	6020	EB	05/05/99
Organics						
BNA Extraction	Completed			625/8270	CE	05/03/99
GC/MS for Semi-Volatile Organic						
Acenaphthene	1.1	mg/kg	0.3	8270	JB	05/05/99
Acenaphthylene	1.1	mg/kg	0.3	8270	JB	05/05/99
Anthracene	1.1	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)anthracene	1.1	mg/kg	0.3	8270	JB	05/05/99
Benzo(b)fluoranthene	1.1	mg/kg	0.3	8270	JB	05/05/99

FECL #: AA75886 (Continued)
Tag: MSD (GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Benzo(k)fluoranthene	1.0	mg/kg	0.3	8270	JB	05/05/99
Benzo(ghi)perylene	1.0	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)pyrene	1.1	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	1.1	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethyl)ether	1.1	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	0.8	mg/kg	0.3	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	1.5	mg/kg	0.3	8270	JB	05/05/99
4-Bromophenyl phenyl ether	1.0	mg/kg	0.3	8270	JB	05/05/99
Butyl benzyl phthalate	1.3	mg/kg	0.3	8270	JB	05/05/99
4-Chloroaniline	1.0	mg/kg	0.3	8270	JB	05/05/99
2-Chloronaphthalene	1.1	mg/kg	0.3	8270	JB	05/05/99
-Chloro-3-methylphenol	1.1	mg/kg	0.3	8270	JB	05/05/99
2-Chlorophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	1.0	mg/kg	0.3	8270	JB	05/05/99
Chrysene	1.1	mg/kg	0.3	8270	JB	05/05/99
p,m-Cresol	1.0	mg/kg	0.3	8270	JB	05/05/99
o-Cresol	1.0	mg/kg	0.3	8270	JB	05/05/99
Dibenzo(a,h)anthracene	1.0	mg/kg	0.3	8270	JB	05/05/99
Dibenzofuran	1.1	mg/kg	0.3	8270	JB	05/05/99
Di-n-butyl phthalate	1.1	mg/kg	0.3	8270	JB	05/05/99
1,2-Dichlorobenzene	1.1	mg/kg	0.3	8270	JB	05/05/99
1,3-Dichlorobenzene	1.1	mg/kg	0.3	8270	JB	05/05/99
1,4-Dichlorobenzene	1.1	mg/kg	0.3	8270	JB	05/05/99
3,3'-Dichlorobenzidine	1.1	mg/kg	0.3	8270	JB	05/05/99
2,4-Dichlorophenol	1.3	mg/kg	0.3	8270	JB	05/05/99
Diethyl phthalate	1.1	mg/kg	0.3	8270	JB	05/05/99
2,4-Dimethylphenol	1.3	mg/kg	0.3	8270	JB	05/05/99
Dimethyl phthalate	1.1	mg/kg	0.3	8270	JB	05/05/99
4,6-Dinitro-2-methylphenol	1.0	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrophenol	1.0	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrotoluene	1.1	mg/kg	0.3	8270	JB	05/05/99
2,6-Dinitrotoluene	1.1	mg/kg	0.3	8270	JB	05/05/99
Di-n-octyl phthalate	1.3	mg/kg	0.3	8270	JB	05/05/99
Fluoranthene	1.1	mg/kg	0.3	8270	JB	05/05/99
Fluorene	1.1	mg/kg	0.3	8270	JB	05/05/99

FECL #: AA75886 (Continued)
Tag: MSD (GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
Hexachlorobenzene	1.1	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobutadiene	1.1	mg/kg	0.3	8270	JB	05/05/99
Hexachlorocyclopentadiene	0.8	mg/kg	0.3	8270	JB	05/05/99
Hexachloroethane	1.0	mg/kg	0.3	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	1.1	mg/kg	0.3	8270	JB	05/05/99
Isophorone	1.1	mg/kg	0.3	8270	JB	05/05/99
2-Methylnaphthalene	1.1	mg/kg	0.3	8270	JB	05/05/99
Naphthalene	1.1	mg/kg	0.3	8270	JB	05/05/99
2-Nitroaniline	1.0	mg/kg	0.3	8270	JB	05/05/99
3-Nitroaniline	1.0	mg/kg	0.3	8270	JB	05/05/99
4-Nitroaniline	1.0	mg/kg	0.3	8270	JB	05/05/99
Nitrobenzene	1.1	mg/kg	0.3	8270	JB	05/05/99
2-Nitrophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
4-Nitrophenol	1.0	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodiphenylamine	1.1	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodi-n-propylamine	0.9	mg/kg	0.3	8270	JB	05/05/99
Pentachlorophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
Phenanthrene	1.1	mg/kg	0.3	8270	JB	05/05/99
Phenol	1.0	mg/kg	0.3	8270	JB	05/05/99
Pyrene	1.1	mg/kg	0.3	8270	JB	05/05/99
1,2,4-Trichlorobenzene	1.3	mg/kg	0.3	8270	JB	05/05/99
2,4,5-Trichlorophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
2,4,6-Trichlorophenol	1.1	mg/kg	0.3	8270	JB	05/05/99
GC/MS for Volatile Organics 5035						
Benzene	1.42	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Bromobenzene~~	~~1.31~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Bromochloromethane~~	~~1.39~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromodichloromethane	1.34	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromoform	1.18	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromomethane	0.84	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Butylbenzene	1.50	mg/kg	0.05	5035/8260	VFM	05/04/99
sec-Butylbenzene	1.56	mg/kg	0.05	5035/8260	VFM	05/04/99
tert-Butylbenzene	1.46	mg/kg	0.05	5035/8260	VFM	05/04/99
Carbon tetrachloride	1.33	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75886 (Continued)
Tag: MSD (GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
Chlorobenzene	1.33	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroethane	1.09	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroform	1.55	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloromethane	2.01	mg/kg	0.05	5035/8260	VFM	05/04/99
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromochloromethane	1.32	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromoethane	1.46	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromomethane	1.15	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichlorobenzene	1.67	mg/kg	0.05	5035/8260	VFM	05/04/99
,3-Dichlorobenzene	1.65	mg/kg	0.05	5035/8260	VFM	05/04/99
,4-Dichlorobenzene	1.68	mg/kg	0.05	5035/8260	VFM	05/04/99
Dichlorodifluoromethane	1.57	mg/kg	0.05	5035/8260	VFM	05/04/9
1,1-Dichloroethane	1.47	mg/kg	0.05	5035/8260	VFM	05/04/9
1,2-Dichloroethane	1.63	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	1.41	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	1.54	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	1.46	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	1.34	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichloropropane	1.76	mg/kg	0.05	5035/8260	VFM	05/04/99
2,2-Dichloropropane	1.50	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloropropene	1.55	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	1.49	mg/kg	0.05	5035/8260	VFM	05/04/99
Hexachlorobutadiene	1.39	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	1.40	mg/kg	0.05	5035/8260	VFM	05/04/99
p-Isopropyltoluene	1.56	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride	4.47	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	1.54	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	1.43	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	1.50	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1,2-Tetrachloroethane	1.29	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	1.50	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	1.21	mg/kg	0.05	5035/8260	VFM	05/04/99
Toluene	1.54	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75886 (Continued)
Tag: MSD (GB-44 (0-2')
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
1,2,3-Trichlorobenzene	1.24	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trichlorobenzene	1.18	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	1.57	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	1.43	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene	1.41	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichlorofluoromethane	1.32	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,3-Trichloropropane	1.51	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	1.29	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	1.62	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	2.09	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	1.49	mg/kg	0.05	5035/8260	VFM	05/04/99
m-Xylene	3.14	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,3-Dichloropropene	1.33	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone	4.8	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	1.6	mg/kg	0.5	5035/8260	VFM	05/04/99
Carbon disulfide	1.4	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	1.5	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	1.5	mg/kg	0.5	5035/8260	VFM	05/04/99
Benzyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

FECL #: AA75887
Tag: Soil Dup
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/kg	0.6	9010	J P	05/03/99
pH	8.64	STD Units	0.1	9040	I M	05/04/99
Total Solids	88.0	%	1	160.3	AH	05/03/99

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FECL #: AA75887 (Continued)
Tag: Soil Dup
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Metals						
Cadmium	Not detected	mg/kg	0.05	6020	E B	05/05/99
Chromium	8.69	mg/kg	1.0	6020	E B	05/05/99
Copper	11.9	mg/kg	1.0	6020	E B	05/05/99
Lead	12.0	mg/kg	1.0	6020	E B	05/05/99
Nickel	17.6	mg/kg	0.50	6020	E B	05/05/99
Zinc	26.4	mg/kg	1.0	6020	E B	05/05/99
Organics						
BNA Extraction	Completed			625/8270	C E	05/03/99
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Chlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	JB	05/05/99
Chrysene	Not detected	mg/kg	0.3	8270	JB	05/05/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
o-Cresol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99

FECL #: AA75887 (Continued)
Tag: Soil Dup
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dimethylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluoranthene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Fluorene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	JB	05/05/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Isophorone	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Naphthalene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	JB	05/05/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
4-Nitrophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pentachlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenanthrene	Not detected	mg/kg	0.3	8270	JB	05/05/99
Phenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
Pyrene	Not detected	mg/kg	0.3	8270	JB	05/05/99

FECL #: AA75887 (Continued)
Tag: Soil Dup
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,5-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	JB	05/05/99
GC/MS for Volatile Organics 5035						
Benzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromochloromethane	ND 0.06	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromoform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Bromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
sec-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Carbon tetrachloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloroform	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Chloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
2-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
4-Chlorotoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromo-3-chloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dibromoethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dibromomethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Dichlorodifluoromethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
trans-1,2-Dichloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99

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June 17, 1999

FECL #: AA75887 (Continued)
Tag: Soil Dup
Date/Time Collected: 05/03/99
Matrix: Soil

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics 5035 (Continued)						
~~1,3-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~2,2-Dichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1-Dichloropropene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Hexachlorobutadiene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p-Isopropyltoluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Methylene chloride 2.4 U J	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
Naphthalene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Styrene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,1,2-Tetrachloroethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
,1,2,2-Tetrachloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Toluene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,4-Trichlorobenzene~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,1,2-Trichloroethane	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Trichloroethene U	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
~~Trichlorofluoromethane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
~~1,2,3-Trichloropropane~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
o-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
p,m-Xylene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
cis-1,3-Dichloropropene	Not detected	mg/kg	0.05	5035/8260	VFM	05/04/99
Acetone 1.1 U J	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Butanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
Carbon disulfide	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
2-Hexanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
4-Methyl-2-pentanone	Not detected	mg/kg	0.5	5035/8260	VFM	05/04/99
~~Benzyl chloride~~	~~Not detected~~	mg/kg	0.05	5035/8260	VFM	05/04/99

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O'Brien & Gere Engineers, Inc.
June 17, 1999

FECL #: AA75888
Tag: Soil EB
Date/Time Collected: 05/03/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	J P	05/03/99
pH	not reqested	STD Units	0.01	150.1	J P	05/04/99
Metals						
Cadmium	Not detected	mg/L	0.0002	200.8	E B	05/05/99
Chromium	Not detected	mg/L	0.01	200.8	E B	05/05/99
Copper	Not detected	mg/L	0.01	200.8	E B	05/05/99
Lead	Not detected	mg/L	0.003	200.8	E B	05/05/99
Nickel	0.013	mg/L	0.005	200.8	E B	05/05/99
Zinc	Not detected	mg/L	0 01	200.8	E B	05/05/99
Organics						
'NA Extraction	Completed			625/8270	C E	05/03/99
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Acenaphthylene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Anthracene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Benzo(a)anthracene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Benzo(b)fluoranthene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Benzo(k)fluoranthene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Benzo(ghi)perylene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Benzo(a)pyrene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	0.01	8270	SMP	05/04/99
Bis(2-chloroethyl)ether	Not detected	mg/L	0.01	8270	SMP	05/04/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	0.01	8270	SMP	05/04/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/L	0.01	8270	SMP	05/04/99
4-Bromophenyl phenyl ether	Not detected	mg/L	0.01	8270	SMP	05/04/99
Butyl benzyl phthalate	Not detected	mg/L	0.01	8270	SMP	05/04/99
4-Chloroaniline	Not detected	mg/L	0.01	8270	SMP	05/04/99
2-Chloronaphthalene	Not detected	mg/L	0.01	8270	SMP	05/04/99
4-Chloro-3-methylphenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
2-Chlorophenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	0.01	8270	SMP	05/04/99
Chrysene	Not detected	mg/L	0.01	8270	SMP	05/04/99
p,m-Cresol	Not detected	mg/L	0.01	8270	SMP	05/04/99

FECL #: AA75888 (Continued)
Tag: Soil EB
Date/Time Collected: 05/03/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
o-Cresol	Not detected	mg/L	0.01	8270	SMP	05/04/99
Dibenzo(a,h)anthracene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Dibenzofuran	Not detected	mg/L	0.01	8270	SMP	05/04/99
Di-n-butyl phthalate	Not detected	mg/L	0.01	8270	SMP	05/04/99
1,2-Dichlorobenzene	Not detected	mg/L	0.01	8270	SMP	05/04/99
1,3-Dichlorobenzene	Not detected	mg/L	0.01	8270	SMP	05/04/99
1,4-Dichlorobenzene	Not detected	mg/L	0.01	8270	SMP	05/04/99
3,3'-Dichlorobenzidine	Not detected	mg/L	0.01	8270	SMP	05/04/99
2,4-Dichlorophenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
Diethyl phthalate	Not detected	mg/L	0.01	8270	SMP	05/04/99
2,4-Dimethylphenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
)imethyl phthalate	Not detected	mg/L	0.01	8270	SMP	05/04/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
2,4-Dinitrophenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
2,4-Dinitrotoluene	Not detected	mg/L	0.01	8270	SMP	05/04/99
2,6-Dinitrotoluene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Di-n-octyl phthalate	Not detected	mg/L	0.01	8270	SMP	05/04/99
Fluoranthene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Fluorene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Hexachlorobenzene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Hexachlorobutadiene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Hexachlorocyclopentadiene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Hexachloroethane	Not detected	mg/L	0.01	8270	SMP	05/04/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Isophorone	Not detected	mg/L	0.01	8270	SMP	05/04/99
2-Methylnaphthalene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Naphthalene	Not detected	mg/L	0.01	8270	SMP	05/04/99
2-Nitroaniline	Not detected	mg/L	0.01	8270	SMP	05/04/99
3-Nitroaniline	Not detected	mg/L	0.01	8270	SMP	05/04/99
4-Nitroaniline	Not detected	mg/L	0.01	8270	SMP	05/04/99
Nitrobenzene	Not detected	mg/L	0.01	8270	SMP	05/04/99
2-Nitrophenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
4-Nitrophenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
N-Nitrosodiphenylamine	Not detected	mg/L	0.01	8270	SMP	05/04/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	0.01	8270	SMP	05/04/99

FECL #: AA75888 (Continued)
Tag: Soil EB
Date/Time Collected: 05/03/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
Pentachlorophenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
Phenanthrene	Not detected	mg/L	0.01	8270	SMP	05/04/99
Phenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
Pyrene	Not detected	mg/L	0.01	8270	SMP	05/04/99
1,2,4-Trichlorobenzene	Not detected	mg/L	0.01	8270	SMP	05/04/99
2,4,5-Trichlorophenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
2,4,6-Trichlorophenol	Not detected	mg/L	0.01	8270	SMP	05/04/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Bromoform	Not detected	mg/L	0.001	8260	VFM	05/04/99
Bromomethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
sec-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	05/04/99
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Chloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Chloroform	Not detected	mg/L	0.001	8260	VFM	05/04/99
Chloromethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	05/04/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	05/04/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
June 17, 1999

FECL #: AA75888 (Continued)
Tag: Soil EB
Date/Time Collected: 05/03/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Ru-
Organics (Continued)						
Volatile Organics (Continued)						
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Methylene chloride 0.021	~~Not detected~~	mg/L	0.001	8260	VFM	05/04/99
Naphthalene	Not detected	mg/L	0.001	8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Styrene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Toluene 0.001	~~1.010~~	mg/L	0.001	8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/L	0.001	8260	VFM	05/04/99
o-Xylene	Not detected	mg/L	0.001	8260	VFM	05/04/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Acetone 1.1	~~Not detected~~	mg/L	0.05	8260	VFM	05/04/99
2-Butanone	Not detected	mg/L	0.05	8260	VFM	05/04/99
Carbon Disulfide 0.05	~~54.30~~	mg/L	0.05	8260	VFM	05/04/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	05/04/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	05/04/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
June 17, 1999

FECL #: AA75889
Tag: Trip Blank
Date/Time Collected: 05/03/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics						
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Bromoform	Not detected	mg/L	0.001	8260	VFM	05/04/99
Bromomethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
sec-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	05/04/99
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Chloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Chloroform	Not detected	mg/L	0.001	8260	VFM	05/04/99
Chloromethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	05/04/9
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	05/04/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	05/04/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Methylene chloride	Not detected	mg/L	0.001	8260	VFM	05/04/99
Naphthalene	Not detected	mg/L	0.001	8260	VFM	05/04/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Styrene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Toluene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99

FECL

nalytical Laboratory Report
O'Brien & Gere Engineers, Inc
June 17, 1999

FECL #: AA75889 (Continued)
Tag: Trip Blank
Date/Time Collected: 05/03/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	05/04/99
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Vinyl chloride	Not detected	mg/L	0.001	8260	VFM	05/04/99
o-Xylene	Not detected	mg/L	0.001	8260	VFM	05/04/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	05/04/99
Acetone	Not detected	mg/L	0.05	8260	VFM	05/04/99
2-Butanone	Not detected	mg/L	0.05	8260	VFM	05/04/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	05/04/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	05/04/99
·Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	05/04/99

Note: Methods may be modified for improved performance.
Results reported on a dry weight basis, where applicable.
Results relate only to items tested.
Report shall not be reproduced except in full, without the written approval of FECL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

APPENDIX C

Concrete Data Validation Reports

DATA VALIDATION REPORT

General Motors
Coldwater Road Investigation

Flint, Michigan

August 1999

Data Validation Report - Concrete Samples

General Motors Corporation
Coldwater Road WWTP Basin Investigation
Flint, Michigan

Swiatoslav W. Kaczmar, Ph.D., C.I.H.
Vice President, Environmental Toxicology
and Industrial Hygiene

August 1999

O'Brien & Gere Engineers, Inc.
5000 Brittonfield Parkway
Syracuse, New York 13221

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Appendix A USEPA method sample results for: Volatile Organics, Semivolatile Organics, Metals, and Mercury.

Executive summary

This data validation report addresses data quality for concrete samples collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) from 8/25/98 to 8/27/98.

The environmental samples collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, and zinc), and mercury by United States Environmental Protection Agency (USEPA) Methods. The analytical data generated for this investigation were evaluated by O'Brien & Gere using the quality assurance/quality control (QA/QC) criteria established in the USEPA Methods. Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process, none of the data were rejected as a result of major deficiencies detected in the data generation process. The volatile organic, semivolatile organic, metal, and mercury data were determined to be 100% usable for qualitative and quantitative purposes.

1. Introduction

This data validation report addresses the results of a data quality evaluation for concrete samples collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere from 8/25 to 8/27/98. The environmental samples collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, and zinc), and mercury using United States Environmental Protection Agency (USEPA) Methods listed in Table 1-1. The quantity and types of samples that were submitted for data validation are presented in Table 1-1 below.

Table 1-1. ***Sample cross reference list***

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Client ID	Laboratory ID	
AA64422-AA64438	8/25/98	CF-1 CW-1 CF-2 CW-2	64422 64423 64424 64425	TCLP preparation by USEPA method 1311, volatile organics by USEPA methods 5030/8260B, semivolatile organics by USEPA methods 3510/8270C, metals (including arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, zinc) by USEPA methods 3015/6020, mercury by USEPA method 7470A.
AA64422-AA64438	8/26/98	CF-3 CW-3 CF-5 CW-4 CF-4 CF-6 CW-5 CF-8	64426 64427 64428 64429 64430 64431 64432 64433	TCLP preparation by USEPA method 1311, volatile organics by USEPA methods 5030/8260B, semivolatile organics by USEPA methods 3510/8270C, metals (including arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, zinc) by USEPA methods 3015/6020, mercury by USEPA method 7470A.

Table 1-1. *Sample cross reference list*

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Client ID	Laboratory ID	
AA64422-AA64438	8/27/98	CF-7 CF-11 CF-10 CF-9	64434 64435 64436 64437	TCLP preparation by USEPA method 1311, volatile organics by USEPA methods 5030/8260B, semivolatile organics by USEPA methods 3510/8270C, metals (including arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, zinc) by USEPA methods 3015/6020, mercury by USEPA method 7470A.
AA64422-AA64438	8/26/98	CW-6	64438	TCLP preparation by USEPA method 1311, volatile organics by USEPA methods 5030/8260B, semivolatile organics by USEPA methods 3510/8270C, metals (including arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, zinc) by USEPA methods 3015/6020, mercury by USEPA method 7470A.

Note:
References:
USEPA Methods 5030/8260B, 3510/8270C, 3015/6020, 7470A, 1311 - USEPA. 1996. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846*, 3rd Edition. Washington D.C.

1.1. General considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the system and especially to samples, their measurement, and the actual data output. Accordingly, this report outlines deviations from the applicable quality control (QC) criteria outlined in the following documents:

- USEPA. 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*, 3rd Edition. Washington DC.

Excursions from the QA/QC criteria were qualified based on guidance provided in the following documents:

- USEPA. 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA-540/R-94/012. Washington D.C.

- USEPA. 1994b. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540/R-94/013. Washington D.C.

1.2. Analytical methods

The environmental samples collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of VOCs, SVOCs, metals (consisting of consisting of arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, and zinc), and mercury using USEPA Methods listed in Table 1-1.

The following chapters of this document address distinct aspects of the validation process. Chapter 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Finally, data completeness and usability are discussed in Chapter 4.

The annotated analytical results generated by this validation are presented in Appendix A.

2. Data validation protocols

2.1. Sample analyses parameters

The validation of organic and inorganic analyses for this project followed the requirements presented in the analytical methodology. Qualification of sample data was based on the data validation guidelines. The following QA/QC parameters were evaluated for organic analyses where applicable:

1. Holding times and sample preservation
2. Calibration
3. Blank analysis
4. Surrogate analysis
5. Matrix spike/matrix spike duplicate (MS/MSD) analysis
6. Laboratory control sample (LCS) analysis
7. Internal standard performance
8. Gas chromatograph/mass spectrometry (GC/MS) tune performance
9. Field duplicate sample analysis
10. Target identification
11. Compound quantitation and reported detection limits
12. System performance
13. Documentation completeness

The following QA/QC parameters were evaluated for inorganic analyses where applicable:

1. Holding Times and sample preservation
2. Calibration
3. Inductively coupled plasma (ICP)/MS tune performance
4. Blank analysis
5. Internal standard performance
6. ICP interference check sample
7. MS/MSD analysis
8. Laboratory duplicate analysis
9. LCS analysis
10. ICP serial dilution test
11. Field duplicate sample analysis
12. Analyte quantitation and reported detection limits

13. System performance
14. Documentation completeness

The following qualifiers have been used in this data validation:

U Indicates that the analyte was analyzed for, but was not detected. The sample-specific reporting limit is presented and adjusted for dilution, as appropriate.

J Indicates that the concentration should be considered approximate. This qualifier indicates that the data validation process identifies a deficiency in the data generation process.

UJ Indicates that the sample-specific reporting limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

3. Data quality evaluation

3.1. Background

This chapter summarizes the quality assurance/quality control QA/QC parameters, validation criteria, and qualifications performed on the sample data when the QA/QC parameters specified in Chapter 2 did not meet criteria. Samples that required qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records as listed in Table 1-1. The data quality evaluation resulted in only one qualifier for an individual sample result. QA/QC excursions which did not result in the qualification of a target analyte result or additional qualification if the target analyte result was previously qualified are not discussed. In a case when several qualifiers are applied to one target analyte result, the cumulative effect of the various excursions were employed in assigning the final data qualifier.

3.2. VOC analyses

3.2.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for VOAs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Calibration
3. Blank analysis
4. Surrogate analysis
5. Internal standard performance
6. GC/MS tune performance
7. Target identification
8. Compound quantitation and reported detection limits
9. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.2.2. MS/MSD analysis

Since MS/MSD samples were not identified by the field sampler, the laboratory performed MS/MSD analyses on samples that were analyzed at the same time as samples included in this project. The MS/MSD samples contained the selected compounds listed in USEPA Method 8260B.

3.2.3. LCS analysis

LCS analyses were not performed by the laboratory during this project. According to USEPA Method 8260B, Section 8.4.3, a laboratory control sample should be included with each analytical batch. Matrix spike recoveries were within laboratory recovery limits.

3.2.4. Field duplicate analysis

Field duplicates were not collected for volatile organic analysis for this project. As a result, field sample collection precision was not evaluated for these sampling events for volatile organic analyses. Laboratory analytical precision was evaluated through the review of MS/MSD analyses.

3.2.5. Documentation completeness

The reference spectra for compounds detected in several samples were not initially provided in the data package. Mass spectra generated from standard analyses performed prior to this project were provided by the laboratory in a supplemental data package. The initial injection logs utilized by the analyst during the sample analysis was not provided in the data package for review.

3.3. SVOC analyses

3.3.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for SVOCs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Blank analysis
3. Surrogate analysis
4. MS/MSD analysis
5. Internal standard performance
6. GC/MS tune performance
7. Field duplicate sample analysis
8. Target identification
9. Compound quantitation and reported detection limits
10. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.3.2. Initial calibration

According to USEPA Method 8270C, Section 5.12.1, the initial calibration should be prepared at a minimum of five different concentrations. Initial calibrations were performed using five concentrations in accordance with USEPA Method 8270C for each target analyte with the exception of pyridine which was analyzed at one concentration. As a result of the initial calibration excursion, the result for pyridine was qualified as approximate in several samples. The samples qualified as a result of the initial calibration excursion are summarized in the following table:

Table 3-1. *Initial calibration excursion for SVOC analyses*

Affected analyte	Affected samples	Action
pyridine	CF-1 CW-1 CF-2 CW-2 CF-3 CW-3 CF-5 CW-4 CF-4 CF-6 CW-5 CF-8 CF-7 CF-11 CF-10 CF-9 CW-6	UJ

According to USEPA Method 8270C, Section 7.3.5, calibration check compounds (CCCs) listed in the method are analyzed to evaluate the calibration from the standpoint of the integrity of the system. The relative standard deviation (RSD) for each CCC must be ≤30 percent or corrective action must be performed and the calibration repeated. For semivolatile organics, the laboratory has chosen to monitor the surrogate and matrix spiking compounds as the CCCs instead of the compounds listed in the method. Therefore, the CCCs provided by the laboratory were evaluated during the data validation process.

3.3.3. LCS analysis

LCS analyses were not performed by the laboratory during this project. According to USEPA Method 8270C, Section 8.4.3, a laboratory control sample should be included with each analytical batch. Matrix spike recoveries were within laboratory recovery limits.

3.4. Documentation completeness

The reference spectra for compounds detected in several samples were not initially provided in the data package. Mass spectra generated from standard analyses performed prior to this project were provided by the laboratory in a supplemental data package. The initial injection logs utilized by the analyst during the sample analysis was not provided in the data package for review.

3.5. Metals and mercury analyses

3.5.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for metals and mercury were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding Times and sample preservation
2. Calibration
3. ICP/MS tune performance

4. Blank analysis
5. MS/MSD analysis
6. LCS analysis
7. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.5.2. Laboratory duplicate analysis

The relative percent difference (RPD) for zinc in the laboratory duplicate analysis performed for sample North alkali wall exceeded the acceptable method criteria of 20 RPD. In accordance with *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b), the results for samples associated with the laboratory duplicate were qualified as approximate. The analytes which were qualified due to the laboratory duplicate excursion are summarized in the following table:

Table 3-6. *Laboratory duplicate excursions for metal analyses*

Sample ID	Duplicate ID excursion	RPD	Affected Analyte	Action
CF-1 CW-1 CF-2 CW-2 CF-3 CW-3 CF-5 CW-4 CF-4 CF-6 CW-5 CF-8 CF-7 CF-11 CF-10 CF-9 CW-6	CW-5	50	zinc	J

3.5.3. Internal standard intensity

According to USEPA Method 6020, Section 803, the intensities of all internal standards must be monitored for every analysis. An evaluation of the internal standard intensity for each analysis was performed by the laboratory but was not documented. The internal standard intensity for

each analysis performed for this project was re-evaluated during the data validation process and was found to have met method criteria.

3.5.4. ICP interference check sample analysis

According to USEPA Method 6020, Section 5.6, the interference check solution (ICS) is prepared to contain known concentration of interfering elements that will demonstrate the magnitude of interference and provide an adequate test of any corrections. The ICS is used to verify that the interference levels are corrected by the data system within quality control limits. ICS samples containing A and AB solutions were analyzed once every 12 hours as is required by USEPA Method 6020. Summary sheets for the ICS solutions were not provided by the laboratory. The evaluation of the ICSA and ICSAB solutions was performed by the laboratory but was not documented. Therefore, a review of the ICSA and ICSAB recoveries was not performed during the data validation process.

3.5.5. ICP serial dilution test

According to USEPA Method 6020, Section 8.5, for every 20 samples containing analytes at concentrations of at least 100 times the reagent blank, the analysis of a fivefold dilution must agree with 10 percent of the original determination or an interference effect must be suspected. Target analytes which were detected at concentrations which were considerably higher than the linear range were reanalyzed at a dilution. However, a five-fold dilution was not performed for every 20 samples and the recovery of that dilution evaluated.

3.5.6. Field duplicate analysis

Field duplicates were not collected for inorganic analyses for this project. As a result, field sample collection precision was not evaluated for these sampling events for inorganic analyses. Laboratory analytical precision was evaluated through the review of MS/MSD analyses.

3.5.7. Analyte quantitation and reported detection limits

The result for barium in sample CF-11 was reported by the laboratory as 0.2 mg/L. Since the raw data concentration was found to be 0.29 mg/L, the result for barium in sample CF-11was changed to 0.29 mg/L.

3.5.8. Documentation completeness

ICSA and ICSAB recovery evaluations and internal standard intensity recovery evaluations were not provided by the laboratory during the data validation process.

4. Summary and data usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process.

The concrete samples collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan, were evaluated based on QA/QC criteria established by USEPA Methods as listed in Section 1-2. Data validation qualifiers were applied utilizing the USEPA National Functional data validation guidelines. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data is considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity. The use of approximated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

Since the laboratory did not analyze or evaluate some of the quality control items discussed in Section 3 of this report, only a limited review of some of the data was performed during data validation.

The following paragraphs present the precision, sensitivity, accuracy, representativeness, comparability, and completeness (PSARCC) parameters used in the evaluation of the sample data.

Precision is measured through the evaluation of field duplicate samples and MS/MSD samples. None of the VOC, SVOC, metals and mercury data were rejected as a result of precision excursions.

Sensitivity is established by reported detection limits which represent measurable concentrations of analytes which can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project.

Matrix spike samples, internal standard recoveries, surrogate recoveries, LCS recoveries, and initial and continuing calibration criteria indicate the accuracy of the data. None of the VOC, SVOC, metals and mercury data were rejected as a result of accuracy excursions.

Holding times, sample preservation, blank analysis, and compound identification and quantification are indicators of the representativeness of the analytical data. None of the VOC, SVOC, metals and mercury data were rejected as a result of representativeness excursions.

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

As a result of the data validation process, none of the data were rejected as a result of a major deficiency detected in the data generation process. The volatile organic, semivolatile organic, metal, and mercury data were determined to be 100% usable for qualitative and quantitative purposes.

References

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FECLO

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64422
Tag: [redacted] CF-1
Date/Time Collected: 08/25/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	J H	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	P R	09/04/98
Barium	0.44	mg/L	0.01	200.8	P R	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	P R	09/04/98
Chromium	0.34	mg/L	0.01	200.8	P R	09/04/98
Copper	Not detected	mg/L	0.01	200.8	P R	09/04/98
Lead	Not detected	mg/L	0.003	200.8	P R	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	E B	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	P R	09/04/98
Silver	Not detected	mg/L	0.001	200.8	P R	09/04/98
Zinc	0.12	mg/L	0 01	200.8	P R	09/04/98
TCLP Extraction						
% Solids	100					
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	6.77			1311	JH	08/29/98
				1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	08/31/98
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	08/31/98
p,m-Cresol	Not detected	mg/L	1	625	JB	08/31/98
Pentachlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	08/31/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	08/31/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	08/31/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	08/31/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	08/31/98
Pyridine	Not detected	mg/L	0.1	625	JB	08/31/98

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FECL #: AA64422 (Continued)
Tag: [redacted] CF-1
Date/Time Collected: 08/25/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/9
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/9
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/9
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/9
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/9

FECL #: AA64423
Tag: [redacted] CW-1
Date/Time Collected: 08/25/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	J H	08/31/9
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	P R	09/04/9
Barium	0.37	mg/L	0.01	200.8	P R	09/04/9
Cadmium	Not detected	mg/L	0.005	200.8	P R	09/04/9
Chromium	0.01	mg/L	0.01	200.8	P R	09/04/9
Copper	Not detected	mg/L	0.01	200.8	P R	09/04/9
Lead	Not detected	mg/L	0.003	200.8	P R	09/04/9
Mercury	Not detected	mg/L	0.0002	245.1	E B	09/03/9
Selenium	Not detected	mg/L	0.005	200.8	P R	09/04/9
Silver	Not detected	mg/L	0.001	200.8	P R	09/04/
Zinc	0.11	mg/L	0 01	200.8	P R	09/0

Analytical Laboratory Report
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FECL #: AA64423 (Continued)
Tag: [redacted] CW-1
Date/Time Collected: 08/25/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Metals, TCLP (Continued)						
TCLP Extraction						
% Solids	100			1311	JH	08/29/98
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	6.53			1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	08/31/98
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	08/31/98
p,m-Cresol	Not detected	mg/L	1	625	JB	08/31/98
Pentachlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	08/31/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	08/31/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	08/31/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	08/31/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	08/31/98
Pyridine	Not detected	mg/L	0.1	625	JB	08/31/98
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

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O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64424
Tag: ~~Cyanide basin floor~~ CF-2
Date/Time Collected: 08/25/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	J H	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	P R	09/04/98
Barium	0.55	mg/L	0.01	200.8	P R	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	P R	09/04/98
Chromium	0.04	mg/L	0.01	200.8	P R	09/04/98
Copper	0.05	mg/L	0.01	200.8	P R	09/04/98
Lead	Not detected	mg/L	0.003	200.8	P R	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	E B	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	P R	09/04/98
Silver	Not detected	mg/L	0.001	200.8	P R	09/04/98
Zinc J	0.15	mg/L	0 01	200.8	P R	09/04/98
TCLP Extraction						
% Solids	100			1311	JH	08/29/98
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	6.58			1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	08/31/98
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	08/31/98
p,m-Cresol	Not detected	mg/L	1	625	JB	08/31/98
Pentachlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	08/31/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	08/31/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	08/31/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	08/31/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	08/31/98
Pyridine UJ	Not detected	mg/L	0.1	625	JB	08/31/98

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64424 (Continued)
Tag: ~~Cyanide basin floor~~ CF-2
Date/Time Collected: 08/25/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

FECL #: AA64425
Tag: ~~Cyanide basin wall~~ CW-2
Date/Time Collected: 08/25/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	J H	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	P R	09/04/98
Barium	0.40	mg/L	0.01	200.8	P R	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	P R	09/04/98
Chromium	0.02	mg/L	0.01	200.8	P R	09/04/98
Copper	0.47	mg/L	0.01	200.8	P R	09/04/98
Lead	Not detected	mg/L	0.003	200.8	P R	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	E B	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	P R	09/04/98
Silver	Not detected	mg/L	0.001	200.8	P R	09/04/98
Zinc	0.11	mg/L	0 01	200.8	P R	09/04/98

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64425 (Continued)
Tag: ~~Cyanide basin wall~~ CW-2
Date/Time Collected: 08/25/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Metals, TCLP (Continued)						
TCLP Extraction						
% Solids	100			1311	JH	08/29/9
Sample used g	100			1311	JH	08/29/9
Final Volume ml	2,000			1311	JH	08/29/9
Final Extract pH	6.61			1311	JH	08/29/9
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	08/31/9
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	08/31/9
p,m-Cresol	Not detected	mg/L	1	625	JB	08/31/9
Pentachlorophenol	Not detected	mg/L	1	625	JB	08/31/9
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/9
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	08/
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	08/31/9
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	08/31/9
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	08/31/9
Hexachloroethane	Not detected	mg/L	0.1	625	JB	08/31/9
Nitrobenzene	Not detected	mg/L	0.1	625	JB	08/31/9
Pyridine	Not detected	mg/L	0.1	625	JB	08/31/9
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/9
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/9
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/9
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/9
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/9

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64426
Tag: [redacted] CF-43
Date/Time Collected: 08/26/98 10:00
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/98
Barium	0.37	mg/L	0.01	200.8	PR	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Chromium	0.02	mg/L	0.01	200.8	PR	09/04/98
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/98
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/98
Zinc	J 0.03	mg/L	0 01	200.8	PR	09/04/98
TCLP Extraction						
% Solids	100			1311	JH	08/29/98
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	8.75			1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				SG	08/31/98
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	08/31/98
p,m-Cresol	Not detected	mg/L	1	625	JB	08/31/98
Pentachlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	08/31/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	08/31/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	08/31/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	08/31/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	08/31/98
Pyridine	Not detected	mg/L	0.1	625	JB	08/31/98

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O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64426 (Continued)
Tag: [redacted] CF-3
Date/Time Collected: 08/26/98 10:00
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/9
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/9
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/9
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
2-Butanone	Not detected	mg/L	0.1	624	VFM	09/01/9
Tetrachloroethene	Not detected	mg/L	1	624	VFM	09/01/9
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/9

FECL #: AA64427
Tag: [redacted] CW-3
Date/Time Collected: 08/26/98 10:15
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	98/31/9
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/9
Barium	0.34	mg/L	0.01	200.8	PR	09/04/9
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/9
Chromium	0.02	mg/L	0.01	200.8	PR	09/04/9
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/9
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/9
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/9
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/9
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/9
Zinc	0.04	mg/L	0.01	200.8	PR	09/04/9

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O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64427 (Continued)
Tag: [redacted] CW1-3
Date/Time Collected: 08/26/98 10:15
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date R
Metals, TCLP (Continued)						
TCLP Extraction						
%.Solids	100					
Sample used g	100			1311	JH	08/29/9
Final Volume ml	2,000			1311	JH	08/29/9
Final Extract pH	8.11			1311	JH	08/29/9
				1311	JH	08/29/9
Organics						
TCLP/SPLP BNA Extraction	Completed					
					S G	08/31/9
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	08/31/9
p,m-Cresol	Not detected	mg/L	1	625	JB	08/31/9
Pentachlorophenol	Not detected	mg/L	1	625	JB	08/31/9
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/9
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/9
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	08/31/9
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	08/31/9
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	08/31/9
Hexachloroethane	Not detected	mg/L	0.1	625	JB	08/31/9
Nitrobenzene	Not detected	mg/L	0.1	625	JB	08/31/9
Pyridine	Not detected	mg/L	0.1	625	JB	08/31/9
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/9
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/9
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/9
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/9
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64428
Tag: [redacted] CF-5
Date/Time Collected: 08/26/98 11:30
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	J H	08/31/9
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	P R	09/04/9
Barium	0.38	mg/L	0.01	200.8	P R	09/04/9
Cadmium	Not detected	mg/L	0.005	200.8	P R	09/04/9
Chromium	0.81	mg/L	0.01	200.8	P R	09/04/9
Copper	0.99	mg/L	0.01	200.8	P R	09/04/9
Lead	Not detected	mg/L	0.003	200.8	P R	09/04/9
Mercury	Not detected	mg/L	0.0002	245.1	E B	09/03/9
Selenium	Not detected	mg/L	0.005	200.8	P R	09/04/9
Silver	Not detected	mg/L	0.001	200.8	P R	09/04/9
Zinc J	0.07	mg/L	0 01	200.8	P R	09/04/9
TCLP Extraction						
% Solids	100			1311	JH	08/29/9
Sample used g	100			1311	JH	08/29/9
Final Volume ml	2,000			1311	JH	08/29/9
Final Extract pH	8.50			1311	JH	08/29/9
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	08/31/9
TCLP Semi-Volatiles Q						
o-Cresol	Not detected	mg/L	1	625	JB	08/31/9
p,m-Cresol	Not detected	mg/L	1	625	JB	08/31/9
Pentachlorophenol	Not detected	mg/L	1	625	JB	08/31/9
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/9
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	08/31/9
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	08/31/9
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	08/31/9
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	08/31/9
Hexachloroethane	Not detected	mg/L	0.1	625	JB	08/31/9
Nitrobenzene	Not detected	mg/L	0.1	625	JB	08/31/9
Pyridine UJ	Not detected	mg/L	0.1	625	JB	08/31/9

FECL

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O'Brien & Gere Engineers, Inc.
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FECL #: AA64428 (Continued)
Tag: [redacted]oor CF-5
Date/Time Collected: 08/26/98 11:30
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/9
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/9
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/9
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/9
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
2-Butanone	Not detected	mg/L	0.1	624	VFM	09/01/9
Tetrachloroethene	Not detected	mg/L	1	624	VFM	09/01/9
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/9

FECL #: AA64429
Tag: [redacted]wall CW-4
Date/Time Collected: 08/26/98 11:30
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/9
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/9
Barium	0.37	mg/L	0.01	200.8	PR	09/04/9
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/9
Chromium	0.02	mg/L	0.01	200.8	PR	09/04/9
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/9
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/9
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/9
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/9
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/9
Zinc	0.03	mg/L	0.01	200.8	PR	09/04/9

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FECL #: AA64429 (Continued)
Tag: [redacted] CW-4
Date/Time Collected: 08/26/98 11:30
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Metals, TCLP (Continued)						
TCLP Extraction						
% Solids	100			1311	JH	08/29/98
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	8.49			1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	08/31/98
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	09/01/98
p,m-Cresol	Not detected	mg/L	1	625	JB	09/01/98
Pentachlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/01/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/01/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/01/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/01/98
Pyridine	Not detected	mg/L	0.1	625	JB	09/01/98
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64430
Tag: ~~Line inside floor~~ CF-4
Date/Time Collected: 08/26/98 11:00
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/9
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/9
Barium	0.58	mg/L	0.01	200.8	PR	09/04/9
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/9
Chromium	0.01	mg/L	0.01	200.8	PR	09/04/9
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/9
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/9
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/9
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/9
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/9
Zinc	J 0.13	mg/L	0.01	200.8	PR	09/04/9
TCLP Extraction						
% Solids	100			1311	JH	08/29/9
Sample used g	100			1311	JH	08/29/9
Final Volume ml	2,000			1311	JH	08/29/9
Final Extract pH	6.51			1311	JH	08/29/9
Organics						
TCLP/SPLP BNA Extraction	Completed				SG	08/31/9
TCLP Semi-Volatiles	Q					
o-Cresol	Not detected	mg/L	1	625	JB	09/01/9
p,m-Cresol	Not detected	mg/L	1	625	JB	09/01/9
Pentachlorophenol	Not detected	mg/L	1	625	JB	09/01/9
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/9
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/9
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/01/9
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/01/9
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/01/9
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/01/9
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/01/9
Pyridine	UJ Not detected	mg/L	0.1	625	JB	09/01/9

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O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64430 (Continued)
Tag: [redacted] CF-4
Date/Time Collected: 08/26/98 11:00
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	0.1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

FECL #: AA64431
Tag: [redacted] CF-6
Date/Time Collected: 08/26/98 13:15
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/98
Barium	0.29	mg/L	0.01	200.8	PR	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Chromium	0.05	mg/L	0.01	200.8	PR	09/04/98
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/98
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/98
Zinc	0.03	mg/L	0.01	200.8	PR	09/04/98

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FECL #: AA64431 (Continued)
Tag: [redacted] CF-6
Date/Time Collected: 08/26/98 13:15
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Metals, TCLP (Continued)						
TCLP Extraction						
% Solids	100			1311	JH	08/29/98
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	8.66			1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	08/31/98
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	09/01/98
p,m-Cresol	Not detected	mg/L	1	625	JB	09/01/98
Pentachlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/01/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/01/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/01/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/01/98
Pyridine	Not detected	mg/L	0.1	625	JB	09/01/98
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/9
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/9
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/9

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September 08, 1998

FECL #: AA64432
Tag: [redacted] CW-5
Date/Time Collected: 08/26/98 15:50
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/98
Barium	0.34	mg/L	0.01	200.8	PR	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Chromium	0.01	mg/L	0.01	200.8	PR	09/04/98
Copper	0.10	mg/L	0.01	200.8	PR	09/04/98
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/98
Zinc	0.03	mg/L	0 01	200.8	PR	09/04/98
TCLP Extraction						
% Solids	100			1311	JH	08/29/98
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	10.31			1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				SG	08/31/98
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	09/01/98
p,m-Cresol	Not detected	mg/L	1	625	JB	09/01/98
Pentachlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/01/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/01/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/01/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/01/98
Pyridine	Not detected	mg/L	0.1	625	JB	09/01/98

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FECL #: AA64432 (Continued)
Tag: [redacted] CW-5
Date/Time Collected: 08/26/98 15:50
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

FECL #: AA64433
Tag: [redacted] CF-8
Date/Time Collected: 08/26/98 14:50
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/98
Barium	0.29	mg/L	0.01	200.8	PR	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Chromium	0.02	mg/L	0.01	200.8	PR	09/04/98
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/98
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/98
Zinc	J 0.05	mg/L	0.01	200.8	PR	09/04/98

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64433 (Continued)
Tag: [redacted] CF-8
Date/Time Collected: 08/26/98 14:50
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Metals, TCLP (Continued)						
TCLP Extraction						
% Solids	100			1311	JH	08/29/98
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	9.26			1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	08/31/98
TCLP Semi-Volatiles Q						
o-Cresol	Not detected	mg/L	1	625	JB	09/01/98
p,m-Cresol	Not detected	mg/L	1	625	JB	09/01/98
Pentachlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	09/01/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/01/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/01/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/01/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/01/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/01/98
Pyridine UJ	Not detected	mg/L	0.1	625	JB	09/01/98
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

FECL8

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64434
Tag: ~~Leachate Basin floor~~ CF-7
Date/Time Collected: 08/27/98 10:15
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/98
Barium	0.37	mg/L	0.01	200.8	PR	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Chromium	0.01	mg/L	0.01	200.8	PR	09/04/98
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/98
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/98
Zinc J	0.03	mg/L	0 01	200.8	PR	09/04/98
TCLP Extraction						
% Solids	100					
Sample used g	100			1311	JH	08/29/98
Final Volume ml	2,000			1311	JH	08/29/98
Final Extract pH	9.25			1311	JH	08/29/98
				1311	JH	08/29/98
Organics						
TCLP/SPLP BNA Extraction	Completed				SG	09/01/98
TCLP Semi-Volatiles (Q)						
o-Cresol	Not detected	mg/L	1.0	625	JB	09/03/98
p,m-Cresol	Not detected	mg/L	1.0	625	JB	09/03/98
Pentachlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4,5-Trichlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4,6-Trichlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/03/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/03/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/03/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/03/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/03/98
Pyridine UJ	Not detected	mg/L	0.1	625	JB	09/03/98

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FECL #: AA64434 (Continued)
Tag: ~~Leachate basin flow~~ CF-7
Date/Time Collected: 08/27/98 10:15
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

FECL #: AA64435
Tag: ~~West basin flow south~~ CF-11
Date/Time Collected: 08/27/98 11:15
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/98
Barium	~~0.20~~ 0.29	mg/L	0.01	200.8	PR	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Chromium	0.04	mg/L	0.01	200.8	PR	09/04/98
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/98
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/98
Zinc	J 0.13	mg/L	0.01	200.8	PR	09/04/98

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FECL #: AA64435 (Continued)
Tag: [redacted] CF-11
Date/Time Collected: 08/27/98 11:15
Matrix: Concrete

Analysis	Q	Results	Units	MDL	Method	Analyst	Date Rur
Metals, TCLP (Continued)							
TCLP Extraction							
% Solids		100			1311	JH	08/31/98
Sample used g		100			1311	JH	08/31/98
Final Volume ml		2,000			1311	JH	08/31/98
Final Extract pH		6.78			1311	JH	08/31/98
Organics							
TCLP/SPLP BNA Extraction		Completed				S G	09/01/98
TCLP Semi-Volatiles							
o-Cresol		Not detected	mg/L	1.0	625	JB	09/03/98
p,m-Cresol		Not detected	mg/L	1.0	625	JB	09/03/98
Pentachlorophenol		Not detected	mg/L	1.0	625	JB	09/03/98
2,4,5-Trichlorophenol		Not detected	mg/L	1.0	625	JB	09/03/98
2,4,6-Trichlorophenol		Not detected	mg/L	1.0	625	JB	09/03/98
2,4-Dinitrotoluene		Not detected	mg/L	0.09	625	JB	09/03/98
Hexachlorobenzene		Not detected	mg/L	0.09	625	JB	09/03/98
Hexachlorobutadiene		Not detected	mg/L	0.1	625	JB	09/03/98
Hexachloroethane		Not detected	mg/L	0.1	625	JB	09/03/98
Nitrobenzene		Not detected	mg/L	0.1	625	JB	09/03/98
Pyridine	UJ	Not detected	mg/L	0.1	625	JB	09/03/98
TCLP Volatiles							
Benzene		Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride		Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene		Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform		Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene		Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane		Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene		Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone		Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene		Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene		Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride		Not detected	mg/L	0.1	624	VFM	09/01/98

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FECL #: AA64436
Tag: [redacted] floor center CF-10
Date/Time Collected: 08/27/98 11:35
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	J H	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	P R	09/04/98
Barium	0.30	mg/L	0.01	200.8	P R	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	P R	09/04/98
Chromium	0.06	mg/L	0.01	200.8	P R	09/04/98
Copper	Not detected	mg/L	0.01	200.8	P R	09/04/98
Lead	Not detected	mg/L	0.003	200.8	P R	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	E B	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	P R	09/04/98
Silver	Not detected	mg/L	0.001	200.8	P R	09/04/98
Zinc J	0.23	mg/L	0 01	200.8	P R	09/04/98
TCLP Extraction						
% Solids	100			1311	JH	08/31/98
Sample used g	100			1311	JH	08/31/98
Final Volume ml	2,000			1311	JH	08/31/98
Final Extract pH	7.32			1311	JH	08/31/98
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	09/01/98
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1.0	625	JB	09/03/98
p,m-Cresol	Not detected	mg/L	1.0	625	JB	09/03/98
Pentachlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4,5-Trichlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4,6-Trichlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/03/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/03/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/03/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/03/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/03/98
Pyridine UJ	Not detected	mg/L	0.1	625	JB	09/03/98

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64436 (Continued)
Tag: WWTP basement floor center CF-10
Date/Time Collected: 08/27/98 11:35
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

FECL #: AA64437
Tag: [redacted] north CF-9
Date/Time Collected: 08/27/98 11:45
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	JH	08/31/98
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	PR	09/04/98
Barium	0.33	mg/L	0.01	200.8	PR	09/04/98
Cadmium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Chromium	0.03	mg/L	0.01	200.8	PR	09/04/98
Copper	Not detected	mg/L	0.01	200.8	PR	09/04/98
Lead	Not detected	mg/L	0.003	200.8	PR	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	EB	09/03/98
Selenium	Not detected	mg/L	0.005	200.8	PR	09/04/98
Silver	Not detected	mg/L	0.001	200.8	PR	09/04/98
Zinc	0.15 J	mg/L	0.01	200.8	PR	09/04/98

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O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64437 (Continued)
Tag: [redacted] CF-9
Date/Time Collected: 08/27/98 11:45
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Metals, TCLP (Continued)						
TCLP Extraction						
% Solids	100			1311	JH	08/31/98
Sample used g	100			1311	JH	08/31/98
Final Volume ml	2,000			1311	JH	08/31/98
Final Extract pH	6.70			1311	JH	08/31/98
Organics						
TCLP/SPLP BNA Extraction	Completed				S G	09/01/98
TCLP Semi-Volatiles Q						
o-Cresol	Not detected	mg/L	1.0	625	JB	09/03/98
p,m-Cresol	Not detected	mg/L	1.0	625	JB	09/03/98
Pentachlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4,5-Trichlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4,6-Trichlorophenol	Not detected	mg/L	1.0	625	JB	09/03/98
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/03/98
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/03/98
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/03/98
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/03/98
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/03/98
Pyridine UJ	Not detected	mg/L	0.1	625	JB	09/03/98
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	0.1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

FECL

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O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64438
Tag: [redacted] Well CW-6
Date/Time Collected: 08/26/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Inorganics						
TCLP Zero Headspace Ext.	COMPLETE			1311	J H	08/31/9
Metals, TCLP						
Arsenic	Not detected	mg/L	0.005	200.8	P R	09/04/9
Barium	0.40	mg/L	0.01	200.8	P R	09/04/9
Cadmium	Not detected	mg/L	0.005	200.8	P R	09/04/9
Chromium	0.02	mg/L	0.01	200.8	P R	09/04/9
Copper	Not detected	mg/L	0.01	200.8	P R	09/04/98
Lead	Not detected	mg/L	0.003	200.8	P R	09/04/98
Mercury	Not detected	mg/L	0.0002	245.1	E B	09/03/9
Selenium	Not detected	mg/L	0.005	200.8	P R	09/04/9
Silver	Not detected	mg/L	0.001	200.8	P R	09/04/9
Zinc	J 0.13	mg/L	0 01	200.8	P R	09/04/9
TCLP Extraction						
% Solids	100			1311	JH	08/31/9
Sample used g	100			1311	JH	08/31/9
Final Volume ml	2,000			1311	JH	08/31/9
Final Extract pH	7.55			1311	JH	08/31/9
Organics						
TCLP/SPLP BNA Extraction	Completed					09/01/9
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1.0	625	JB	09/03/9
p,m-Cresol	Not detected	mg/L	1.0	625	JB	09/03/9
Pentachlorophenol	Not detected	mg/L	1.0	625	JB	09/03/9
2,4,5-Trichlorophenol	Not detected	mg/L	1.0	625	JB	09/03/9
2,4,6-Trichlorophenol	Not detected	mg/L	1.0	625	JB	09/03/9
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	09/03/9
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	09/03/9
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	09/03/9
Hexachloroethane	Not detected	mg/L	0.1	625	JB	09/03/9
Nitrobenzene	Not detected	mg/L	0.1	625	JB	09/03/9
Pyridine UJ	Not detected	mg/L	0.1	625	JB	09/03/9

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
September 08, 1998

FECL #: AA64438 (Continued)
Tag: ~~South Middle Basin Well~~ CW-6
Date/Time Collected: 08/26/98
Matrix: Concrete

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
TCLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Carbon tetrachloride	Not detected	mg/L	0.1	624	VFM	09/01/98
Chlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
Chloroform	Not detected	mg/L	0.1	624	VFM	09/01/98
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	VFM	09/01/98
1,2-Dichloroethane	Not detected	mg/L	0.1	624	VFM	09/01/98
1,1-Dichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
2-Butanone	Not detected	mg/L	1	624	VFM	09/01/98
Tetrachloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Trichloroethene	Not detected	mg/L	0.1	624	VFM	09/01/98
Vinyl Chloride	Not detected	mg/L	0.1	624	VFM	09/01/98

Note: Methods may be modified for improved performance.
Results reported on a dry weight basis, where applicable.
Results relate only to items tested.
Report shall not be reproduced except in full, without the written approval of FECL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

Data Validation Report - Concrete Samples

General Motors Corporation
Coldwater Road Investigation
Flint, Michigan

Swiatoslav W. Kaczmar, Ph.D., C.I.H.
Vice President, Environmental Toxicology
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August 1999

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Appendix A USEPA method sample results for: Volatile Organics, Semivolatile Organics and Metals.

Executive summary

This data validation report addresses data quality for concrete samples collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) on 4/28/99.

The environmental samples, equipment blank and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc), by United States Environmental Protection Agency (USEPA) Methods. The analytical data generated for this investigation were evaluated by O'Brien & Gere using the quality assurance/quality control (QA/QC) criteria established in the USEPA Methods and the Quality Assurance Project Plan (QAPP) generated for this project (O'Brien & Gere 1999). Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process, 10 percent of the SVOC data were rejected as a result of major deficiencies which were detected in the data generation process. For this project, semivolatile organics data were rejected as a result of a low surrogate recoveries for acid fraction analytes. The rejected data are considered unusable for either quantitative or qualitative purposes. The SVOC data were determined to be 90 percent usable for qualitative and quantitative purposes. The volatile organic and metal data analyzed were determined to be 100% usable for qualitative and quantitative purposes.

1. Introduction

This data validation report addresses the results of a data quality evaluation for concrete samples, equipment blank, and trip blank collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere on 4/28/99. The environmental samples, equipment blank, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals (consisting of arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc) using United States Environmental Protection Agency (USEPA) Methods listed in Table 1-1. The quantity and types of samples that were submitted for data validation are presented in Table 1-1 below.

Table 1-1. *Sample cross reference list*

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Laboratory ID	Client ID*	
AA75743-AA75753	4/28/99	AA75743 AA75744 AA75745 AA75746 AA75747 AA75748 AA75749 AA75750 AA75751 AA75752	CW-7/CW-7 TCLP CW-8/CW-8 TCLP CW-9/CW-9 TCLP CF-12/CF-12 TCLP CF-13/CF-13 TCLP CF-14/CF-14 TCLP CF-12MS/CF-12MS CF-12MSD/CF-12MSD Duplicate Concrete(CF-12)/Duplicate Concrete TCLP(CF-12) Equipment Blank Concrete/Equipment Blank TCLP	volatile organics by USEPA methods 1311/5030B/5035/8260B, semivolatile organics by USEPA methods 1311/3510/3550B/8270C, metals (including arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, and zinc) by USEPA methods 1311/3015/3051/6020, mercury by USEPA method 1311/7470A/7471A
AA75743-AA75753	4/28/99	AA75753	Trip Blank Concrete	volatile organics by USEPA method 5030B/8260B

Table 1-1. *Sample cross reference list*

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Laboratory ID	Client ID*	

Note:
* indicates that results were provided from samples prepared using TCLP method 1311 and from samples prepared using volatile organic method 5035, semivolatile organic method 3510, and metals methods 3015 and 7470A.

MS indicates matrix spike.
MSD indicates matrix spike duplicate.

References:
USEPA Methods 1311, 5030B/5035/8260B, 3510/3550B/8270C, 3015/3051/6020, 7470A/7471A - USEPA. 1996. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846*, 3rd Edition. Washington D.C.

1.1. General considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the system and especially to samples, their measurement, and the actual data output. Accordingly, this report outlines deviations from the applicable quality control (QC) criteria outlined in the following documents:

- USEPA. 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*, 3rd Edition. Washington DC.
- O'Brien & Gere Engineers, Inc. 1999. *Quality Assurance Project Plan, Coldwater Road Facility Remedial Investigation*, Syracuse, New York.

Excursions from the QA/QC criteria were qualified based on guidance provided in the following documents:

- USEPA. 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA-540/R-94/012. Washington D.C.
- USEPA. 1994b. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540/R-94/013. Washington D.C.

1.2. Analytical methods

The environmental samples, equipment blank, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of VOCs, SVOCs, and metals (consisting of arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc) using USEPA Methods listed in Table 1-1.

The following chapters of this document address distinct aspects of the validation process. Chapter 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Finally, data completeness and usability are discussed in Chapter 4.

The annotated analytical results generated by this validation are presented in Appendix A.

2. Data validation protocols

2.1. Sample analyses parameters

The validation of organic and inorganic analyses for this project utilized the requirements presented in the analytical methodology and the Quality Assurance Project Plan (QAPP) (O'Brien & Gere, 1999) generated for this project. Qualification of sample data was based on the data validation guidelines. The following QA/QC parameters were evaluated for organic analyses where applicable:

1. Holding times and sample preservation
2. Percent solids
3. Calibration
4. Blank analysis
5. Surrogate analysis
6. Matrix spike/matrix spike duplicate (MS/MSD) analysis
7. Laboratory control sample (LCS) analysis
8. Internal standard performance
9. Gas chromatograph/mass spectrometry (GC/MS) tune performance
10. Field duplicate sample analysis
11. Target identification
12. Compound quantitation and reported detection limits
13. System performance
14. Documentation completeness

The following QA/QC parameters were evaluated for inorganic analyses where applicable:

1. Holding Times and sample preservation
2. Percent solids
3. Calibration
4. Inductively coupled plasma (ICP)/MS tune performance
5. Blank analysis
6. Internal standard performance
7. Inductively coupled plasma (ICP) interference check sample
8. MS/MSD analysis
9. Laboratory duplicate analysis

10. LCS analysis
11. ICP serial dilution test
12. Field duplicate sample analysis
13. Analyte quantitation and reported detection limits
14. System performance
15. Documentation completeness

The following qualifiers have been used in this data validation:

R Indicates that the reporting limit or sample result has been determined to be unusable due to a major deficiency in the data generation process. The data should not be used for any qualitative or quantitative purposes.

U Indicates that the analyte was analyzed for, but was not detected. The sample-specific reporting limit is presented and adjusted for dilution, as appropriate.

J Indicates that the concentration should be considered approximate. This qualifier indicates that the data validation process identifies a deficiency in the data generation process.

UJ Indicates that the sample-specific reporting limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

3. Data quality evaluation

3.1. Background

This chapter summarizes the quality assurance/quality control QA/QC parameters, validation criteria, and qualifications performed on the sample data when the QA/QC parameters specified in Chapter 2 did not meet criteria. Samples that required qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records as listed in Table 1-1. The data quality evaluation resulted in only one qualifier for an individual sample result. QA/QC excursions which did not result in the qualification of a target analyte result or additional qualification if the target analyte result was previously qualified are not discussed. In a case when several qualifiers are applied to one target analyte result, the cumulative effect of the various excursions were employed in assigning the final data qualifier.

3.2. VOC analyses

3.2.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for VOCs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Percent solids
3. Surrogate analysis
4. Internal standard performance
5. GC/MS tune performance
6. Target identification
7. Field duplicate analysis
8. Compound quantitation
9. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.2.2 Calibration

The percent drift (%D) for methylene chloride in the continuing calibration analyzed 5/2/99 exceeded the criterion of 50 %D. As a result of the continuing calibration excursion, the results for methylene chloride in samples associated with the calibration were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the calibration excursion:

Table 3-1. *Calibration excursion for volatile organic analyses*

Continuing calibration ID	Analyte	Excursion	Affected Sample Results	Action
5/2/99	methylene chloride	182.4%D	CW-7 CW-8 CW-9 CF-12 CF-13 CF-14 Duplicate Concrete (CF-12)	UJ

Note: %D indicates percent drift.

3.2.3. Blank analysis

Methylene chloride was detected in several blanks analyzed for volatile organics. The blank with the highest target analyte concentration was used to evaluate the associated samples. Samples which contained methylene chloride at less than ten times the blank concentration, were qualified as undetected due to the blank contamination, as required by the USEPA data validation guidelines. The following table presents a summary of the samples qualified as a result of the blank excursions:

Table 3-2. *Blank excursions for volatile organic analyses*

Blank ID	Analyte	Detected Concentration	Affected Sample Results	Action
Preparation Blank 990502	methylene chloride	48.7 µg/L	CW-7	0.7 mg/Kg
			CW-8	0.7 mg/Kg
			CW-9	0.7 mg/Kg
			CF-12	7.0 mg/Kg
			CF-13	7.0 mg/Kg
			CF-14	6.0 mg/Kg
			Duplicate Concrete (CF-12)	6.0 mg/Kg

3.2.4. MS/MSD analysis

The recovery for target analytes in the MS/MSD analyzed for volatile organics was greater than the upper limit listed used in the validation process. As a result of these excursions the results were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the MS/MSD excursions:

Table 3-3. *MS/MSD excursions for volatile organic analyses*

MS/MSD ID	Analyte	Excursion	Affected Sample Results	Action
CF-12	methylene chloride	309.4%R, 324.7%R	CF-12	J
CF-12	4-methyl-2-pentanone	315.5%R, 305.8%R	CF-12	J

Note:
%R indicates percent recovery.

3.2.5. LCS analysis

The recovery for methylene chloride in the LCS analyzed for volatile organics was greater than the upper limit listed in the QAPP. As a result of this excursion the results for methylene chloride were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the LCS excursion:

Table 3-4. *LCS excursions for volatile organic analyses*

LCS ID	Analyte	Excursion	Affected Sample Results	Action
LCS 5/2/99	methylene chloride	289.2%	CW-7 CW-8 CW-9 CF-12 CF-13 CF-14 Duplicate Concrete (CF-12)	J

Note:
%R indicates percent recovery.

3.2.6. Reported detection limits

The detection limits for the following samples were elevated due to matrix interference: CF-13, CF-14, Duplicate Concrete (CF-12).

3.2.7. Documentation completeness

Sample collection date and time information was incomplete on the external chain-of-custody. The missing information was documented by the field sampler in a memo which was included in the project file. The information pertaining to the transfer of the samples within the laboratory which was recorded on the external chain-of-custody was incomplete. The laboratory Quality Assurance Officer documented the missing information and this information was included in the project file.

The results for methylene chloride were not reported in the sample results. The corrected sample results were provided by the laboratory at a later date as supplemental data.

A complete listing of the injections utilized by the analyst during the sample analysis was not provided for review. Supplemental injection sequence information was provided at a later date.

The LCS recoveries for the complete target list were not provided by the laboratory. This information was provided at a later date as supplemental data.

The surrogate and internal standard recoveries were not provided for the LCS and blank analyses. This information was provided at a later date as supplemental data.

The percent drift for the complete target list in the continuing calibrations was not provided by the laboratory. This information was provided at a later date as supplemental data.

3.3. SVOC analyses

3.3.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for SVOCs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Percent solids
3. Calibration
4. Blank analysis
5. MS/MSD analysis
6. LCS analysis
7. Internal standard performance
8. GC/MS tune performance
9. Target identification
10. Compound quantitation and reported detection limits
11. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.3.2. Surrogate recovery

The recovery for surrogates in the acid fraction of the samples analyzed for semivolatile organics was less than the lower laboratory limits. The laboratory perform a reanalysis of the samples as required by the QAPP with similar results. As a result of low recoveries (less than 10%), the results for the acid fraction analytes in the affected samples were rejected (R). The following table presents a summary of the samples qualified as a result of the surrogate excursions:

Table 3-5. *Surrogate excursions for semivolatile organic analyses*

Sample ID	Surrogate	Excursion	Affected Analytes	Action
CW-7	2-fluorophenol phenol-do 2,4,6-tribromophenol	0.4%R 6.7%R 0.2%R	4-chloro-3-methyl phenol 2-chlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 4,6-dinitro-2-methylphenol 2,4-dinitrophenol 2-nitrophenol 4-nitrophenol pentachlorophenol phenol 2,4,5-trichlorophenol 2,4,6-trichlorophenol	R
CW-8	2-fluorophenol phenol-do 2,4,6-tribromophenol	0.4%R 6.8%R 0.1%R	4-chloro-3-methyl phenol 2-chlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 4,6-dinitro-2-methylphenol 2,4-dinitrophenol 2-nitrophenol 4-nitrophenol pentachlorophenol phenol 2,4,5-trichlorophenol 2,4,6-trichlorophenol	R
CW-9	2-fluorophenol phenol-do 2,4,6-tribromophenol	0.2%R 4.4%R 0%R	4-chloro-3-methyl phenol 2-chlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 4,6-dinitro-2-methylphenol 2,4-dinitrophenol 2-nitrophenol 4-nitrophenol pentachlorophenol phenol 2,4,5-trichlorophenol 2,4,6-trichlorophenol	R
CF-12	2-fluorophenol 2,4,6-tribromophenol	1.7%R 0.1%R	4-chloro-3-methyl phenol 2-chlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 4,6-dinitro-2-methylphenol 2,4-dinitrophenol 2-nitrophenol 4-nitrophenol pentachlorophenol phenol 2,4,5-trichlorophenol 2,4,6-trichlorophenol	R

Table 3-5. *Surrogate excursions for semivolatile organic analyses*

Sample ID	Surrogate	Excursion	Affected Analytes	Action
CF-13	2-fluorophenol 2,4,6-tribromophenol	1.2%R 0%R	4-chloro-3-methyl phenol 2-chlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 4,6-dinitro-2-methylphenol 2,4-dinitrophenol 2-nitrophenol 4-nitrophenol pentachlorophenol phenol 2,4,5-trichlorophenol 2,4,6-trichlorophenol	R
CF-14	2-fluorophenol 2,4,6-tribromophenol	0.7%R 0%R	4-chloro-3-methyl phenol 2-chlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 4,6-dinitro-2-methylphenol 2,4-dinitrophenol 2-nitrophenol 4-nitrophenol pentachlorophenol phenol 2,4,5-trichlorophenol 2,4,6-trichlorophenol	R
Duplicate Concrete (CF-12)	2-fluorophenol phenol-do 2,4,6-tribromophenol	0.5%R 8.8%R 0.1%R	4-chloro-3-methyl phenol 2-chlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 4,6-dinitro-2-methylphenol 2,4-dinitrophenol 2-nitrophenol 4-nitrophenol pentachlorophenol phenol 2,4,5-trichlorophenol 2,4,6-trichlorophenol	R

Note:
%R indicates percent recovery.

3.3.3. Field duplicate analysis

The difference between the field duplicate results and the associated sample results for several analytes was greater than the limit used in the data validation process. As a result of these excursions the results for target analytes were qualified as approximate (UJ, J). The following table presents

a summary of the samples qualified as a result of the field duplicate excursions:

Table 3-6. *Field duplicate excursions for semivolatile organic analyses*

Field Duplicate ID	Analyte	Excursion	Affected Sample Results	Action
Duplicate Concrete (CF-12)	anthracene benzo(a)anthracene benzo(b)fluoranthene benzo(a)pyrene	difference greater than 2 times the detection limit	CF-12 Duplicate Concrete (CF-12)	UJ J
Duplicate Concrete (CF-12)	chrysene	difference greater than 2 times the detection limit	CF-12 Duplicate Concrete (CF-12)	UJ J
Duplicate Concrete (CF-12)	fluoranthene phenanthrene pyrene	difference greater than 2 times the detection limit	CF-12 Duplicate Concrete (CF-12)	J J

3.3.4. Documentation completeness

Sample collection date and time information was incomplete on the external chain-of-custody. The missing information was documented by the field sampler in a memo which was included in the project file. The information pertaining to the transfer of the samples within the laboratory which was recorded on the external chain-of-custody was incomplete. The laboratory Quality Assurance Officer documented the missing information and this information was included in the project file.

A complete listing of the injections utilized by the analyst during the sample analysis was not provided for review. Supplemental injection sequence information was provided at a later date.

The LCS recoveries for the complete target list were not provided by the laboratory. This information was provided at a later date as supplemental data.

The surrogate and internal standard recoveries were not provided for the LCS and blank analyses. This information was provided at a later date as supplemental data.

The percent drift for the complete target list in the continuing calibrations were not provided by the laboratory. This information was provided at a later date as supplemental data.

3.4. Metals and mercury analyses

3.4.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for metals, and mercury were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding Times and sample preservation
2. Percent solids
3. Calibration
4. ICP/MS tune performance
5. Blank analysis
6. Internal standard performance
7. ICP interference check sample
8. LCS analysis
9. Field duplicate sample analysis
10. Analyte quantitation and reported detection limits
12. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.4.2. MS/MSD analysis

The recovery for copper in the MS/MSD analyzed was outside of the limits listed in the QAPP. The MS/MSD analysis was repeated at a dilution with recoveries that were outside of the limits. Copper was re-digested and analyzed but results were still outside of the limits. As a result of these excursions the results were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the MS/MSD excursions:

Table 3-6. *MS/MSD excursions for metal analyses*

MS/MSD ID	Analyte	Excursion	Affected Sample Results	Action
CF-12 MS/MSD	copper	39%R 236%R, 229%R (repeated analysis at a dilution)	CW-7 CW-8 CW-9 CF-12 CF-13 CF-14 Duplicate Concrete (CF-12)	J

Note:
%R indicates percent recovery.

3.4.3. ICP serial dilution

The relative percent difference for zinc in the ICP serial dilution was outside of the method limits. The analysis was repeated with similar results. As a result of these excursions the results were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the ICP serial dilution excursion:

Table 3-8. *ICP serial dilution excursions for metal analyses*

Serial Dilution ID	Analyte	Excursion	Affected Sample Results	Action
4/30/99	zinc	18RPD 16RPD(repeated)	CW-7 CW-8 CW-9 CF-12 CF-13 CF-14 Duplicate Concrete	J

Note:
RPD indicates relative percent difference.

3.4.4. Laboratory duplicate analysis

The relative percent difference for zinc in the duplicate analysis was outside of the limits listed in the QAPP. The analysis was repeated with similar results. As a result of these excursions the results were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the duplicate excursions:

Table 3-9. ***Duplicate analysis excursions for metal analyses***

Duplicate ID	Analyte	Excursion	Affected Sample Results	Action
CF-12	copper	29RPD	CW-7 CW-8 CW-9 CF-12 CF-13 CF-14 Duplicate Concrete (CF-12)	J

Note:
%R indicates percent recovery.

3.4.5. Documentation completeness

Date and time sample collection information was incomplete on the external chain-of-custody. The missing information was documented by the field sampler in a memo which was included in the project file. The information pertaining to the transfer of the samples within the laboratory which was recorded on the external chain-of-custody was incomplete. The laboratory Quality Assurance Officer documented the missing information and this information was included in the project file.

4. Summary and data usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process.

The concrete samples, equipment blank, and trip blank collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan, were evaluated based on QA/QC criteria established by USEPA Methods as listed in Section 1-2 and the QAPP. Data validation qualifiers were applied utilizing the USEPA National Functional data validation guidelines. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data is considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity. The use of approximated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

The following paragraphs present the precision, sensitivity, accuracy, representativeness, comparability, and completeness (PSARCC) parameters used in the evaluation of the sample data.

Precision is measured through the evaluation of field duplicate samples and MS/MSD samples. None of the VOC, SVOC and metal data were rejected due to precision excursions.

Sensitivity is established by reported detection limits which represent measurable concentrations of analytes which can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project.

Matrix spike samples, internal standard recoveries, surrogate recoveries, LCS recoveries, ICP serial dilution, and initial and continuing calibration criteria indicate the accuracy of the data. For this project, 10 percent of the SVOC data were rejected due to surrogate recoveries for acid fraction

analytes. None of the VOC and metal data was rejected due to accuracy excursions.

Holding times, sample preservation, blank analysis, and compound identification and quantification are indicators of the representativeness of the analytical data. None of the VOC, SVOC, and metal data were rejected due to representativeness excursions.

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

As a result of the data validation process, 10 percent of the SVOC data were rejected as a result of major deficiencies which were detected in the data generation process. For this project, semivolatile data were rejected as a result of a low surrogate recoveries for acid fraction analytes. The rejected data is considered unusable for either quantitative or qualitative purposes. The SVOC data were determined to be 90 percent usable for qualitative and quantitative purposes. The volatile organic and metal data analyzed were determined to be 100% usable for qualitative and quantitative purposes.

Reference

O'Brien & Gere Engineers, Inc. 1999. *Quality Assurance Project Plan, Coldwater Road Facility Remedial Investigation,* Syracuse, New York.

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U.S. Environmental Protection Agency (USEPA). 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* EPA-540/R-94/012. Washington D.C.

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U.S. Environmental Protection Agency (USEPA). 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846),* 3rd Edition. Washington DC.

Summary of validated USEPA method analytical results

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75743
Tag: CW-7
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	Completed			1311	JGH	05/02/99
Total Solids	97.2	%	1	160.3	I M	04/29/99
Metals						
Arsenic	4.27	mg/kg	0.10	6020	E B	04/30/99
Barium	36.2	mg/kg	1.0	6020	E B	04/30/99
Cadmium	Not detected	mg/kg	0.05	6020	E B	04/30/99
Chromium	12.2	mg/kg	0.20	6020	E B	04/30/99
Copper	J 13.1	mg/kg	1.0	6020	E B	04/30/99
Lead	2.4	mg/kg	1.0	6020	E B	04/30/99
Mercury	Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium	Not detected	mg/kg	0.50	6020	E B	04/30/99
Silver	Not detected	mg/kg	0.20	6020	E B	04/30/99
Zinc	J 14.2	mg/kg	1.0	6020	E B	04/30/99
TCLP Metals						
Arsenic	Not detected	mg/L	0.005	200.8	E B	05/02/99
Barium	0.35	mg/L	0.01	200.8	E B	05/02/99
Cadmium	Not detected	mg/L	0.0002	200.8	E B	05/02/99
Chromium	Not detected	mg/L	0.01	200.8	E B	05/02/99
Copper	Not detected	mg/L	0.01	200.8	E B	05/02/99
Lead	Not detected	mg/L	0.003	200.8	E B	05/02/99
Mercury	Not detected	mg/L	0.0002	245.1	E B	04/30/99
Selenium	Not detected	mg/L	0.005	200.8	E B	05/02/99
Silver	Not detected	mg/L	0.0005	200.8	E B	05/02/99
Zinc	0.01	mg/L	0.01	200.8	E B	05/02/99
TCLP Extraction						
% Solids	100			1311	JGH	04/30/99
Sample used g	100			1311	JGH	04/30/99
Final Volume ml	2,000			1311	JGH	04/30/99
Final Extract pH	8.93			1311	JGH	04/30/99
Organics						
BNA Extraction	Completed					
TCLP/SPLP BNA Extraction	Completed			625/8270	S G	04/30/99
					C E	04/30/99

FECL #: AA75743 (Continued)
Tag: CW-7
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4-Chloro-3-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2-Chlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Chrysene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
o-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dichlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dimethylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4,6-Dinitro-2-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dinitrophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99

FECL #: AA75743 (Continued)
Tag: CW-7
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluorene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Isophorone	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Naphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2-Nitrophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~4-Nitrophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Pentachlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Phenanthrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Phenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,5-Trichlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,6-Trichlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
GC/MS for Volatile Organics						
Benzene	Not detected	mg/kg	*0.1	8260	VFM	05/03/99
Bromodichloromethane	Not detected	mg/kg	*0.1	8260	VFM	05/03/99
Bromoform	Not detected	mg/kg	*0.1	8260	VFM	05/03/99
Bromomethane	Not detected	mg/kg	*0.1	8260	VFM	05/03/99
n-Butylbenzene	Not detected	mg/kg	*0.1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75743 (Continued)
Tag: CW-7
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
tert-Butylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Carbon tetrachloride	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloroform	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloromethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Dibromochloromethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
,1-Dichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
cis-1,2-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
trans-1,2-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichloropropane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
cis-1,3-Dichloropropene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
trans-1,3-Dichloropropene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Ethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Isopropylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
p-Isopropyltoluene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Methylene chloride 0.75U	~~Not detected~~	mg/kg	* 0.1	8260	VFM	05/03/99
Naphthalene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
n-Propylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Styrene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Tetrachloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Toluene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,1-Trichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,2-Trichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Trichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Vinyl chloride	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

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O'Brien & Gere Engineers, Inc
May 04, 1999

FECL #: AA75743 (Continued)
Tag: CW-7
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
p,m-Xylene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Acetone	Not detected	mg/kg	* 1	8260	VFM	05/03/99
2-Butanone	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Carbon Disulfide	Not detected	mg/kg	* 1	8260	VFM	05/03/99
2-Hexanone	Not detected	mg/kg	* 1	8260	VFM	05/03/99
4-Methyl-2-pentanone	0.4	mg/kg	* 0.1	8260	VFM	05/03/99
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	05/01/99
p,m-Cresol	Not detected	mg/L	1	625	JB	05/01/99
Pentachlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	05/01/99
Hexachloroethane	Not detected	mg/L	0.1	625	JB	05/01/99
Nitrobenzene	Not detected	mg/L	0.1	625	JB	05/01/99
Pyridine	Not detected	mg/L	0.1	625	JB	05/01/99
TCLP/SPLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	JB	05/03/99
Carbon tetrachloride	Not detected	mg/L	0.1	624	JB	05/03/99
Chlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
Chloroform	Not detected	mg/L	0.1	624	JB	05/03/99
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
1,2-Dichloroethane	Not detected	mg/L	0.1	624	JB	05/03/99
1,1-Dichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1	624	JB	05/03/99
Tetrachloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Trichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Vinyl Chloride	Not detected	mg/L	0.1	624	JB	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

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O'Brien & Gere Engineers, Inc
May 04, 1999

FECL #: AA75744
Tag: CW-8
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	Completed			1311	JGH	05/02/99
Total Solids	97.1	%	1	160.3	I M	04/29/99
Metals						
Arsenic	4.81	mg/kg	0.10	6020	E B	04/30/99
Barium	38.1	mg/kg	1.0	6020	E B	04/30/99
Cadmium	Not detected	mg/kg	0.05	6020	E B	04/30/99
Chromium	19.1	mg/kg	0.20	6020	E B	04/30/99
Copper	J 19.9	mg/kg	1.0	6020	E B	04/30/99
Lead	3.0	mg/kg	1.0	6020	E B	04/30/99
Mercury	Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium	Not detected	mg/kg	0.50	6020	E B	04/30/99
Silver	Not detected	mg/kg	0.20	6020	E B	04/30/99
Zinc	J 14.7	mg/kg	1.0	6020	E B	04/30/9
TCLP Metals						
Arsenic	Not detected	mg/L	0.005	200.8	E B	05/02/99
Barium	0.38	mg/L	0.01	200.8	E B	05/02/99
Cadmium	Not detected	mg/L	0.0002	200.8	E B	05/02/99
Chromium	Not detected	mg/L	0.01	200.8	E B	05/02/99
Copper	Not detected	mg/L	0.01	200.8	E B	05/02/99
Lead	Not detected	mg/L	0.003	200.8	E B	05/02/99
Mercury	Not detected	mg/L	0.0002	245.1	E B	04/30/99
Selenium	Not detected	mg/L	0.005	200.8	E B	05/02/99
Silver	Not detected	mg/L	0.0005	200.8	E B	05/02/99
Zinc	0.03	mg/L	0 01	200.8	E B	05/02/99
TCLP Extraction						
% Solids	100			1311	JGH	04/30/99
Sample used g	100			1311	JGH	04/30/99
Final Volume ml	2,000			1311	JGH	04/30/99
Final Extract pH	7.54			1311	JGH	04/30/99
Organics						
BNA Extraction	Completed			625/8270	S G	04/30/99
TCLP/SPLP BNA Extraction	Completed				C E	04/30/99

FECL #: AA75744 (Continued)
Tag: CW-8
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4-Chloro-3-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2-Chlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Chrysene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
o-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dichlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dimethylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4,6-Dinitro-2-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dinitrophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99

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O'Brien & Gere Engineers, Inc
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FECL #: AA75744 (Continued)
Tag: CW-8
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluorene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Isophorone	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Naphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2-Nitrophenol~~ R	~~Not detected~~ R	mg/kg	0.3	8270	SMP	05/03/99
~~4-Nitrophenol~~ R	~~Not detected~~ R	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Pentachlorophenol~~ R	~~Not detected~~ R	mg/kg	0.3	8270	SMP	05/03/99
Phenanthrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Phenol~~ R	~~Not detected~~ R	mg/kg	0.3	8270	SMP	05/03/99
Pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,5-Trichlorophenol~~ R	~~Not detected~~ R	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,6-Trichlorophenol~~ R	~~Not detected~~ R	mg/kg	0.3	8270	SMP	05/03/99
GC/MS for Volatile Organics						
Benzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Bromodichloromethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Bromoform	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Bromomethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
n-Butylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
May 04, 1999

FECL #: AA75744 (Continued)
Tag: CW-8
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
tert-Butylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Carbon tetrachloride	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloroform	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloromethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Dibromochloromethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
,1-Dichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
cis-1,2-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
trans-1,2-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichloropropane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
cis-1,3-Dichloropropene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
trans-1,3-Dichloropropene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Ethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Isopropylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
p-Isopropyltoluene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Methylene chloride	~~Not detected~~ 0.7 FJU	mg/kg	* 0.1	8260	VFM	05/03/99
Naphthalene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
n-Propylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Styrene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Tetrachloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Toluene	0.2	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,1-Trichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,2-Trichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Trichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Vinyl chloride	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99

* Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75744 (Continued)
Tag: CW-8
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	Not detected	mg/kg	*0.1	8260	VFM	05/03/99
p,m-Xylene	Not detected	mg/kg	*0.1	8260	VFM	05/03/99
Acetone	Not detected	mg/kg	*1	8260	VFM	05/03/99
2-Butanone	Not detected	mg/kg	*1	8260	VFM	05/03/99
Carbon Disulfide	Not detected	mg/kg	*1	8260	VFM	05/03/99
2-Hexanone	Not detected	mg/kg	*1	8260	VFM	05/03/99
4-Methyl-2-pentanone	0.4	mg/kg	*0.1	8260	VFM	05/03/99
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	05/01/99
p,m-Cresol	Not detected	mg/L	1	625	JB	05/01/99
Pentachlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	05/01/99
Hexachloroethane	Not detected	mg/L	0.1	625	JB	05/01/99
Nitrobenzene	Not detected	mg/L	0.1	625	JB	05/01/99
Pyridine	Not detected	mg/L	0.1	625	JB	05/01/99
TCLP/SPLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	JB	05/03/99
Carbon tetrachloride	Not detected	mg/L	0.1	624	JB	05/03/99
Chlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
Chloroform	Not detected	mg/L	0.1	624	JB	05/03/99
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
1,2-Dichloroethane	Not detected	mg/L	0.1	624	JB	05/03/99
1,1-Dichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1	624	JB	05/03/99
Tetrachloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Trichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Vinyl Chloride	Not detected	mg/L	0.1	624	JB	05/03/99

* Higher detection limits due to matrix interference and/or high target concentrations.

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75745
Tag: CW-9
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Qual	Results	Units	MDL	Method	Analyst	Date Run
Inorganics							
TCLP Zero Headspace Ext.		Completed			1311	JGH	05/02/99
Total Solids		97.8	%	1	160.3	I M	04/29/99
Metals							
Arsenic		4.73	mg/kg	0.10	6020	E B	04/30/99
Barium		43.2	mg/kg	1.0	6020	E B	04/30/99
Cadmium		Not detected	mg/kg	0.05	6020	E B	04/30/99
Chromium		9.94	mg/kg	0.20	6020	E B	04/30/99
Copper	J	13.3	mg/kg	1.0	6020	E B	04/30/99
Lead		3.2	mg/kg	1.0	6020	E B	04/30/99
Mercury		Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium		Not detected	mg/kg	0.50	6020	E B	04/30/99
Silver		Not detected	mg/kg	0.20	6020	E B	04/30/99
Zinc	J	15.0	mg/kg	1.0	6020	E B	04/30/99
TCLP Metals							
Arsenic		Not detected	mg/L	0.005	200.8	E B	05/02/99
Barium		0.37	mg/L	0.01	200.8	E B	05/02/99
Cadmium		Not detected	mg/L	0.0002	200.8	E B	05/02/99
Chromium		Not detected	mg/L	0.01	200.8	E B	05/02/99
Copper		Not detected	mg/L	0.01	200.8	E B	05/02/99
Lead		Not detected	mg/L	0.003	200.8	E B	05/02/99
Mercury		Not detected	mg/L	0.0002	245.1	E B	04/30/99
Selenium		Not detected	mg/L	0.005	200.8	E B	05/02/99
Silver		Not detected	mg/L	0.0005	200.8	E B	05/02/99
Zinc		0.03	mg/L	0 01	200.8	E B	05/02/99
TCLP Extraction							
% Solids		100			1311	JGH	04/30/99
Sample used g		100			1311	JGH	04/30/99
Final Volume ml		2,000			1311	JGH	04/30/99
Final Extract pH		7.40			1311	JGH	04/30/99
Organics							
BNA Extraction		Completed				S G	04/30/99
TCLP/SPLP BNA Extraction		Completed			625/8270	C E	04/30/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75745 (Continued)
Tag: CW-9
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4-Chloro-3-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2-Chlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Chrysene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
o-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dichlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dimethylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4,6-Dinitro-2-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dinitrophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99

FECL #: AA75745 (Continued)
Tag: CW-9
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Qual	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)							
GC/MS for Semi-Volatile Organic (Continued)							
2,4-Dinitrotoluene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
2,6-Dinitrotoluene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-octyl phthalate		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluoranthene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluorene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobenzene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobutadiene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorocyclopentadiene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachloroethane		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Indeno(1,2,3-cd)pyrene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Isophorone		Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Methylnaphthalene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Naphthalene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Nitroaniline		Not detected	mg/kg	0.3	8270	SMP	05/03/99
3-Nitroaniline		Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Nitroaniline		Not detected	mg/kg	0.3	8270	SMP	05/03/99
Nitrobenzene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2-Nitrophenol~~	R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~4-Nitrophenol~~	R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodiphenylamine		Not detected	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodi-n-propylamine		Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Pentachlorophenol~~	R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Phenanthrene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Phenol~~	R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Pyrene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2,4-Trichlorobenzene		Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,5-Trichlorophenol~~	R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,6-Trichlorophenol~~	R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
GC/MS for Volatile Organics							
Benzene		Not detected	mg/kg	*0.1	8260	VFM	05/03/99
Bromodichloromethane		Not detected	mg/kg	*0.1	8260	VFM	05/03/99
Bromoform		Not detected	mg/kg	*0.1	8260	VFM	05/03/99
Bromomethane		Not detected	mg/kg	*0.1	8260	VFM	05/03/99
n-Butylbenzene		Not detected	mg/kg	*0.1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75745 (Continued)
Tag: CW-9
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
tert-Butylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Carbon tetrachloride	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloroform	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Chloromethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Dibromochloromethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
,1-Dichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
cis-1,2-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
trans-1,2-Dichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2-Dichloropropane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
cis-1,3-Dichloropropene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
trans-1,3-Dichloropropene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Ethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Isopropylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
p-Isopropyltoluene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Methylene chloride 0.7 UJ	~~Not detected~~	mg/kg	* 0.1	8260	VFM	05/03/99
Naphthalene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
n-Propylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Styrene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Tetrachloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Toluene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,1-Trichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,1,2-Trichloroethane	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Trichloroethene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Vinyl chloride	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75745 (Continued)
Tag: CW-9
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
p,m-Xylene	Not detected	mg/kg	* 0.1	8260	VFM	05/03/99
Acetone	Not detected	mg/kg	* 1	8260	VFM	05/03/99
2-Butanone	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Carbon Disulfide	Not detected	mg/kg	* 1	8260	VFM	05/03/99
2-Hexanone	Not detected	mg/kg	* 1	8260	VFM	05/03/99
4-Methyl-2-pentanone	0.2	mg/kg	* 0.1	8260	VFM	05/03/99
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	05/01/99
p,m-Cresol	Not detected	mg/L	1	625	JB	05/01/99
Pentachlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	05/01/99
Hexachloroethane	Not detected	mg/L	0.1	625	JB	05/01/99
Nitrobenzene	Not detected	mg/L	0.1	625	JB	05/01/99
Pyridine	Not detected	mg/L	0.1	625	JB	05/01/99
TCLP/SPLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	JB	05/03/99
Carbon tetrachloride	Not detected	mg/L	0.1	624	JB	05/03/99
Chlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
Chloroform	Not detected	mg/L	0.1	624	JB	05/03/99
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
1,2-Dichloroethane	Not detected	mg/L	0.1	624	JB	05/03/99
1,1-Dichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1	624	JB	05/03/99
Tetrachloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Trichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Vinyl Chloride	Not detected	mg/L	0.1	624	JB	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75746
Tag: CF-12
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis		Results	Units	MDL	Method	Analyst	Date Run
Inorganics							
TCLP Zero Headspace Ext.		Completed					
Total Solids		95.8	%	1	1311	JGH	05/02/99
					160.3	I M	04/29/99
Metals							
Arsenic		5.82	mg/kg	0.10	6020	E B	04/30/99
Barium		42.5	mg/kg	1.0	6020	E B	04/30/99
Cadmium		Not detected	mg/kg	0.05	6020	E B	04/30/99
Chromium		14.5	mg/kg	0.20	6020	E B	04/30/99
Copper	J	48.4	mg/kg	1.0	6020	E B	04/30/99
Lead		2.8	mg/kg	1.0	6020	E B	04/30/99
Mercury		Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium		Not detected	mg/kg	0.50	6020	E B	04/30/99
Silver		Not detected	mg/kg	0.20	6020	E B	04/30/99
Zinc	J	16.5	mg/kg	1.0	6020	E B	04/30/99
TCLP Metals							
Arsenic		Not detected	mg/L	0.005	200.8	E B	05/02/99
Barium		0.37	mg/L	0.01	200.8	E B	05/02/99
Cadmium		Not detected	mg/L	0.0002	200.8	E B	05/02/99
Chromium		Not detected	mg/L	0.01	200.8	E B	05/02/99
Copper		Not detected	mg/L	0.01	200.8	E B	05/02/99
Lead		Not detected	mg/L	0.003	200.8	E B	05/02/99
Mercury		Not detected	mg/L	0.0002	245.1	E B	04/30/99
Selenium		Not detected	mg/L	0.005	200.8	E B	05/02/99
Silver		Not detected	mg/L	0.0005	200.8	E B	05/02/99
Zinc		0.03	mg/L	0 01	200.8	E B	05/02/99
TCLP Extraction							
% Solids		100					
Sample used g		100			1311	JGH	04/30/99
Final Volume ml		2,000			1311	JGH	04/30/99
Final Extract pH		7.10			1311	JGH	04/30/99
					1311	JGH	04/30/99
Organics							
BNA Extraction		Completed					
TCLP/SPLP BNA Extraction		Completed			625/8270	S G	04/30/99
						C E	04/30/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75746 (Continued)
Tag: CF-12
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4-Chloro-3-methylphenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2-Chlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Chrysene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
o-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dichlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dimethylphenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4,6-Dinitro-2-methylphenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dinitrophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75746 (Continued)
Tag: CF-12
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluoranthene	J 0.4	mg/kg	0.3	8270	SMP	05/03/99
Fluorene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Isophorone	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Naphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2-Nitrophenol~~	R ~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~4-Nitrophenol~~	R ~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Pentachlorophenol~~	R ~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Phenanthrene	J 0.4	mg/kg	0.3	8270	SMP	05/03/99
~~Phenol~~	R ~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Pyrene	J 0.4	mg/kg	0.3	8270	SMP	05/03/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,5-Trichlorophenol~~	R ~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,6-Trichlorophenol~~	R ~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
GC/MS for Volatile Organics						
Benzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Bromodichloromethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Bromoform	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Bromomethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
n-Butylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75746 (Continued)
Tag: CF-12
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
tert-Butylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Carbon tetrachloride	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloroform	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloromethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Dibromochloromethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
,1-Dichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
cis-1,2-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
trans-1,2-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichloropropane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
cis-1,3-Dichloropropene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
trans-1,3-Dichloropropene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Ethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Isopropylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
p-Isopropyltoluene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Methylene chloride	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Naphthalene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
n-Propylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Styrene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Tetrachloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Toluene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,1-Trichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,2-Trichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Trichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Vinyl chloride	Not detected	mg/kg	* 1	8260	VFM	05/03/99

* Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75746 (Continued)
Tag: CF-12
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
p,m-Xylene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Acetone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
2-Butanone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
Carbon Disulfide	Not detected	mg/kg	* 10	8260	VFM	05/03/99
2-Hexanone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
4-Methyl-2-pentanone	2 J	mg/kg	* 1	8260	VFM	05/03/99
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	05/01/99
p,m-Cresol	Not detected	mg/L	1	625	JB	05/01/99
Pentachlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	05/01/99
Hexachloroethane	Not detected	mg/L	0.1	625	JB	05/01/99
Nitrobenzene	Not detected	mg/L	0.1	625	JB	05/01/99
Pyridine	Not detected	mg/L	0.1	625	JB	05/01/99
TCLP/SPLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	JB	05/03/99
Carbon tetrachloride	Not detected	mg/L	0.1	624	JB	05/03/99
Chlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
Chloroform	Not detected	mg/L	0.1	624	JB	05/03/99
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
1,2-Dichloroethane	Not detected	mg/L	0.1	624	JB	05/03/99
1,1-Dichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1	624	JB	05/03/99
Tetrachloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Trichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Vinyl Chloride	Not detected	mg/L	0.1	624	JB	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75747
Tag: CF-13
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Qual	Results	Units	MDL	Method	Analyst	Date Run
Inorganics							
TCLP Zero Headspace Ext.		Completed			1311	JGH	05/02/99
Total Solids		95.4	%	1	160.3	I M	04/29/99
Metals							
Arsenic		5.43	mg/kg	0.10	6020	E B	04/30/99
Barium		36.3	mg/kg	1.0	6020	E B	04/30/99
Cadmium		0.07	mg/kg	0.05	6020	E B	04/30/99
Chromium		13.1	mg/kg	0.20	6020	E B	04/30/99
Copper	J	16.3	mg/kg	1.0	6020	E B	04/30/99
Lead		3.1	mg/kg	1.0	6020	E B	04/30/99
Mercury		Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium		Not detected	mg/kg	0.50	6020	E B	04/30/99
Silver		Not detected	mg/kg	0.20	6020	E B	04/30/99
Zinc	J	38.6	mg/kg	1.0	6020	E B	04/30/99
TCLP Metals							
Arsenic		Not detected	mg/L	0.005	200.8	E B	05/02/99
Barium		0.35	mg/L	0.01	200.8	E B	05/02/99
Cadmium		Not detected	mg/L	0.0002	200.8	E B	05/02/99
Chromium		Not detected	mg/L	0.01	200.8	E B	05/02/99
Copper		Not detected	mg/L	0.01	200.8	E B	05/02/99
Lead		Not detected	mg/L	0.003	200.8	E B	05/02/99
Mercury		Not detected	mg/L	0.0002	245.1	E B	04/30/99
Selenium		Not detected	mg/L	0.005	200.8	E B	05/02/99
Silver		Not detected	mg/L	0.0005	200.8	E B	05/02/99
Zinc		0.03	mg/L	0 01	200.8	E B	05/02/99
TCLP Extraction							
% Solids		100			1311	JGH	04/30/99
Sample used g		100			1311	JGH	04/30/99
Final Volume ml		2,000			1311	JGH	04/30/99
Final Extract pH		7.52			1311	JGH	04/30/99
Organics							
BNA Extraction		Completed					
TCLP/SPLP BNA Extraction		Completed			625/8270	S G	04/30/99
						C E	04/30/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75747 (Continued)
Tag: CF-13
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4-Chloro-3-methylphenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2-Chlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Chrysene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
o-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dichlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dimethylphenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4,6-Dinitro-2-methylphenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dinitrophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75747 (Continued)
Tag: CF-13
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluorene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Isophorone	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Naphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2-Nitrophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~4-Nitrophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Pentachlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Phenanthrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Phenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,5-Trichlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,6-Trichlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
GC/MS for Volatile Organics						
Benzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Bromodichloromethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
Bromoform	* Not detected	mg/kg	1	8260	VFM	05/03/99
Bromomethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
n-Butylbenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75747 (Continued)
Tag: CF-13
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
tert-Butylbenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Carbon tetrachloride	* Not detected	mg/kg	1	8260	VFM	05/03/99
Chlorobenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Chloroethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
Chloroform	* Not detected	mg/kg	1	8260	VFM	05/03/99
Chloromethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
Dibromochloromethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,2-Dichlorobenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,3-Dichlorobenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,4-Dichlorobenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
,1-Dichloroethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,2-Dichloroethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,1-Dichloroethene	* Not detected	mg/kg	1	8260	VFM	05/03/99
cis-1,2-Dichloroethene	* Not detected	mg/kg	1	8260	VFM	05/03/99
trans-1,2-Dichloroethene	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,2-Dichloropropane	* Not detected	mg/kg	1	8260	VFM	05/03/99
cis-1,3-Dichloropropene	* Not detected	mg/kg	1	8260	VFM	05/03/99
trans-1,3-Dichloropropene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Ethylbenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Isopropylbenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
p-Isopropyltoluene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Methylene chloride	* Not detected	mg/kg	1	8260	VFM	05/03/99
Naphthalene	* Not detected	mg/kg	1	8260	VFM	05/03/99
n-Propylbenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Styrene	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,1,2,2-Tetrachloroethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
Tetrachloroethene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Toluene	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,1,1-Trichloroethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,1,2-Trichloroethane	* Not detected	mg/kg	1	8260	VFM	05/03/99
Trichloroethene	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,2,4-Trimethylbenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
1,3,5-Trimethylbenzene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Vinyl chloride	* Not detected	mg/kg	1	8260	VFM	05/03/99

* Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75747 (Continued)
Tag: CF-13
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	* Not detected	mg/kg	1	8260	VFM	05/03/99
p,m-Xylene	* Not detected	mg/kg	1	8260	VFM	05/03/99
Acetone	* Not detected	mg/kg	10	8260	VFM	05/03/99
2-Butanone	* Not detected	mg/kg	10	8260	VFM	05/03/99
Carbon Disulfide	* Not detected	mg/kg	10	8260	VFM	05/03/99
2-Hexanone	* Not detected	mg/kg	10	8260	VFM	05/03/99
4-Methyl-2-pentanone	* 3	mg/kg	1	8260	VFM	05/03/99
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	05/01/99
p,m-Cresol	Not detected	mg/L	1	625	JB	05/01/99
Pentachlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	05/01/99
Hexachloroethane	Not detected	mg/L	0.1	625	JB	05/01/99
Nitrobenzene	Not detected	mg/L	0.1	625	JB	05/01/99
Pyridine	Not detected	mg/L	0.1	625	JB	05/01/99
TCLP/SPLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	JB	05/03/99
Carbon tetrachloride	Not detected	mg/L	0.1	624	JB	05/03/99
Chlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
Chloroform	Not detected	mg/L	0.1	624	JB	05/03/99
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
1,2-Dichloroethane	Not detected	mg/L	0.1	624	JB	05/03/99
1,1-Dichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1	624	JB	05/03/99
Tetrachloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Trichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Vinyl Chloride	Not detected	mg/L	0.1	624	JB	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75748
Tag: CF-14
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Qual	Results	Units	MDL	Method	Analyst	Date Run
Inorganics							
TCLP Zero Headspace Ext.		Completed			1311	JGH	05/02/99
Total Solids		95.4	%	1	160.3	I M	04/29/99
Metals							
Arsenic		9.50	mg/kg	0.10	6020	E B	04/30/99
Barium		43.1	mg/kg	1.0	6020	E B	04/30/99
Cadmium		Not detected	mg/kg	0.05	6020	E B	04/30/99
Chromium		11.4	mg/kg	1.0	6020	E B	04/30/99
Copper	J	21.7	mg/kg	1.0	6020	E B	04/30/99
Lead		6.1	mg/kg	1.0	6020	E B	04/30/99
Mercury		Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium		1.49	mg/kg	0.50	6020	E B	04/30/99
Silver		Not detected	mg/kg	0.20	6020	E B	04/30/99
Zinc	J	14.8	mg/kg	1.0	6020	E B	04/30/99
TCLP Metals							
Arsenic		Not detected	mg/L	0.005	200.8	E B	05/02/99
Barium		0.35	mg/L	0.01	200.8	E B	05/02/99
Cadmium		Not detected	mg/L	0.0002	200.8	E B	05/02/99
Chromium		Not detected	mg/L	0.01	200.8	E B	05/02/99
Copper		Not detected	mg/L	0.01	200.8	E B	05/02/99
Lead		Not detected	mg/L	0.003	200.8	E B	05/02/99
Mercury		Not detected	mg/L	0.0002	245.1	E B	04/30/99
Selenium		Not detected	mg/L	0.005	200.8	E B	05/02/99
Silver		Not detected	mg/L	0.0005	200.8	E B	05/02/99
Zinc		0.01	mg/L	0 01	200.8	E B	05/02/99
TCLP Extraction							
% Solids		100			1311	JGH	04/30/99
Sample used g		100			1311	JGH	04/30/99
Final Volume ml		2,000			1311	JGH	04/30/99
Final Extract pH		9.08			1311	JGH	04/30/99
Organics							
BNA Extraction		Completed					
TCLP/SPLP BNA Extraction		Completed			625/8270	S G	04/30/99
						C E	04/30/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75748 (Continued)
Tag: CF-14
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(b)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(k)fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(ghi)perylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4-Chloro-3-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2-Chlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~4-Chlorophenyl phenyl ether~~	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Chrysene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
o-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzofuran	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dichlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dimethylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4,6-Dinitro-2-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dinitrophenol~~ R	Not detected	mg/kg	0.3	8270	SMP	05/03/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75748 (Continued)
Tag: CF-14
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluoranthene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluorene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Isophorone	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Naphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2-Nitrophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~4-Nitrophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Pentachlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Phenanthrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Phenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Pyrene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,5-Trichlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,6-Trichlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
GC/MS for Volatile Organics						
Benzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Bromodichloromethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Bromoform	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Bromomethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
n-Butylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75748 (Continued)
Tag: CF-14
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
tert-Butylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Carbon tetrachloride	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloroform	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloromethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Dibromochloromethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
,1-Dichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
cis-1,2-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
trans-1,2-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichloropropane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
cis-1,3-Dichloropropene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
trans-1,3-Dichloropropene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Ethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Isopropylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
p-Isopropyltoluene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Methylene chloride	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Naphthalene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
n-Propylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Styrene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Tetrachloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Toluene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,1-Trichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,2-Trichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Trichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Vinyl chloride	Not detected	mg/kg	* 1	8260	VFM	05/03/99

* Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75748 (Continued)
Tag: CF-14
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
p,m-Xylene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Acetone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
2-Butanone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
Carbon Disulfide	Not detected	mg/kg	* 10	8260	VFM	05/03/99
2-Hexanone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
4-Methyl-2-pentanone	5	mg/kg	* 1	8260	VFM	05/03/99
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	05/01/99
p,m-Cresol	Not detected	mg/L	1	625	JB	05/01/99
Pentachlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	05/01/99
Hexachloroethane	Not detected	mg/L	0.1	625	JB	05/01/99
Nitrobenzene	Not detected	mg/L	0.1	625	JB	05/01/99
Pyridine	Not detected	mg/L	0.1	625	JB	05/01/99
TCLP/SPLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	JB	05/03/99
Carbon tetrachloride	Not detected	mg/L	0.1	624	JB	05/03/99
Chlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
Chloroform	Not detected	mg/L	0.1	624	JB	05/03/99
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
1,2-Dichloroethane	Not detected	mg/L	0.1	624	JB	05/03/99
1,1-Dichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1	624	JB	05/03/99
Tetrachloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Trichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Vinyl Chloride	Not detected	mg/L	0.1	624	JB	05/03/99

* Higher detection limits due to matrix interference and/or high target concentrations.

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
May 04, 1999

FECL #: AA75749
Tag: MS (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	Completed			1311	JGH	05/02/99
Total Solids	95.9	%	1	160.3	I M	04/29/99
Metals						
Arsenic	24.0	mg/kg	0.10	6020	E B	04/30/99
Barium	66.3	mg/kg	1.0	6020	E B	04/30/99
Cadmium	17.7	mg/kg	0.05	6020	E B	04/30/99
Chromium	31.8	mg/kg	0.20	6020	E B	04/30/99
Copper	112	mg/kg	1.0	6020	E B	04/30/99
Lead	24.8	mg/kg	1.0	6020	E B	04/30/99
Mercury	Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium	16.3	mg/kg	0.50	6020	E B	04/30/99
Silver	17.5	mg/kg	0.20	6020	E B	04/30/99
Zinc	42.9	mg/kg	1.0	6020	E B	04/30/99
TCLP Metals						
Arsenic	0.277	mg/L	0.005	200.8	E B	05/02/99
Barium	0.66	mg/L	0.01	200.8	E B	05/02/99
Cadmium	0.2414	mg/L	0.0002	200.8	E B	05/02/99
Chromium	0.24	mg/L	0.01	200.8	E B	05/02/99
Copper	0.26	mg/L	0.01	200.8	E B	05/02/99
Lead	0.234	mg/L	0.003	200.8	E B	05/02/99
Mercury	0.0021	mg/L	0.0002	245.1	E B	04/30/99
Selenium	0.260	mg/L	0.005	200.8	E B	05/02/99
Silver	0.2330	mg/L	0.0005	200.8	E B	05/02/99
Zinc	0.26	mg/L	0 01	200.8	E B	05/02/99
TCLP Extraction						
% Solids	100			1311	JGH	04/30/99
Sample used g	100			1311	JGH	04/30/99
Final Volume ml	2,000			1311	JGH	04/30/99
Final Extract pH	7.31			1311	JGH	04/30/99
Organics						
BNA Extraction	Completed				S G	04/30/99
TCLP/SPLP BNA Extraction	Completed			625/8270	S G	04/30/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75749 (Continued)
Tag: MS (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	1.7	mg/kg	0.3	8270	SMP	05/04/99
Acenaphthylene	1.3	mg/kg	0.3	8270	SMP	05/04/99
Anthracene	2.3	mg/kg	0.3	8270	SMP	05/04/99
Benzo(a)anthracene	2.5	mg/kg	0.3	8270	SMP	05/04/99
Benzo(b)fluoranthene	2.5	mg/kg	0.3	8270	SMP	05/04/99
Benzo(k)fluoranthene	1.0	mg/kg	0.3	8270	SMP	05/04/99
Benzo(ghi)perylene	2.3	mg/kg	0.3	8270	SMP	05/04/99
Benzo(a)pyrene	2.5	mg/kg	0.3	8270	SMP	05/04/99
Bis(2-chloroethoxy)methane	1.2	mg/kg	0.3	8270	SMP	05/04/99
Bis(2-chloroethyl)ether	1.1	mg/kg	0.3	8270	SMP	05/04/99
Bis(2-chloroisopropyl)ether	0.7	mg/kg	0.3	8270	SMP	05/04/99
Bis(2-ethylhexyl)phthalate	2.1	mg/kg	0.3	8270	SMP	05/04/99
4-Bromophenyl phenyl ether	1.3	mg/kg	0.3	8270	SMP	05/04/99
Butyl benzyl phthalate	1.9	mg/kg	0.3	8270	SMP	05/04/99
4-Chloroaniline	0.9	mg/kg	0.3	8270	SMP	05/04/99
2-Chloronaphthalene	1.3	mg/kg	0.3	8270	SMP	05/04/99
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
2-Chlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
4-Chlorophenyl phenyl ether	1.1	mg/kg	0.3	8270	SMP	05/04/99
Chrysene	2.4	mg/kg	0.3	8270	SMP	05/04/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
o-Cresol	0.4	mg/kg	0.3	8270	SMP	05/04/99
Dibenzo(a,h)anthracene	1.4	mg/kg	0.3	8270	SMP	05/04/99
Dibenzofuran	1.6	mg/kg	0.3	8270	SMP	05/04/99
Di-n-butyl phthalate	1.6	mg/kg	0.3	8270	SMP	05/04/99
1,2-Dichlorobenzene	1.1	mg/kg	0.3	8270	SMP	05/04/99
1,3-Dichlorobenzene	1.1	mg/kg	0.3	8270	SMP	05/04/99
1,4-Dichlorobenzene	1.1	mg/kg	0.3	8270	SMP	05/04/99
3,3'-Dichlorobenzidine	1.1	mg/kg	0.3	8270	SMP	05/04/99
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
Diethyl phthalate	1.2	mg/kg	0.3	8270	SMP	05/04/99
2,4-Dimethylphenol	0.8	mg/kg	0.3	8270	SMP	05/04/99
Dimethyl phthalate	1.3	mg/kg	0.3	8270	SMP	05/04/99
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99

FECL #: AA75749 (Continued)
Tag: MS (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4-Dinitrotoluene	1.3	mg/kg	0.3	8270	SMP	05/04/99
2,6-Dinitrotoluene	1.3	mg/kg	0.3	8270	SMP	05/04/99
Di-n-octyl phthalate	1.6	mg/kg	0.3	8270	SMP	05/04/99
Fluoranthene	3.8	mg/kg	0.3	8270	SMP	05/04/99
Fluorene	1.7	mg/kg	0.3	8270	SMP	05/04/99
Hexachlorobenzene	1.4	mg/kg	0.3	8270	SMP	05/04/99
Hexachlorobutadiene	1.1	mg/kg	0.3	8270	SMP	05/04/99
Hexachlorocyclopentadiene	0.4	mg/kg	0.3	8270	SMP	05/04/99
Hexachloroethane	0.9	mg/kg	0.3	8270	SMP	05/04/99
Indeno(1,2,3-cd)pyrene	2.0	mg/kg	0.3	8270	SMP	05/04/99
Isophorone	1.0	mg/kg	0.3	8270	SMP	05/04/99
2-Methylnaphthalene	1.3	mg/kg	0.3	8270	SMP	05/04/99
Naphthalene	1.5	mg/kg	0.3	8270	SMP	05/04/99
2-Nitroaniline	1.2	mg/kg	0.3	8270	SMP	05/04/99
3-Nitroaniline	1.1	mg/kg	0.3	8270	SMP	05/04/99
4-Nitroaniline	1.1	mg/kg	0.3	8270	SMP	05/04/99
Nitrobenzene	1.1	mg/kg	0.3	8270	SMP	05/04/99
2-Nitrophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
4-Nitrophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
N-Nitrosodiphenylamine	1.6	mg/kg	0.3	8270	SMP	05/04/99
N-Nitrosodi-n-propylamine	0.9	mg/kg	0.3	8270	SMP	05/04/99
Pentachlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
Phenanthrene	4.2	mg/kg	0.3	8270	SMP	05/04/99
Phenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
Pyrene	4.1	mg/kg	0.3	8270	SMP	05/04/99
1,2,4-Trichlorobenzene	1.3	mg/kg	0.3	8270	SMP	05/04/99
2,4,5-Trichlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
GC/MS for Volatile Organics						
Benzene	2.3	mg/kg	1.0	8260	VFM	05/02/99
Bromodichloromethane	2.2	mg/kg	1.0	8260	VFM	05/02/99
Bromoform	1.7	mg/kg	1.0	8260	VFM	05/02/99
Bromomethane	1.4	mg/kg	1.0	8260	VFM	05/02/99
n-Butylbenzene	2.2	mg/kg	1.0	8260	VFM	05/02/99

FECL #: AA75749 (Continued)
Tag: MS (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	2.3	mg/kg	1.0	8260	VFM	05/02/99
tert-Butylbenzene	1.7	mg/kg	1.0	8260	VFM	05/02/99
Carbon tetrachloride	2.1	mg/kg	1.0	8260	VFM	05/02/99
Chlorobenzene	2.0	mg/kg	1.0	8260	VFM	05/02/99
Chloroethane	1.5	mg/kg	1.0	8260	VFM	05/02/99
Chloroform	2.7	mg/kg	1.0	8260	VFM	05/02/99
Chloromethane	1.8	mg/kg	1.0	8260	VFM	05/02/99
Dibromochloromethane	2.0	mg/kg	1.0	8260	VFM	05/02/99
1,2-Dichlorobenzene	2.5	mg/kg	1.0	8260	VFM	05/02/99
1,3-Dichlorobenzene	2.5	mg/kg	1.0	8260	VFM	05/02/99
1,4-Dichlorobenzene	2.5	mg/kg	1.0	8260	VFM	05/02/99
,1-Dichloroethane	2.2	mg/kg	1.0	8260	VFM	05/02/99
1,2-Dichloroethane	2.8	mg/kg	1.0	8260	VFM	05/02/99
1,1-Dichloroethene	2.0	mg/kg	1.0	8260	VFM	05/02/9
cis-1,2-Dichloroethene	2.5	mg/kg	1.0	8260	VFM	05/02/9
trans-1,2-Dichloroethene	2.1	mg/kg	1.0	8260	VFM	05/02/99
1,2-Dichloropropane	2.3	mg/kg	1.0	8260	VFM	05/02/99
cis-1,3-Dichloropropene	2.2	mg/kg	1.0	8260	VFM	05/02/99
trans-1,3-Dichloropropene	2.3	mg/kg	1.0	8260	VFM	05/02/99
Ethylbenzene	2.1	mg/kg	1.0	8260	VFM	05/02/99
Isopropylbenzene	2.1	mg/kg	1.0	8260	VFM	05/02/99
p-Isopropyltoluene	2.3	mg/kg	1.0	8260	VFM	05/02/99
Methylene chloride	7.7	mg/kg	1.0	8260	VFM	05/02/99
Naphthalene	2.6	mg/kg	1.0	8260	VFM	05/02/99
n-Propylbenzene	2.0	mg/kg	1.0	8260	VFM	05/02/99
Styrene	2.2	mg/kg	1.0	8260	VFM	05/02/99
1,1,2,2-Tetrachloroethane	1.9	mg/kg	1.0	8260	VFM	05/02/99
Tetrachloroethene	3.0	mg/kg	1.0	8260	VFM	05/02/99
Toluene	2.6	mg/kg	1.0	8260	VFM	05/02/99
1,1,1-Trichloroethane	2.6	mg/kg	1.0	8260	VFM	05/02/99
1,1,2-Trichloroethane	2.4	mg/kg	1.0	8260	VFM	05/02/99
Trichloroethene	2.5	mg/kg	1.0	8260	VFM	05/02/99
1,2,4-Trimethylbenzene	1.9	mg/kg	1.0	8260	VFM	05/02/99
1,3,5-Trimethylbenzene	2.3	mg/kg	1.0	8260	VFM	05/02/99
Vinyl chloride	2.1	mg/kg	1.0	8260	VFM	05/02/99

FECL #: AA75749 (Continued)
Tag: MS (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	2.2	mg/kg	1.0	8260	VFM	05/02/99
p,m-Xylene	4.9	mg/kg	1.0	8260	VFM	05/02/99
Acetone	Not detected	mg/kg	10.0	8260	VFM	05/02/99
2-Butanone	Not detected	mg/kg	10.0	8260	VFM	05/02/99
Carbon Disulfide	Not detected	mg/kg	10.0	8260	VFM	05/02/99
2-Hexanone	Not detected	mg/kg	10.0	8260	VFM	05/02/99
4-Methyl-2-pentanone	7.9	mg/kg	1.0	8260	VFM	05/02/99
TCLP Semi-Volatiles						
o-Cresol	0.06	mg/L	0.01	625	JB	05/04/99
p,m-Cresol	0.11	mg/L	0.01	625	JB	05/04/99
Pentachlorophenol	0.06	mg/L	0.01	625	JB	05/04/99
2,4,5-Trichlorophenol	0.06	mg/L	0.01	625	JB	05/04/99
2,4,6-Trichlorophenol	0.07	mg/L	0.01	625	JB	05/04/99
2,4-Dinitrotoluene	0.06	mg/L	0.01	625	JB	05/04/99
Hexachlorobenzene	0.06	mg/L	0.01	625	JB	05/04/99
Hexachlorobutadiene	0.05	mg/L	0.01	625	JB	05/04/99
Hexachloroethane	0.06	mg/L	0.01	625	JB	05/04/99
Nitrobenzene	0.06	mg/L	0.01	625	JB	05/04/99
Pyridine	0.06	mg/L	0.01	625	JB	05/04/99
TCLP/SPLP Volatiles						
Benzene	0.25	mg/L	0.10	624	JB	05/03/99
Carbon tetrachloride	0.31	mg/L	0.10	624	JB	05/03/99
Chlorobenzene	0.26	mg/L	0.10	624	JB	05/03/99
Chloroform	0.28	mg/L	0.10	624	JB	05/03/99
1,4-Dichlorobenzene	0.29	mg/L	0.10	624	JB	05/03/99
1,2-Dichloroethane	0.29	mg/L	0.10	624	JB	05/03/99
1,1-Dichloroethene	0.23	mg/L	0.10	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1.00	624	JB	05/03/99
Tetrachloroethene	0.52	mg/L	0.10	624	JB	05/03/99
Trichloroethene	0.32	mg/L	0.10	624	JB	05/03/99
Vinyl Chloride	0.18	mg/L	0.10	624	JB	05/03/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
May 04, 1999

FECL #: AA75750
Tag: MSD (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
TCLP Zero Headspace Ext.	Completed			1311	JGH	05/02/99
Total Solids	96.8	%	1	160.3	I M	04/29/99
Metals						
Arsenic	24.0	mg/kg	0.10	6020	E B	04/30/99
Barium	66.7	mg/kg	1.0	6020	E B	04/30/99
Cadmium	18.7	mg/kg	0.05	6020	E B	04/30/99
Chromium	37.7	mg/kg	1.0	6020	E B	04/30/99
Copper	150	mg/kg	1.0	6020	E B	04/30/99
Lead	22.9	mg/kg	1.0	6020	E B	04/30/99
Mercury	Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium	17.4	mg/kg	0.50	6020	E B	04/30/99
Silver	18.4	mg/kg	0.20	6020	E B	04/30/99
Zinc	46.4	mg/kg	1.0	6020	E B	04/30/99
TCLP Metals						
Arsenic	0.282	mg/L	0.005	200.8	E B	05/02/99
Barium	0.69	mg/L	0.01	200.8	E B	05/02/99
Cadmium	0.2449	mg/L	0.0002	200.8	E B	05/02/99
Chromium	0.24	mg/L	0.01	200.8	E B	05/02/99
Copper	0.28	mg/L	0.01	200.8	E B	05/02/99
Lead	0.238	mg/L	0.003	200.8	E B	05/02/99
Mercury	0.0020	mg/L	0.0002	245.1	E B	04/30/99
Selenium	0.262	mg/L	0.005	200.8	E B	05/02/99
Silver	0.2406	mg/L	0.0005	200.8	E B	05/02/99
Zinc	0.26	mg/L	0 01	200.8	E B	05/02/99
TCLP Extraction						
% Solids	100			1311	JGH	04/30/99
Sample used g	100			1311	JGH	04/30/99
Final Volume ml	2,000			1311	JGH	04/30/99
Final Extract pH	7.24			1311	JGH	04/30/99
Organics						
BNA Extraction	Completed			625/8270	S G	04/30/99
TCLP/SPLP BNA Extraction	Completed				S G	04/30/99

FECL #: AA75750 (Continued)
Tag: MSD (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	1.6	mg/kg	0.3	8270	SMP	05/04/99
Acenaphthylene	1.3	mg/kg	0.3	8270	SMP	05/04/99
Anthracene	2.0	mg/kg	0.3	8270	SMP	05/04/99
Benzo(a)anthracene	2.1	mg/kg	0.3	8270	SMP	05/04/99
Benzo(b)fluoranthene	2.4	mg/kg	0.3	8270	SMP	05/04/99
Benzo(k)fluoranthene	1.1	mg/kg	0.3	8270	SMP	05/04/99
Benzo(ghi)perylene	2.1	mg/kg	0.3	8270	SMP	05/04/99
Benzo(a)pyrene	2.2	mg/kg	0.3	8270	SMP	05/04/99
Bis(2-chloroethoxy)methane	1.2	mg/kg	0.3	8270	SMP	05/04/99
Bis(2-chloroethyl)ether	1.1	mg/kg	0.3	8270	SMP	05/04/99
Bis(2-chloroisopropyl)ether	0.8	mg/kg	0.3	8270	SMP	05/04/99
Bis(2-ethylhexyl)phthalate	2.1	mg/kg	0.3	8270	SMP	05/04/99
4-Bromophenyl phenyl ether	1.3	mg/kg	0.3	8270	SMP	05/04/99
Butyl benzyl phthalate	1.9	mg/kg	0.3	8270	SMP	05/04/99
4-Chloroaniline	1.0	mg/kg	0.3	8270	SMP	05/04/99
2-Chloronaphthalene	1.3	mg/kg	0.3	8270	SMP	05/04/99
4-Chloro-3-methylphenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
2-Chlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
4-Chlorophenyl phenyl ether	1.2	mg/kg	0.3	8270	SMP	05/04/99
Chrysene	2.2	mg/kg	0.3	8270	SMP	05/04/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
o-Cresol	0.5	mg/kg	0.3	8270	SMP	05/04/99
Dibenzo(a,h)anthracene	1.4	mg/kg	0.3	8270	SMP	05/04/99
Dibenzofuran	1.6	mg/kg	0.3	8270	SMP	05/04/99
Di-n-butyl phthalate	1.5	mg/kg	0.3	8270	SMP	05/04/99
1,2-Dichlorobenzene	1.2	mg/kg	0.3	8270	SMP	05/04/99
1,3-Dichlorobenzene	1.1	mg/kg	0.3	8270	SMP	05/04/99
1,4-Dichlorobenzene	1.2	mg/kg	0.3	8270	SMP	05/04/99
3,3'-Dichlorobenzidine	1.2	mg/kg	0.3	8270	SMP	05/04/99
2,4-Dichlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
Diethyl phthalate	1.3	mg/kg	0.3	8270	SMP	05/04/99
2,4-Dimethylphenol	0.8	mg/kg	0.3	8270	SMP	05/04/99
Dimethyl phthalate	1.4	mg/kg	0.3	8270	SMP	05/04/99
4,6-Dinitro-2-methylphenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
2,4-Dinitrophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99

FECL #: AA75750 (Continued)
Tag: MSD (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4-Dinitrotoluene	1.3	mg/kg	0.3	8270	SMP	05/04/99
2,6-Dinitrotoluene	1.3	mg/kg	0.3	8270	SMP	05/04/99
Di-n-octyl phthalate	1.6	mg/kg	0.3	8270	SMP	05/04/99
Fluoranthene	3.1	mg/kg	0.3	8270	SMP	05/04/99
Fluorene	1.6	mg/kg	0.3	8270	SMP	05/04/99
Hexachlorobenzene	1.4	mg/kg	0.3	8270	SMP	05/04/99
Hexachlorobutadiene	1.1	mg/kg	0.3	8270	SMP	05/04/99
Hexachlorocyclopentadiene	0.4	mg/kg	0.3	8270	SMP	05/04/99
Hexachloroethane	1.0	mg/kg	0.3	8270	SMP	05/04/99
Indeno(1,2,3-cd)pyrene	1.9	mg/kg	0.3	8270	SMP	05/04/99
Isophorone	1.1	mg/kg	0.3	8270	SMP	05/04/99
:-Methylnaphthalene	1.3	mg/kg	0.3	8270	SMP	05/04/99
Naphthalene	1.4	mg/kg	0.3	8270	SMP	05/04/99
2-Nitroaniline	1.2	mg/kg	0.3	8270	SMP	05/04/99
3-Nitroaniline	1.1	mg/kg	0.3	8270	SMP	05/04/9
4-Nitroaniline	1.1	mg/kg	0.3	8270	SMP	05/04/99
Nitrobenzene	1.1	mg/kg	0.3	8270	SMP	05/04/99
2-Nitrophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
4-Nitrophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
N-Nitrosodiphenylamine	1.6	mg/kg	0.3	8270	SMP	05/04/99
N-Nitrosodi-n-propylamine	0.9	mg/kg	0.3	8270	SMP	05/04/99
Pentachlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
Phenanthrene	3.4	mg/kg	0.3	8270	SMP	05/04/99
Phenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
Pyrene	3.4	mg/kg	0.3	8270	SMP	05/04/99
1,2,4-Trichlorobenzene	1.4	mg/kg	0.3	8270	SMP	05/04/99
2,4,5-Trichlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
2,4,6-Trichlorophenol	Not detected	mg/kg	0.3	8270	SMP	05/04/99
GC/MS for Volatile Organics						
Benzene	2.5	mg/kg	1.0	8260	VFM	05/03/99
Bromodichloromethane	2.4	mg/kg	1.0	8260	VFM	05/03/99
Bromoform	1.9	mg/kg	1.0	8260	VFM	05/03/99
Bromomethane	1.6	mg/kg	1.0	8260	VFM	05/03/99
n-Butylbenzene	2.3	mg/kg	1.0	8260	VFM	05/03/99

FECL #: AA75750 (Continued)
Tag: MSD (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	2.3	mg/kg	1.0	8260	VFM	05/03/99
tert-Butylbenzene	1.9	mg/kg	1.0	8260	VFM	05/03/99
Carbon tetrachloride	2.3	mg/kg	1.0	8260	VFM	05/03/99
Chlorobenzene	2.2	mg/kg	1.0	8260	VFM	05/03/99
Chloroethane	1.7	mg/kg	1.0	8260	VFM	05/03/99
Chloroform	2.9	mg/kg	1.0	8260	VFM	05/03/99
Chloromethane	1.8	mg/kg	1.0	8260	VFM	05/03/99
Dibromochloromethane	2.1	mg/kg	1.0	8260	VFM	05/03/99
1,2-Dichlorobenzene	2.7	mg/kg	1.0	8260	VFM	05/03/99
1,3-Dichlorobenzene	2.6	mg/kg	1.0	8260	VFM	05/03/99
1,4-Dichlorobenzene	2.7	mg/kg	1.0	8260	VFM	05/03/99
,1-Dichloroethane	2.5	mg/kg	1.0	8260	VFM	05/03/99
1,2-Dichloroethane	3.0	mg/kg	1.0	8260	VFM	05/03/99
1,1-Dichloroethene	2.2	mg/kg	1.0	8260	VFM	05/03/99
cis-1,2-Dichloroethene	2.8	mg/kg	1.0	8260	VFM	05/03/99
trans-1,2-Dichloroethene	2.4	mg/kg	1.0	8260	VFM	05/03/99
1,2-Dichloropropane	2.4	mg/kg	1.0	8260	VFM	05/03/99
cis-1,3-Dichloropropene	2.4	mg/kg	1.0	8260	VFM	05/03/99
trans-1,3-Dichloropropene	2.5	mg/kg	1.0	8260	VFM	05/03/99
Ethylbenzene	2.3	mg/kg	1.0	8260	VFM	05/03/99
Isopropylbenzene	2.2	mg/kg	1.0	8260	VFM	05/03/99
p-Isopropyltoluene	2.3	mg/kg	1.0	8260	VFM	05/03/99
Methylene chloride	8.1	mg/kg	1.0	8260	VFM	05/03/99
Naphthalene	2.8	mg/kg	1.0	8260	VFM	05/03/99
n-Propylbenzene	2.1	mg/kg	1.0	8260	VFM	05/03/99
Styrene	2.3	mg/kg	1.0	8260	VFM	05/03/99
1,1,2,2-Tetrachloroethane	2.3	mg/kg	1.0	8260	VFM	05/03/99
Tetrachloroethene	2.9	mg/kg	1.0	8260	VFM	05/03/99
Toluene	2.7	mg/kg	1.0	8260	VFM	05/03/99
1,1,1-Trichloroethane	2.8	mg/kg	1.0	8260	VFM	05/03/99
1,1,2-Trichloroethane	2.5	mg/kg	1.0	8260	VFM	05/03/99
Trichloroethene	2.5	mg/kg	1.0	8260	VFM	05/03/99
1,2,4-Trimethylbenzene	2.1	mg/kg	1.0	8260	VFM	05/03/99
1,3,5-Trimethylbenzene	2.5	mg/kg	1.0	8260	VFM	05/03/99
Vinyl chloride	2.1	mg/kg	1.0	8260	VFM	05/03/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75750 (Continued)
Tag: MSD (CF-12)
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	2.4	mg/kg	1.0	8260	VFM	05/03/99
p,m-Xylene	5.1	mg/kg	1.0	8260	VFM	05/03/99
Acetone	Not detected	mg/kg	10.0	8260	VFM	05/03/99
2-Butanone	Not detected	mg/kg	10.0	8260	VFM	05/03/99
Carbon Disulfide	Not detected	mg/kg	10.0	8260	VFM	05/03/99
2-Hexanone	Not detected	mg/kg	10.0	8260	VFM	05/03/99
4-Methyl-2-pentanone	7.6	mg/kg	1.0	8260	VFM	05/03/99
TCLP Semi-Volatiles						
o-Cresol	0.06	mg/L	0.01	625	JB	05/04/99
p,m-Cresol	0.12	mg/L	0.01	625	JB	05/04/99
Pentachlorophenol	0.07	mg/L	0.01	625	JB	05/04/99
2,4,5-Trichlorophenol	0.06	mg/L	0.01	625	JB	05/04/99
2,4,6-Trichlorophenol	0.07	mg/L	0.01	625	JB	05/04/99
2,4-Dinitrotoluene	0.06	mg/L	0.01	625	JB	05/04/99
Hexachlorobenzene	0.06	mg/L	0.01	625	JB	05/04/99
Hexachlorobutadiene	0.06	mg/L	0.01	625	JB	05/04/99
Hexachloroethane	0.07	mg/L	0.01	625	JB	05/04/99
Nitrobenzene	0.07	mg/L	0.01	625	JB	05/04/99
Pyridine	0.07	mg/L	0.01	625	JB	05/04/99
TCLP/SPLP Volatiles						
Benzene	0.26	mg/L	0.10	624	JB	05/03/99
Carbon tetrachloride	0.31	mg/L	0.10	624	JB	05/03/99
Chlorobenzene	0.26	mg/L	0.10	624	JB	05/03/99
Chloroform	0.28	mg/L	0.10	624	JB	05/03/99
1,4-Dichlorobenzene	0.29	mg/L	0.10	624	JB	05/03/99
1,2-Dichloroethane	0.30	mg/L	0.10	624	JB	05/03/99
1,1-Dichloroethene	0.23	mg/L	0.10	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1.00	624	JB	05/03/99
Tetrachloroethene	0.50	mg/L	0.10	624	JB	05/03/99
Trichloroethene	0.32	mg/L	0.10	624	JB	05/03/99
Vinyl Chloride	0.18	mg/L	0.10	624	JB	05/03/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75751
Tag: Concrete Dup
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Qual	Results	Units	MDL	Method	Analyst	Date Run
Inorganics							
TCLP Zero Headspace Ext.		Completed			1311	JGH	05/02/99
Total Solids		96.4	%	1	160.3	I M	04/29/99
Metals							
Arsenic		4.16	mg/kg	0.10	6020	E B	04/30/99
Barium		43.7	mg/kg	1.0	6020	E B	04/30/99
Cadmium		Not detected	mg/kg	0.05	6020	E B	04/30/99
Chromium		13.3	mg/kg	1.0	6020	E B	04/30/99
Copper	J	125	mg/kg	1.0	6020	E B	04/30/99
Lead		3.8	mg/kg	1.0	6020	E B	04/30/99
Mercury		Not detected	mg/kg	0.10	7471	E B	04/29/99
Selenium		0.52	mg/kg	0.50	6020	E B	04/30/99
Silver		Not detected	mg/kg	0.20	6020	E B	04/30/99
Zinc	J	37.9	mg/kg	1.0	6020	E B	04/30/99
TCLP Metals							
Arsenic		Not detected	mg/L	0.005	200.8	E B	05/02/99
Barium		0.37	mg/L	0.01	200.8	E B	05/02/99
Cadmium		Not detected	mg/L	0.0002	200.8	E B	05/02/99
Chromium		Not detected	mg/L	0.01	200.8	E B	05/02/99
Copper		Not detected	mg/L	0.01	200.8	E B	05/02/99
Lead		Not detected	mg/L	0.003	200.8	E B	05/02/99
Mercury		Not detected	mg/L	0.0002	245.1	E B	04/30/99
Selenium		Not detected	mg/L	0.005	200.8	E B	05/02/99
Silver		Not detected	mg/L	0.0005	200.8	E B	05/02/99
Zinc		0.04	mg/L	0 01	200.8	E B	05/02/99
TCLP Extraction							
% Solids		100			1311	JGH	04/30/99
Sample used g		100			1311	JGH	04/30/99
Final Volume ml		2,000			1311	JGH	04/30/99
Final Extract pH		7.20			1311	JGH	04/30/99
Organics							
BNA Extraction		Completed			625/8270	S G	04/30/99
TCLP/SPLP BNA Extraction		Completed				C E	04/30/99

AA75743

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
May 04, 1999

FECL #: AA75751 (Continued)
Tag: Concrete Dup
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic						
Acenaphthene	0.5	mg/kg	0.3	8270	SMP	05/03/99
Acenaphthylene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Anthracene	J 1.1	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)anthracene	J 1.4 1.5	mg/kg	0.3	8270	SMP	05/03/99
Benzo(b)fluoranthene	J 1.5 1.6	mg/kg	0.3	8270	SMP	05/03/99
Benzo(k)fluoranthene	X 0.8	mg/kg	0.3	8270	SMP	05/03/99
Benzo(ghi)perylene	0.9	mg/kg	0.3	8270	SMP	05/03/99
Benzo(a)pyrene	J 1.5 1.6	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethoxy)methane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroethyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-chloroisopropyl)ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Bromophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Butyl benzyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Chloroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Chloronaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4-Chloro-3-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2-Chlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
4-Chlorophenyl phenyl ether	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Chrysene	J 1.3	mg/kg	0.3	8270	SMP	05/03/99
p,m-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
o-Cresol	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzo(a,h)anthracene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Dibenzofuran	0.4	mg/kg	0.3	8270	SMP	05/03/99
Di-n-butyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3,3'-Dichlorobenzidine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dichlorophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Diethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dimethylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Dimethyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4,6-Dinitro-2-methylphenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
~~2,4-Dinitrophenol~~ R	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75751 (Continued)
Tag: Concrete Dup
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Semi-Volatile Organic (Continued)						
2,4-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2,6-Dinitrotoluene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Di-n-octyl phthalate	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Fluoranthene	J ~~2.0~~ 3.1	mg/kg	0.3	8270	SMP	05/03/99
Fluorene	0.6	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorobutadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachlorocyclopentadiene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Hexachloroethane	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Indeno(1,2,3-cd)pyrene	0.8	mg/kg	0.3	8270	SMP	05/03/99
Isophorone	Not detected	mg/kg	0.3	8270	SMP	05/03/99
2-Methylnaphthalene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Naphthalene	0.5	mg/kg	0.3	8270	SMP	05/03/99
2-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
3-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
4-Nitroaniline	Not detected	mg/kg	0.3	8270	SMP	05/03/99
Nitrobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2-Nitrophenol~~	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~4-Nitrophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodiphenylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
N-Nitrosodi-n-propylamine	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~Pentachlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Phenanthrene	J ~~2.9~~ 3.0	mg/kg	0.3	8270	SMP	05/03/99
~~Phenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
Pyrene	J 2.8	mg/kg	0.3	8270	SMP	05/03/99
1,2,4-Trichlorobenzene	Not detected	mg/kg	0.3	8270	SMP	05/03/99
~~2,4,5-Trichlorophenol~~	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
2,4,6-Trichlorophenol	~~Not detected~~	mg/kg	0.3	8270	SMP	05/03/99
GC/MS for Volatile Organics						
Benzene	Not detected	mg/kg	*1	8260	VFM	05/03/99
Bromodichloromethane	Not detected	mg/kg	*1	8260	VFM	05/03/99
Bromoform	Not detected	mg/kg	*1	8260	VFM	05/03/99
Bromomethane	Not detected	mg/kg	*1	8260	VFM	05/03/99
n-Butylbenzene	Not detected	mg/kg	*1	8260	VFM	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75751 (Continued)
Tag: Concrete Dup
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
tert-Butylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Carbon tetrachloride	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloroform	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Chloromethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Dibromochloromethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,3-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,4-Dichlorobenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
,1-Dichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/
cis-1,2-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
trans-1,2-Dichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2-Dichloropropane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
cis-1,3-Dichloropropene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
trans-1,3-Dichloropropene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Ethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Isopropylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
p-Isopropyltoluene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Methylene chloride (60 UJ)	~~Not detected~~	mg/kg	* 1	8260	VFM	05/03/99
Naphthalene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
n-Propylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Styrene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,2,2-Tetrachloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Tetrachloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Toluene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,1-Trichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,1,2-Trichloroethane	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Trichloroethene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,2,4-Trimethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
1,3,5-Trimethylbenzene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Vinyl chloride	Not detected	mg/kg	* 1	8260	VFM	05/03/99

* Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75751 (Continued)
Tag: Concrete Dup
Date/Time Collected: 04/28/99
Matrix: Sediment

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS for Volatile Organics (Continued)						
o-Xylene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
p,m-Xylene	Not detected	mg/kg	* 1	8260	VFM	05/03/99
Acetone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
2-Butanone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
Carbon Disulfide	Not detected	mg/kg	* 10	8260	VFM	05/03/99
2-Hexanone	Not detected	mg/kg	* 10	8260	VFM	05/03/99
4-Methyl-2-pentanone	5	mg/kg	* 1	8260	VFM	05/03/99
TCLP Semi-Volatiles						
o-Cresol	Not detected	mg/L	1	625	JB	05/01/99
p,m-Cresol	Not detected	mg/L	1	625	JB	05/01/99
Pentachlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,5-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4,6-Trichlorophenol	Not detected	mg/L	1	625	JB	05/01/99
2,4-Dinitrotoluene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobenzene	Not detected	mg/L	0.09	625	JB	05/01/99
Hexachlorobutadiene	Not detected	mg/L	0.1	625	JB	05/01/99
Hexachloroethane	Not detected	mg/L	0.1	625	JB	05/01/99
Nitrobenzene	Not detected	mg/L	0.1	625	JB	05/01/99
Pyridine	Not detected	mg/L	0.1	625	JB	05/01/99
TCLP/SPLP Volatiles						
Benzene	Not detected	mg/L	0.1	624	JB	05/03/99
Carbon tetrachloride	Not detected	mg/L	0.1	624	JB	05/03/99
Chlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
Chloroform	Not detected	mg/L	0.1	624	JB	05/03/99
1,4-Dichlorobenzene	Not detected	mg/L	0.1	624	JB	05/03/99
1,2-Dichloroethane	Not detected	mg/L	0.1	624	JB	05/03/99
1,1-Dichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
2-Butanone	Not detected	mg/L	1	624	JB	05/03/99
Tetrachloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Trichloroethene	Not detected	mg/L	0.1	624	JB	05/03/99
Vinyl Chloride	Not detected	mg/L	0.1	624	JB	05/03/99

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75752
Tag: Concrete EB
Date/Time Collected: 04/28/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Metals						
Arsenic	Not detected	mg/L	0.001	200.8	E B	04/30/99
Barium	Not detected	mg/L	0.01	200.8	E B	04/30/99
Cadmium	Not detected	mg/L	0.0002	200.8	E B	04/30/99
Chromium	Not detected	mg/L	0.01	200.8	E B	04/30/99
Copper	Not detected	mg/L	0.01	200.8	E B	04/30/99
Lead	Not detected	mg/L	0.003	200.8	E B	04/30/99
Mercury	Not detected	mg/L	0.0002	245.1	E B	04/30/99
Selenium	Not detected	mg/L	0.005	200.8	E B	04/30/99
Silver	Not detected	mg/L	0.0005	200.8	E B	04/30/99
Zinc	Not detected	mg/L	0 01	200.8	E B	04/30/99
Organics						
3NA Extraction	Completed			625/8270	S G	04/30/99
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Acenaphthylene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Anthracene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Benzo(a)anthracene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Benzo(b)fluoranthene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Benzo(k)fluoranthene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Benzo(ghi)perylene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Benzo(a)pyrene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	0.01	8270	SMP	04/30/99
Bis(2-chloroethyl)ether	Not detected	mg/L	0.01	8270	SMP	04/30/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	0.01	8270	SMP	04/30/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/L	0.01	8270	SMP	04/30/99
4-Bromophenyl phenyl ether	Not detected	mg/L	0.01	8270	SMP	04/30/99
Butyl benzyl phthalate	Not detected	mg/L	0.01	8270	SMP	04/30/99
4-Chloroaniline	Not detected	mg/L	0.01	8270	SMP	04/30/99
2-Chloronaphthalene	Not detected	mg/L	0.01	8270	SMP	04/30/99
4-Chloro-3-methylphenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
2-Chlorophenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	0.01	8270	SMP	04/30/99
Chrysene	Not detected	mg/L	0.01	8270	SMP	04/30/99
p,m-Cresol	Not detected	mg/L	0.01	8270	SMP	04/30/99

FECL #: AA75752 (Continued)
Tag: Concrete EB
Date/Time Collected: 04/28/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
o-Cresol	Not detected	mg/L	0.01	8270	SMP	04/30/99
Dibenzo(a,h)anthracene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Dibenzofuran	Not detected	mg/L	0.01	8270	SMP	04/30/99
Di-n-butyl phthalate	Not detected	mg/L	0.01	8270	SMP	04/30/99
1,2-Dichlorobenzene	Not detected	mg/L	0.01	8270	SMP	04/30/99
1,3-Dichlorobenzene	Not detected	mg/L	0.01	8270	SMP	04/30/99
1,4-Dichlorobenzene	Not detected	mg/L	0.01	8270	SMP	04/30/99
3,3'-Dichlorobenzidine	Not detected	mg/L	0.01	8270	SMP	04/30/99
2,4-Dichlorophenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
Diethyl phthalate	Not detected	mg/L	0.01	8270	SMP	04/30/99
2,4-Dimethylphenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
Dimethyl phthalate	Not detected	mg/L	0.01	8270	SMP	04/30/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
2,4-Dinitrophenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
2,4-Dinitrotoluene	Not detected	mg/L	0.01	8270	SMP	04/30/99
2,6-Dinitrotoluene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Di-n-octyl phthalate	Not detected	mg/L	0.01	8270	SMP	04/30/99
Fluoranthene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Fluorene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Hexachlorobenzene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Hexachlorobutadiene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Hexachlorocyclopentadiene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Hexachloroethane	Not detected	mg/L	0.01	8270	SMP	04/30/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Isophorone	Not detected	mg/L	0.01	8270	SMP	04/30/99
2-Methylnaphthalene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Naphthalene	Not detected	mg/L	0.01	8270	SMP	04/30/99
2-Nitroaniline	Not detected	mg/L	0.01	8270	SMP	04/30/99
3-Nitroaniline	Not detected	mg/L	0.01	8270	SMP	04/30/99
4-Nitroaniline	Not detected	mg/L	0.01	8270	SMP	04/30/99
Nitrobenzene	Not detected	mg/L	0.01	8270	SMP	04/30/99
2-Nitrophenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
4-Nitrophenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
N-Nitrosodiphenylamine	Not detected	mg/L	0.01	8270	SMP	04/30/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	0.01	8270	SMP	04/30/99

FECL #: AA75752 (Continued)
Tag: Concrete EB
Date/Time Collected: 04/28/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
Pentachlorophenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
Phenanthrene	Not detected	mg/L	0.01	8270	SMP	04/30/99
Phenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
Pyrene	Not detected	mg/L	0.01	8270	SMP	04/30/99
1,2,4-Trichlorobenzene	Not detected	mg/L	0.01	8270	SMP	04/30/99
2,4,5-Trichlorophenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
2,4,6-Trichlorophenol	Not detected	mg/L	0.01	8270	SMP	04/30/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Bromoform	Not detected	mg/L	0.001	8260	VFM	04/30/99
Bromomethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
sec-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	04/30/99
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Chloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Chloroform	Not detected	mg/L	0.001	8260	VFM	04/30/99
Chloromethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	04/30/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	04/30/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
May 04, 1999

FECL #: AA75752 (Continued)
Tag: Concrete EB
Date/Time Collected: 04/28/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Methylene chloride	0.027 ~~Not detected~~	mg/L	0.001	8260	VFM	04/30/99
Naphthalene	Not detected	mg/L	0.001	8260	VFM	04/30/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Styrene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Toluene	0.001	mg/L	0.001	8260	VFM	04/30/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
/inyl chloride	Not detected	mg/L	0.001	8260	VFM	04/30/99
o-Xylene	Not detected	mg/L	0.001	8260	VFM	04/30/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Acetone	Not detected	mg/L	0.001	8260	VFM	04/30/99
2-Butanone	Not detected	mg/L	0.05	8260	VFM	04/30/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	04/30/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	04/30/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	04/30/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
May 04, 1999

FECL #: AA75753
Tag: TB
Date/Time Collected: 04/28/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics						
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Bromoform	Not detected	mg/L	0.001	8260	VFM	04/30/99
Bromomethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
sec-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	04/30/99
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Chloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Chloroform	Not detected	mg/L	0.001	8260	VFM	04/30/99
Chloromethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	04/30/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	04/30/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Methylene chloride	Not detected	mg/L	0.001	8260	VFM	04/30/99
Naphthalene	Not detected	mg/L	0.001	8260	VFM	04/30/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Styrene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Toluene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
May 04, 1999

FECL #: AA75753 (Continued)
Tag: TB
Date/Time Collected: 04/28/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	04/30/99
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Vinyl chloride	Not detected	mg/L	0.001	8260	VFM	04/30/99
o-Xylene	Not detected	mg/L	0.001	8260	VFM	04/30/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	04/30/99
Acetone	Not detected	mg/L	0.001	8260	VFM	04/30/99
2-Butanone	Not detected	mg/L	0.05	8260	VFM	04/30/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	04/30/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	04/30/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	04/30/99

Note: Methods may be modified for improved performance.
Results reported on a dry weight basis, where applicable.
Results relate only to items tested.
Report shall not be reproduced except in full, without the written approval of FECL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

APPENDIX D

Rinseate Data Validation Report

DATA VALIDATION REPORT

General Motors
Coldwater Road Investigation

Flint, Michigan

August 1999

Data Validation Report - Rinseate Samples

General Motors Corporation
Coldwater Road Investigation
Flint, Michigan

Swiatoslav W. Kaczmar, Ph.D., C.I.H.
Vice President, Environmental Toxicology
and Industrial Hygiene

August 1999

O'Brien & Gere Engineers, Inc.
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Appendix A USEPA method sample results for: Volatile Organics, Semivolatile Organics, Metals, and Cyanide.

Executive summary

This data validation report addresses data quality for rinseate samples collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) on 12/21/98, 4/20/99 and 4/21/99.

The environmental samples, equipment blank and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, nickel, and zinc), and cyanide by United States Environmental Protection Agency (USEPA) Methods. The analytical data generated for this investigation were evaluated by O'Brien & Gere using the quality assurance/quality control (QA/QC) criteria established in the USEPA Methods and the Quality Assurance Project Plan (QAPP) generated for this project (O'Brien & Gere 1999). Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process, none of the data were rejected as a result of major deficiencies detected in the data generation process. Therefore, the volatile organic, semivolatile organic, metal, and cyanide data were determined to be 100% usable for qualitative and quantitative purposes.

1. Introduction

This data validation report addresses the results of a data quality evaluation for rinsate samples, equipment blank, and trip blank collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere on 12/21/98, 4/20/99 and 4/21/99. The environmental samples, equipment blank, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), and cyanide using United States Environmental Protection Agency (USEPA) Methods listed in Table 1-1. The quantity and types of samples that were submitted for data validation are presented in Table 1-1 below.

Table 1-1. *Sample cross reference list*

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Laboratory ID	Client ID	
AA70951-AA70953	12/21/98	AA70951 AA70952 AA70953	Tap Water West Alkali Basin Floor Deionized Water Basin Floor	metals (including arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, and zinc) by USEPA method 200.8, mercury by USEPA method 245.1
AA75338-AA75346	4/20/99	AA75338 AA75339 AA75340 AA75341	East Basement Basin Rinseate East Basement Basin Rinseate/MS East Basement Basin Rinseate/MSD Rinseate Duplicate (East Basement Basin Rinseate)	volatile organics by USEPA methods 5030B/8260B, semivolatile organics by USEPA methods 3510/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3015/6020, cyanide by USEPA method 335.2
AA75338-AA75346	4/21/99	AA75342 AA75343 AA75344 AA75345	Center Basement Basin Rinseate West Basement Basin Rinseate Tap Water Equipment Blank Rinseate	volatile organics by USEPA methods 5030B/8260B, semivolatile organics by USEPA methods 3510/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA methods 3015/6020, cyanide by USEPA method 335.2

Table 1-1. *Sample cross reference list*

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Laboratory ID	Client ID	
AA75338-AA75346	4/21/99	AA75346	Trip Blank Rinseate	volatile organics by USEPA method 5030B/8260B

Note:

MS indicates matrix spike.
MSD indicates matrix spike duplicate.

References:
USEPA Methods 5030B/8260B, 3510/8270C, 3015/6020, 1311 - USEPA. 1996. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846*, 3rd Edition. Washington D.C.
USEPA Methods 200.8 and 245.1 - USEPA. 1984. *40 CFR Part 136*. Washington, D.C.

1.1. General considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the system and especially to samples, their measurement, and the actual data output. Accordingly, this report outlines deviations from the applicable quality control (QC) criteria outlined in the following documents:

- USEPA. 1984. *40 CFR Part 136*, Washington, D.C.
- USEPA. 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*, 3rd Edition. Washington DC.

Excursions from the QA/QC criteria were qualified based on guidance provided in the following documents:

- USEPA. 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA-540/R-94/012. Washington D.C.
- USEPA. 1994b. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. EPA-540/R-94/013. Washington D.C.

1.2. Analytical methods

The environmental samples. equipment blank, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of VOCs, SVOCs, metals (consisting of arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, nickel, and zinc), and cyanide using USEPA Methods listed in Table 1-1.

The following chapters of this document address distinct aspects of the validation process. Chapter 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Finally, data completeness and usability are discussed in Chapter 4.

The annotated analytical results generated by this validation are presented in Appendix A.

2. Data validation protocols

2.1. Sample analyses parameters

The validation of organic and inorganic analyses for this project utilized the requirements presented in the analytical methodology and the Quality Assurance Project Plan (QAPP) (O'Brien & Gere, 1999) generated for this project. Qualification of sample data was based on the data validation guidelines. The following QA/QC parameters were evaluated for organic analyses where applicable:

1. Holding times and sample preservation
2. Calibration
3. Blank analysis
4. Surrogate analysis
5. Matrix spike/matrix spike duplicate (MS/MSD) analysis
6. Laboratory control sample (LCS) analysis
7. Internal standard performance
8. Gas chromatograph/mass spectrometry (GC/MS) tune performance
9. Field duplicate sample analysis
10. Target identification
11. Compound quantitation and reported detection limits
12. System performance
13. Documentation completeness

The following QA/QC parameters were evaluated for inorganic analyses where applicable:

1. Holding Times and sample preservation
2. Calibration
3. Inductively coupled plasma (ICP)/MS tune performance
4. Blank analysis
5. Internal standard performance
6. ICP interference check sample
7. MS/MSD analysis
8. Laboratory duplicate analysis
9. LCS analysis
10. ICP serial dilution test

11. Field duplicate sample analysis
12. Analyte quantitation and reported detection limits
13. System performance
14. Documentation completeness

The following qualifiers have been used in this data validation:

U Indicates that the analyte was analyzed for, but was not detected. The sample-specific reporting limit is presented and adjusted for dilution, as appropriate.

J Indicates that the concentration should be considered approximate. This qualifier indicates that the data validation process identifies a deficiency in the data generation process.

UJ Indicates that the sample-specific reporting limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

3. Data quality evaluation

3.1. Background

This chapter summarizes the quality assurance/quality control QA/QC parameters, validation criteria, and qualifications performed on the sample data when the QA/QC parameters specified in Chapter 2 did not meet criteria. Samples that required qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records as listed in Table 1-1. The data quality evaluation resulted in only one qualifier for an individual sample result. QA/QC excursions which did not result in the qualification of a target analyte result or additional qualification if the target analyte result was previously qualified are not discussed. In a case when several qualifiers are applied to one target analyte result, the cumulative effect of the various excursions were employed in assigning the final data qualifier.

3.2. VOC analyses

3.2.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for VOAs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Surrogate analysis
3. MS/MSD analysis
4. Internal standard performance
5. GC/MS tune performance
6. Field duplicate sample analysis
7. Target identification
8. Compound quantitation and reported detection limits
9. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.2.2. Calibration

The percent drift (%D) for methylene chloride in the continuing calibration analyzed 4/26/99 exceeded the criterion of 50 %D. As a result of the continuing calibration excursion, the results for methylene chloride in samples associated with the calibration were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the calibration excursion:

Table 3-1. *Calibration excursion for volatile organic analyses*

Continuing calibration ID	Analyte	Excursion	Affected Sample Results	Action
4/26/99@2:41	methylene chloride	54%D	East Basement Basin Rinseate Rinseate Duplicate (East Basement Basin Rinseate) Center Basement Basin Rinseate West Basement Basin Rinseate Tap Water	J

Note: %D indicates percent drift.

3.2.3. Blank analysis

Target analytes were detected in several blanks analyzed for volatile organics. The blank with the highest target analyte concentration was used to evaluate the associated samples. Samples which contained target analytes at less than five times the associated blank concentration, or ten times the blank concentration in the case of methylene chloride, were qualified as undetected due to the blank contamination, as required by the USEPA data validation guidelines. The following table presents a summary of the samples qualified as a result of the blank excursions:

Table 3-2. *Blank excursions for volatile organic analyses*

Blank ID	Analyte	Detected Concentration	Affected Sample Results	Action
Trip Blank Rinseate	methylene chloride	16.10 µg/L	East Basement Basin Rinseate Rinseate Duplicate (East Basement Basin Rinseate) Center Basement Basin Rinseate West Basement Basin Rinseate Tap Water	0.009mg/L U 0.009mg/L U 0.008mg/L U 0.008mg/L U 0.009mg/L U

Table 3-2. *Blank excursions for volatile organic analyses*

Blank ID	Analyte	Detected Concentration	Affected Sample Results	Action
Equipment Blank Rinseate	bromodichloromethane	0.005mg/L	East Basement Basin Rinseate	0.004Mg/L U
			Rinseate Duplicate (East Basement Basin Rinseate)	0.004Mg/L U
			Center Basement Basin Rinseate	0.005Mg/L U
			West Basement Basin Rinseate	0.003Mg/L U
			Tap Water	0.005U
Equipment Blank Rinseate	chloroform	0.006mg/L	East Basement Basin Rinseate	0.005Mg/L U
			Rinseate Duplicate (East Basement Basin Rinseate)	0.005Mg/L U
			Center Basement Basin Rinseate	0.006Mg/L U
			West Basement Basin Rinseate	0.004Mg/L U
			Tap Water	0.006Mg/L U
Equipment Blank Rinseate	dibromochloromethane	0.004mg/L	East Basement Basin Rinseate	0.003Mg/L U
			Rinseate Duplicate (East Basement Basin Rinseate)	0.003Mg/L U
			Center Basement Basin Rinseate	0.003Mg/L U
			West Basement Basin Rinseate	0.002Mg/L U
			Tap Water	0.004Mg/L U

3.2.4. LCS analysis

The recovery for methylene chloride in the LCS analyzed for volatile organics was greater than the upper limit listed in the QAPP. As a result of this excursion the results for methylene chloride in the associated samples were qualified as approximate (J). The following table presents a summary of the samples qualified as a result of the LCS excursion:

Table 3-3. *LCS excursions for volatile organic analyses*

LCS ID	Analyte	Excursion	Affected Sample Results	Action
LCS 4/26	methylene chloride	157.6 %R	East Basement Basin Rinseate	J
			Rinseate Duplicate (East Basement Basin Rinseate)	
			Center Basement Basin Rinseate	
			West Basement Basin Rinseate	
			Tap Water	

Note:
%R indicates percent recovery.

3.2.5. Documentation completeness

The results for methylene chloride were not reported in the sample results. The corrected sample results were provided by the laboratory at a later date as supplemental data.

The reference mass spectra provided for review for volatile organic compounds detected in the rinseate samples were incorrect. The corrected reference mass spectra were provided by the laboratory at a later date as supplemental data.

A complete listing of the injections utilized by the analyst during the sample analysis was not provided for review. Supplemental injection sequence information was provided at a later date.

The LCS recoveries for the complete target list were not provided by the laboratory. This information was provided at a later date as supplemental data.

The surrogate and internal standard recoveries were not provided for the LCS and blank analyses. This information was provided at a later date as supplemental data.

The percent drift for the complete target list in the continuing calibrations was not provided by the laboratory. This information was provided at a later date as supplemental data.

3.3. SVOC analyses

3.3.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for SVOCs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Calibration
3. Surrogate analysis
4. Internal standard performance
5. GC/MS tune performance
6. Field duplicate sample analysis
7. Target identification
8. Compound quantitation
9. System performance

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.3.2. Blank analysis

Diethyl phthalate was detected in the equipment blank associated with the rinseate samples analyzed for semivolatile organics. The sample, which contained the target analyte at less than ten times the blank concentration, was qualified as undetected due to the blank contamination, as required by the USEPA data validation guidelines. The following table summarized the sample qualified as a result of the blank excursion:

Table 3-4. *Blank excursion for semivolatile organic analyses*

Blank ID	Analyte	Detected Concentration	Affected Sample Results	Action
Equipment Blank Rinseate	diethyl phthalate	0.02mg/L	West Basement Basin Rinseate	0.07mg/L U

3.3.3. LCS analysis

The recovery for target analytes in the LCS analyzed for semivolatile organics was less than the lower limit listed in the QAPP. The laboratory did not perform a reanalysis of the LCS as is required by the QAPP in the case of low recoveries, therefore, only one analysis was evaluated. As a result of these excursions the results were qualified as approximate (UJ). The following table summarized the samples qualified as a result of the LCS excursions:

Table 3-5. *LCS excursions for semivolatile organic analyses*

LCS ID	Analyte	Excursion	Affected Sample Results	Action
LCS 4/22	4-chloroaniline	39.7 %R	East Basement Basin Rinseate Rinseate Duplicate (East Basement Basin Rinseate) Center Basement Basin Rinseate West Basement Basin Rinseate Tap Water	UJ
LCS 4/22	2,4-dinitrophenol	40.9 %R	East Basement Basin Rinseate Rinseate Duplicate (East Basement Basin Rinseate) Center Basement Basin Rinseate West Basement Basin Rinseate Tap Water	UJ

Table 3-5. *LCS excursions for semivolatile organic analyses*

LCS ID	Analyte	Excursion	Affected Sample Results	Action
LCS 4/22	4-nitrophenol	31.3 %R	East Basement Basin Rinseate Rinseate Duplicate (East Basement Basin Rinseate) Center Basement Basin Rinseate West Basement Basin Rinseate Tap Water	UJ

Note:
%R indicates percent recovery.

3.3.4. MS/MSD analysis

The recovery for target analytes in the MS/MSD analyzed for semivolatile organics was less than the lower limit listed in the QAPP. As a result of these excursions the results were qualified as approximate (UJ). The following table summarized the samples qualified as a result of the MS/MSD excursions:

Table 3-6. *MS/MSD excursions for semivolatile organic analyses*

MS/MSD ID	Analyte	Excursion	Affected Sample Results	Action
East Basement Basin Rinseate MS/MSD	4,6-dinitro-2-methylphenol	22.0%R, 18.6%R	East Basement Basin Rinseate	UJ
East Basement Basin Rinseate MS/MSD	2,4-dinitrophenol	15.6%R, 7.6%R	East Basement Basin Rinseate	UJ
East Basement Basin Rinseate MS/MSD	hexachlorocyclopentadiene	5.2%R, 4.9%R	East Basement Basin Rinseate	UJ
East Basement Basin Rinseate MS/MSD	4-nitrophenol	27.9%R, 17.1%R	East Basement Basin Rinseate	UJ
East Basement Basin Rinseate MS/MSD	pentachlorophenol	20.3%R, 26.7%R	East Basement Basin Rinseate	UJ
East Basement Basin Rinseate MS/MSD	2,4,5-trichlorophenol	28.1%R, 29.2%R	East Basement Basin Rinseate	UJ

Note:
%R indicates percent recovery.

3.3.5. Reported detection limits

The detection limits for the following samples were elevated due to matrix interference: East Basement Basin Rinseate, Rinseate Duplicate (East Basement Basin Rinseate), Center Basement Basin Rinseate, West Basement Basin Rinseate.

3.4. Documentation completeness

A complete listing of the injections utilized by the analyst during the sample analysis was not provided for review. Supplemental injection sequence information was provided at a later date.

The LCS recoveries for the complete target list were not provided by the laboratory. This information was provided at a later date as supplemental data.

The surrogate and internal standard recoveries were not provided for the LCS and blank analyses. This information was provided at a later date as supplemental data.

The percent drift for the complete target list in the continuing calibrations were not provided by the laboratory. This information was provided at a later date as supplemental data.

3.5. Metals, mercury, and cyanide analyses

3.5.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for metals, mercury, and cyanide were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding Times and sample preservation
2. Calibration
3. ICP/MS tune performance
4. Internal standard performance
5. ICP interference check sample

6. MS/MSD analysis
7. Laboratory duplicate analysis
8. LCS analysis
9. ICP serial dilution test
10. Field duplicate sample analysis
11. Analyte quantitation and reported detection limits
12. System performance
13. Documentation completeness

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.5.2. Blank analysis

Copper and zinc were detected in the equipment blank analyzed for metals. Samples which contained target analytes at less than five times the associated blank concentration were qualified as undetected due to the blank contamination, as required by the USEPA data validation guidelines. The following table presents a summary of the samples qualified as a result of the blank excursions:

Table 3-2. *Blank excursions for metal analyses*

Blank ID	Analyte	Detected Concentration	Affected Sample Results	Action
Equipment Blank Rinsate	copper	0.01mg/L	Tap Water	0.01mg/L U
Equipment Blank Rinsate	zinc	0.02mg/L	Tap Water	0.02mg/L U

4. Summary and data usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process.

The rinseate samples, equipment blank, and trip blank collected from the General Motors (GM) Coldwater Road WWTP Basin Investigation in Flint, Michigan, were evaluated based on QA/QC criteria established by USEPA Methods as listed in Section 1-2 and the QAPP. Data validation qualifiers were applied utilizing the USEPA National Functional data validation guidelines. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data is considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity. The use of approximated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

The following paragraphs present the precision, sensitivity, accuracy, representativeness, comparability, and completeness (PSARCC) parameters used in the evaluation of the sample data.

Precision is measured through the evaluation of field duplicate samples and MS/MSD samples. None of the VOCs, SVOCs, metals and cyanide data were rejected due to precision excursions.

Sensitivity is established by reported detection limits which represent measurable concentrations of analytes which can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project.

Matrix spike samples, internal standard recoveries, surrogate recoveries, LCS recoveries, and initial and continuing calibration criteria indicate the accuracy of the data. None of the VOCs, SVOCs, metals and cyanide data were rejected due to accuracy excursions.

Holding times, sample preservation, blank analysis, and compound identification and quantification are indicators of the representativeness of the analytical data. None of the VOCs, SVOCs, metals and cyanide data were rejected due to representativeness excursions.

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

As a result of the data validation process, none of the sample data were rejected as a result of a major deficiency in the data generation process. The volatile organic, semivolatile organic, metal, mercury, and cyanide data were determined to be 100% usable for qualitative and quantitative purposes.

References

U.S. Environmental Protection Agency (USEPA). 1984. *40 CFR Part 136*, Washington, D.C.

U.S. Environmental Protection Agency (USEPA). 1992. *USEPA Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)*, 540/1-891002. Washington D.C.

U.S. Environmental Protection Agency (USEPA). 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA-540/R-94/012. Washington D.C.

U.S. Environmental Protection Agency (USEPA). 1994b. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540/R-94/013. Washington D.C.

U.S. Environmental Protection Agency (USEPA). 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*, 3rd Edition. Washington DC.

3.3.5. Reported detection limits

The detection limits for the following samples were elevated due to matrix interference: East Basement Basin Rinseate, Rinseate Duplicate (East Basement Basin Rinseate), Center Basement Basin Rinseate, West Basement Basin Rinseate.

3.4. Documentation completeness

A complete listing of the injections utilized by the analyst during the sample analysis was not provided for review. Supplemental injection sequence information was provided at a later date.

The LCS recoveries for the complete target list were not provided by the laboratory. This information was provided at a later date as supplemental data.

The surrogate and internal standard recoveries were not provided for the LCS and blank analyses. This information was provided at a later date as supplemental data.

The percent drift for the complete target list in the continuing calibrations were not provided by the laboratory. This information was provided at a later date as supplemental data.

3.5. Metals, mercury, and cyanide analyses

3.5.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for metals, mercury, and cyanide were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding Times and sample preservation
2. Calibration
3. ICP/MS tune performance
4. Internal standard performance
5. ICP interference check sample

Holding times, sample preservation, blank analysis, and compound identification and quantification are indicators of the representativeness of the analytical data. None of the VOCs, SVOCs, metals and cyanide data were rejected due to representativeness excursions.

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

As a result of the data validation process, none of the sample data were rejected as a result of a major deficiency in the data generation process. The volatile organic, semivolatile organic, metal, mercury, and cyanide data were determined to be 100% usable for qualitative and quantitative purposes.

References

U.S. Environmental Protection Agency (USEPA). 1984. *40 CFR Part 136*, Washington, D.C.

U.S. Environmental Protection Agency (USEPA). 1992. *USEPA Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)*, 540/1-891002. Washington D.C.

U.S. Environmental Protection Agency (USEPA). 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA-540/R-94/012. Washington D.C.

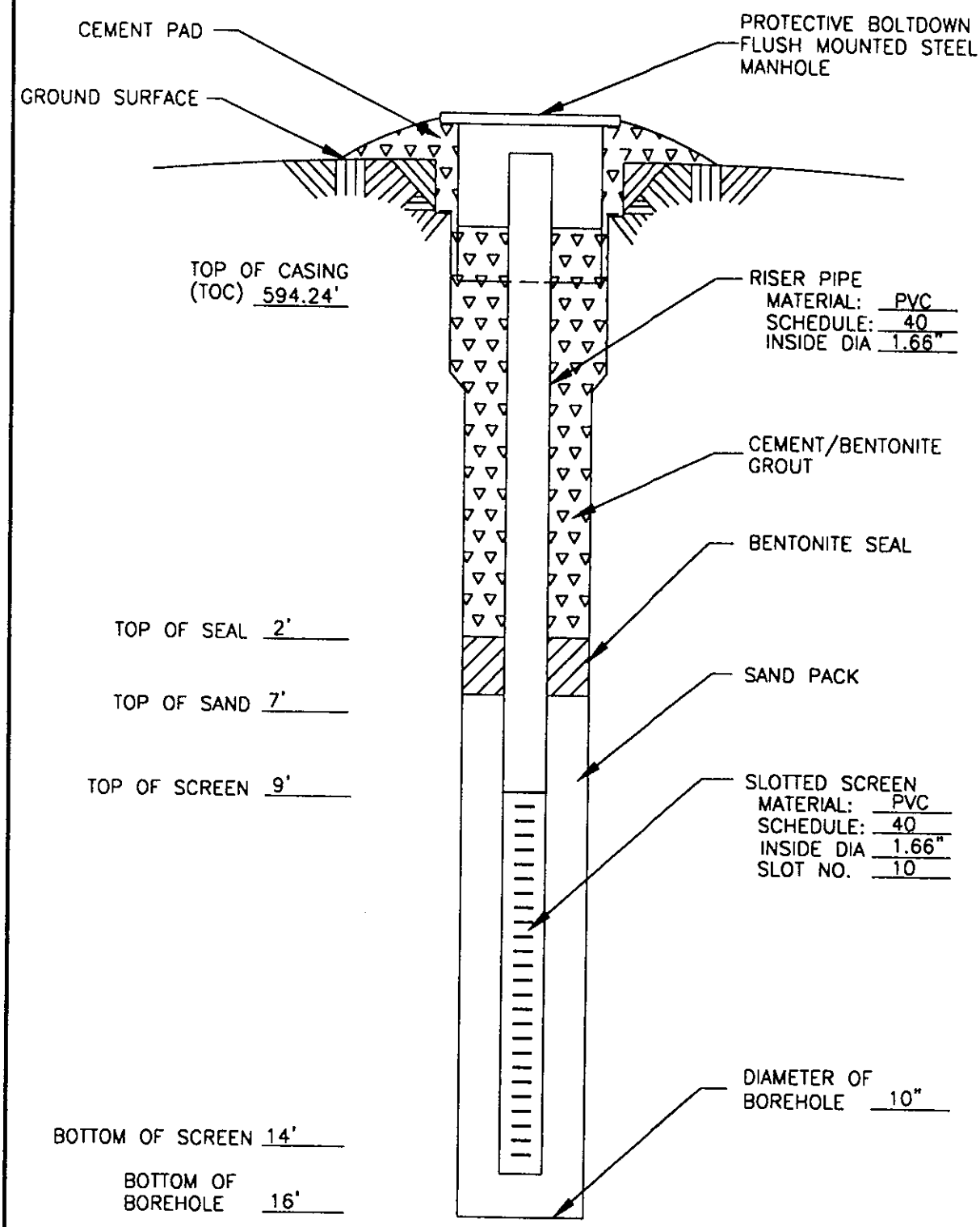
U.S. Environmental Protection Agency (USEPA). 1994b. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540/R-94/013. Washington D.C.

U.S. Environmental Protection Agency (USEPA). 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*, 3rd Edition. Washington DC.

APPENDIX E

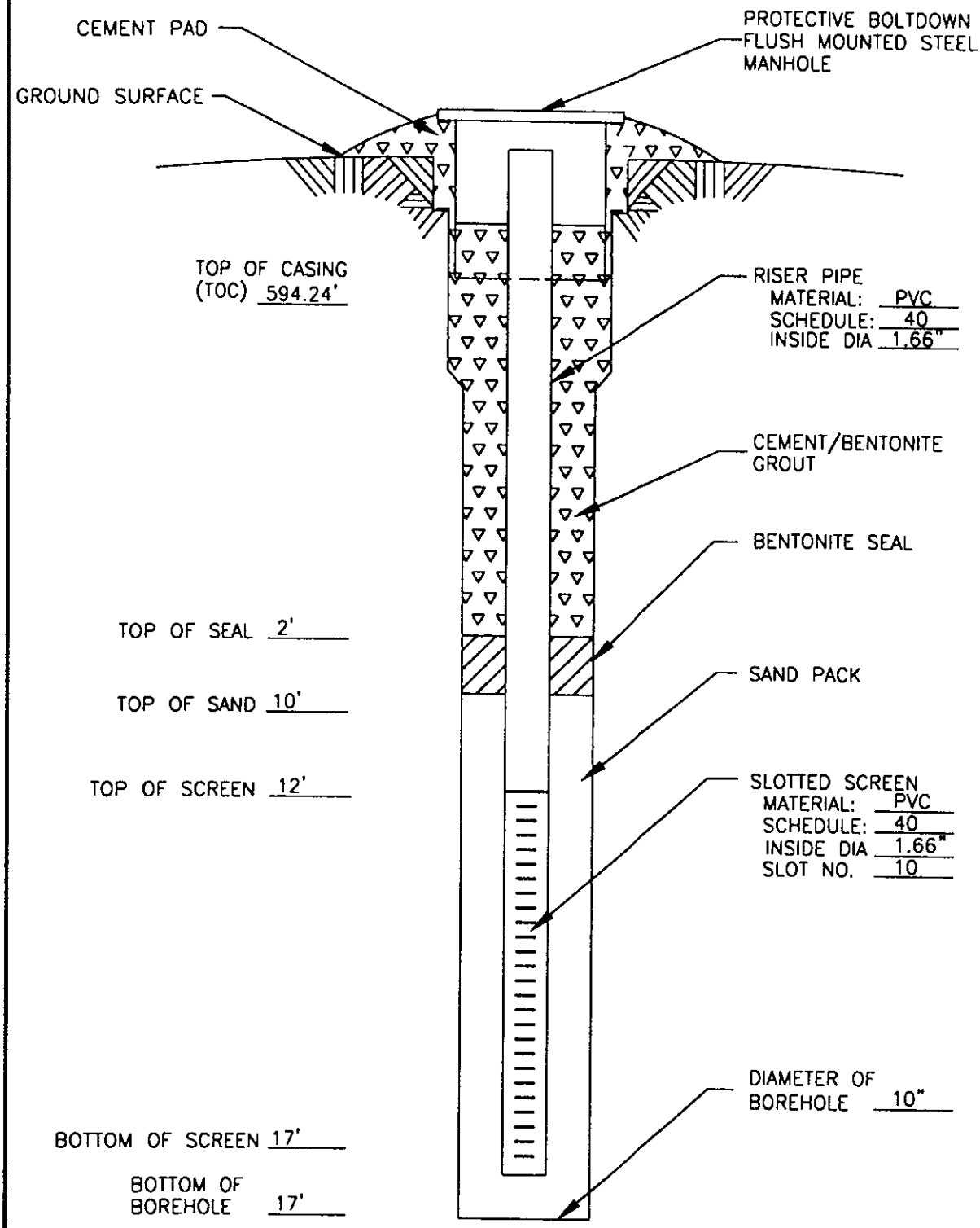
Monitoring Well Construction Prints

O'BRIEN & GERE
ENGINEERS INC.



GM COLDWATER ROAD
FLINT, MICHIGAN
MONITORING WELL OBG MW-1

O'BRIEN & GERE
ENGINEERS INC.



GM COLDWATER ROAD
FLINT, MICHIGAN
MONITORING WELL OBG MW-2

APPENDIX F

Ground Water Data Validation Report

DATA VALIDATION REPORT

General Motors
Coldwater Road Investigation

Flint, Michigan

February 1999

DATA VALIDATION REPORT

General Motors Coldwater Road Investigation
Flint, Michigan

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February 1999

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Appendix A - USEPA method sample results for: Volatile Organics, Semivolatile Organics, Metals, and Cyanide.

Executive summary

This data validation report addresses data quality for ground water samples collected for the General Motors (GM) Coldwater Road Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) on January 26, 1999.

The environmental samples, matrix spike, matrix spike duplicate (MS/MSD), field duplicate, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of cadmium, chromium, copper, lead, nickel, and zinc), and cyanide using United States Environmental Protection Agency (USEPA) Methods. The analytical data generated for this investigation were evaluated by O'Brien & Gere using the quality assurance/quality control (QA/QC) criteria established in the USEPA Methods and the *Coldwater Road Facility Remedial Investigation, General Motors Corporation/REALM, Quality Assurance Project Plan (QAPP)* (O'Brien & Gere 1999) . Excursions from the QA/QC criteria were qualified based on guidance provided in the *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines For Organic Data Review* (USEPA 1994a), and the *USEPA CLP National Functional Guidelines For Inorganic Data Review* (USEPA 1994b).

As a result of the data validation process the volatile organic, semivolatile organic, metal, and cyanide data for the ground water samples analyzed were determined to be 100% usable for qualitative and quantitative purposes.

1. Introduction

This data validation report addresses the results of a data quality evaluation for ground water samples, matrix spike, matrix spike duplicate (MS/MSD), field duplicate, and one trip blank collected from the 39830 Grand River site for the General Motors (GM) Coldwater Road Investigation in Flint, Michigan. Sample collection activities were conducted by O'Brien & Gere on January 26, 1999. The environmental samples, MS/MSD samples, field duplicate, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals (consisting of cadmium, chromium, copper, lead, nickel, and zinc), and cyanide using United States Environmental Protection Agency (USEPA) Methods listed in Table 1-1. The quantity and types of samples that were submitted for data validation are presented in Table 1-1 below.

Table 1-1. ***Sample cross reference list***

Laboratory Package Identification	Date Collected	Sample Identification		Analysis Requested
		Client ID	Laboratory ID	
AA71994-AA71999	1/26/99	OBG-MW-1 OBG-MW-2 OBG MW-1 MS OBG MW-1 MSD DUP1(OBG MW-1) TB1	AA71994 AA71995 AA71996 AA71997 AA71998 AA71999	volatile organics by USEPA methods 8260B, semivolatile organics by USEPA methods 3510A/8270C, metals (including cadmium, chromium, copper, lead, zinc, and nickel) by USEPA method 3015/6020, and cyanide by USEPA method 335.2

References:

USEPA Methods 8260B, 3510A/8270C, 3015/6020 - USEPA. 1996. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846,* 3rd Edition. Washington D.C.

USEPA Method 335.2 - USEPA. 1983. *Methods for Chemical Analysis of Water & Wastes,* Cincinnati, Ohio.

1.1. General considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the system and especially to samples, their measurement, and the actual data output. Accordingly, this report outlines deviations from the applicable quality control (QC) criteria outlined in the following documents:

- USEPA. 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*, 3rd Edition. Washington DC.
- USEPA. 1983. *Methods For Chemical Analysis of Water and Wastes*, Cincinnati, Ohio.
- O'Brien & Gere Engineers, Inc. 1999. *Coldwater Road Facility Remedial Investigation, General Motors Corporation/REALM, Quality Assurance Project Plan (QAPP)*, Syracuse, New York.

Excursions from the QA/QC criteria were qualified based on guidance provided in the following documents:

- USEPA. 1994a. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA-540/R-94/012. Washington D.C.
- USEPA. 1994b. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540/R-94/013. Washington D.C.

1.2. Analytical methods

The environmental samples, matrix spike, matrix spike duplicate (MS/MSD), field duplicate, and trip blank collected for this investigation were submitted to Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan for analysis of VOCs, SVOCs, metals (consisting of cadmium, chromium, copper, lead, nickel, and zinc), and cyanide using USEPA Methods listed in Table 1-1.

The following chapters of this document address distinct aspects of the validation process. Chapter 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Finally, data completeness and usability are discussed in Chapter 4.

The annotated analytical results generated by this validation are presented in Appendix A.

2. Data validation protocols

2.1. Sample analyses parameters

The validation of organic and inorganic analyses for this project followed the requirements presented in the analytical methodology and the data validation guidelines. Qualification of sample data was based on the validation guidelines. The following QA/QC parameters were evaluated for organic analyses where applicable:

1. Holding times and sample preservation
2. Initial calibration
3. Continuing calibration
4. Blank analysis
5. Surrogate analysis
6. Matrix spike/matrix spike duplicate (MS/MSD) analysis
7. Duplicate analysis
8. Laboratory control sample (LCS) analysis
9. Internal standard performance
10. Gas chromatograph/mass spectrometry (GC/MS) tune performance
11. Field duplicate sample analysis
12. Target identification
13. Compound quantitation and reported detection limits
14. System performance
15. Documentation completeness

The following QA/QC parameters were evaluated for inorganic analyses where applicable:

1. Holding Times and sample preservation
2. Calibration
3. Blank analysis
4. Internal standard intensity
5. Inductively coupled plasma (ICP) interference check sample
6. MS/MSD analysis

7. Laboratory duplicate analysis
8. LCS analysis
9. ICP serial dilution test
10. Field duplicate sample analysis
11. Analyte quantitation and reported detection limits
12. System performance
13. Documentation completeness

The following qualifiers have been used in this data validation:

U Indicates that the analyte was analyzed for, but was not detected. The sample-specific reporting limit is presented and adjusted for dilution, as appropriate.

J Indicates that the concentration should be considered approximate. This qualifier indicates that the data validation process identifies a deficiency in the data generation process.

UJ Indicates that the sample-specific reporting limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

3. Data quality evaluation

3.1. Background

This chapter summarizes the quality assurance/quality control QA/QC parameters, validation criteria, and qualifications performed on the sample data when the QA/QC parameters specified in Chapter 2 did not meet criteria. Samples that required qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records as listed in Table 1-1. The data quality evaluation resulted in only one qualifier for an individual sample result. QA/QC excursions which did not result in the qualification of a target analyte result or additional qualification if the target analyte result was previously qualified are not discussed. In a case when several qualifiers are applied to one target analyte result, the cumulative effect of the various excursions were employed in assigning the final data qualifier.

3.2. VOC analyses

3.2.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for VOAs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Initial calibration
3. Continuing calibration
4. Surrogate analysis
5. Duplicate analysis
6. Internal standard performance
7. GC/MS tune performance
8. Field duplicate sample analysis
9. Target identification
10. Compound quantitation and reported detection limits
11. System performance

The following compounds were included in the target compound list as requested by O'Brien and Gere but were not included in the QAPP (O'Brien & Gere 1999): trans-1,3-dichloropropene, acetone, 2-butanone, carbon disulfide, 2-hexanone, and 4-methyl-2-pentanone.

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.2.1.1. Blank analysis

Target compounds were detected in the trip blank and the method blank analyzed for volatile organic compounds. As a result of the blank contamination, for target compounds with concentrations less than or equal to five times the concentration detected in the associated blank, the target compounds in the affected samples were qualified as not detected (U). The largest concentration of the target compounds detected in the blanks was used to evaluate the associated samples. The samples qualified as a result of the blank contamination are summarized in the following table:

Table 3-1. ***Blank contamination for VOC analyses***

Blank ID	Analyte	Concentration	Affected sample	Action
Method Blank 1/27/99	methylene chloride	0.008 mg/L	OBG MW-1 OBG MW-2 DUP1 Trip Blank	0.003U 0.003U 0.002U 0.003U
Trip Blank	1,2,4-trimethylbenzene	0.002 mg/L	OBG MW-1 OBG MW-2	0.002U 0.001U
Trip Blank	1,3,5-trimethylbenzene	0.002 mg/L	OBG MW-1	0.001U

Note: DUP1 indicates field duplicate sample.

3.2.2. MS/MSD analysis

The recoveries for several target analytes in the matrix spike and matrix spike duplicate sample results were less than the laboratory criteria. As a result of the low MS/MSD recoveries, the nondetected results for the target analytes in the sample were qualified as approximate (UJ). The sample qualified as a result of the MS/MSD excursions are summarized in the following table:

Table 3-2. *MS/MSD excursions for VOC analyses*

MS/MSD ID	Analyte	Excursion	Affected sample	Action
OBG MW-1 MS/MSD	acetone	54.9%R, 59.6%R	OBG-MW-1	UJ
OBG MW-1 MS/MSD	2-butanone	69.0%R, 74.0%R	OBG-MW-1	UJ

Note: %R indicates percent recovery.

3.2.3. LCS analysis

The recoveries for several target analytes in the LCS results were less than the laboratory criteria. As a result of the low LCS recoveries, the nondetected results for the target analytes in the samples were qualified as approximate (UJ). The samples qualified as a result of the LCS excursions are summarized in the following table:

Table 3-3. *LCS excursions for VOC analyses*

LCS ID	Analyte	Excursion	Affected sample	Action
LCS 1/27/99	acetone	56.2%R	OBG MW-1 OBG-MW-2 DUP1	UJ UJ UJ
LCS 1/27/99	2-butanone	74.5%R	OBG-MW-1 OBG MW-2 DUP1	UJ UJ UJ

Note: %R indicates percent recovery.

3.2.4. Documentation completeness

Surrogate recoveries and internal standard area results were not reported on the summary sheets for the method blank, MSD, or field duplicate results. The information was available in the raw data. The laboratory was informed of this documentation error.

The concentrations detected for methylene chloride in samples OBG MW-1, OBG MW-2, DUP1, and Trip Blank were reported by the laboratory as not detected. During the data validation process, the concentrations detected for methylene chloride were added to the appropriate sample reports. The laboratory was informed of the documentation error.

An excessive amount of manual integrations were performed on the standards analyzed for volatile organics. The laboratory has indicated that it will work towards minimizing this process in future analyses.

3.3. SVOC analyse

3.3.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for SVOCs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding times and sample preservation
2. Initial calibration
3. Blank analysis
4. Surrogate analysis
5. Duplicate analysis
6. Internal standard performance
7. GC/MS tune performance
8. Field duplicate sample analysis
9. Target identification
10. Compound quantitation and reported detection limits
11. System performance
12. Documentation completeness

N-nitrosodi-n-propylamine was included in the target compound list as requested by O'Brien and Gere but was not included in the QAPP (O'Brien & Gere 1999).

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.3.2. Continuing calibration

The percent drift for hexachlorocyclopentadiene in the continuing calibration from 1/28/99 exceeded the criterion of 50%D. As a result, the nondetected results for this compound were qualified as approximate (UJ) in the samples analyzed for semivolatile organics. The samples qualified as a result of the continuing calibration excursion are summarized in the following table:

Table 3-4. *Continuing calibration excursion for SVOC analyses*

Affected analyte	Excursion	Affected Samples	Action
hexachlorocyclopentadiene	80.4 %D	OBG MW-1 OBG MW-2 DUP1	UJ UJ UJ

Note: %D indicates percent drift.

3.3.3. MS/MSD analysis

The recoveries for several target analytes in the matrix spike and matrix spike duplicate sample results were less than the laboratory criteria. As a result of the low MS/MSD recoveries, the nondetected results for the target analytes in the samples were qualified as approximate (UJ). The samples qualified as a result of the MS/MSD excursions are summarized in the following table:

Table 3-5. *MS/MSD excursions for SVOC analyses*

MS/MSD ID	Analyte	Excursion	Affected samples	Action
OBG MW-1 MS/MSD	acenaphthene	38.8%R, 40.1%R	OBG-MW-1	UJ
	acenaphthylene	39.0%R, 40.0%R		
	anthracene	40.0%R, 40.9%R		
	benzo(b)fluoranthene	44.6%R, 47.4%R		
	bis (2-chloroisopropyl) ether	43.0%R, 39.5%R		
	bis (2-ethylhexyl) phthalate	46.1%R, 48.3%R		
	4-bromophenyl phenyl ether	43.8%R, 43.9%R		
	butyl benzyl phthalate	45.4%R, 47.0%R		
	4-chloroaniline	42.0%R, 42.4%R		
	2-chloronaphthalene	42.8%R, 44.8%R		
	2-chlorophenol	43.4%R, 45.4%R		
	dibenzofuran	46.7%R, 47.7%R		
	di-n-butyl phthalate	36.1%R, 37.2%R		
	3,3'-dichlorobenzidine	43.0%R, 46.4%R		
	diethyl phthalate	45.3%R, 45.6%R		
	dimethyl phthalate	46.0%R, 46.8%R		
	4,6-dinitro-2-methylphenol	38.9%R, 40.3%R		
	2,4-dinitrophenol	41.1%R, 47.2%R		
	2,4-dinitrotoluene	45.4%R, 47.0%R		
	2,6-dinitrotoluene	46.1%R, 46.4%R		
	di-n-octyl phthalate	43.5%R, 46.0%R		
	fluoranthene	42.0%R, 41.6%R		
	fluorene	42.8%R, 43.6%R		
	hexachlorobenzene	46.6%R, 47.4%R		
	naphthalene	44.9%R, 46.1%R		
	2-nitroaniline	34.5%R, 35.8%R		
	3-nitroaniline	31.6%R, 32.3%R		
	4-nitroaniline	33.1%R, 34.1%R		
	4-nitrophenol	35.4%R, 34.2%R		
	n-nitrosodiphenylamine	42.1%R, 42.7%R		
	n-nitrosodi-n-propyl amine	35.7%R, 32.8%R		
	pentachlorophenol	27.4%R, 28.4%R		
	phenanthrene	39.7%R, 40.7%R		
	phenol	45.7%R, 43.6%R		

Note: %R indicates percent recovery.

3.3.4. LCS analysis

The recoveries for several target analytes in the LCS sample results were less than the laboratory criteria. As a result of the low LCS recoveries, the nondetected results for the target analytes in the samples were qualified as approximate (UJ). The samples qualified as a result of the LCS excursions are summarized in the following table:

Table 3-6. *LCS excursions for SVOC analyses*

LCS ID	Analyte	Excursion	Affected samples	Action
LCS 1/28/99	acenaphthene	44.7%R	OBG-MW-1, OBG MW-2, DUP1	UJ
	acenaphthylene	43.5%R		
	anthracene	45.3%R		
	benzo(b)fluoranthene	48.2%R		
	bis (2-ethylhexyl) phthalate	44.9%R		
	4-bromophenyl phenyl ether	49.6%R		
	butyl benzyl phthalate	49.5%R		
	4-chloroaniline	48.2%R		
	2-chloronaphthalene	48.7%R		
	di-n-butyl phthalate	39.6%R		
	diethyl phthalate	49.8%R		
	4,6-dinitro-2-methylphenol	46.8%R		
	di-n-octyl phthalate	43.4%R		
	fluoranthene	49.8%R		
	fluorene	48.7%R		
	naphthalene	49.2%R		
	2-nitroaniline	38.7%R		
	3-nitroaniline	32.3%R		
	4-nitroaniline	35.7%R		
	4-nitrophenol	40.7%R		
	n-nitrosodiphenylamine	45.9%R		
	n-nitrosodi-n-propyl amine	44.4%R		
	pentachlorophenol	40.4%R		
	phenanthrene	44.8%R		

Note: %R indicates percent recovery.

3.4. Metals, mercury, and cyanide analyses

3.4.1. Criteria compliance

The QA/QC parameters presented in Section 2.1 for metals, mercury, and cyanide were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

1. Holding Times and sample preservation
2. Calibration
3. Blank analysis
4. Internal standard intensity
5. ICP interference check sample
6. MS/MSD analysis
7. Laboratory duplicate analysis
8. LCS analysis
9. ICP serial dilution test
10. Field duplicate sample analysis
11. Analyte quantitation and reported detection limits
12. System performance
13. Documentation completeness

Deviations from QA/QC criteria presented in Section 2.1 were not detected during the data validation process. Therefore, qualification of sample data was not required.

4. Summary and data usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process.

The ground water samples, MS/MSD, field duplicate, and trip blank collected from the 39830 Grand River site for the General Motors (GM) Coldwater Road Investigation in Flint, Michigan, were evaluated based on QA/QC criteria established by USEPA Methods as listed in Section 1-2, the QAPP (O'Brien & Gere 1999), and the USEPA National Functional data validation guidelines. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data is considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity. The use of approximated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

The following paragraphs present the precision, sensitivity, accuracy, representativeness, comparability, and completeness (PSARCC) parameters used in the evaluation of the sample data.

Precision is measured through the evaluation of field duplicate samples and MS/MSD samples.

Sensitivity is established by reported detection limits which represent measurable concentrations of analytes which can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project.

Matrix spike samples, internal standard recoveries, surrogate recoveries, LCS recoveries, and initial and continuing calibration criteria indicate the accuracy of the data.

Holding times, sample preservation, blank analysis, and compound identification and quantification are indicators of the representativeness of the analytical data.

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

As a result of the data validation process, the volatile organic, semivolatile organic, metal, and cyanide data were determined to be 100% usable for qualitative and quantitative purposes.

References

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APPENDIX A

Qualified Volatile Organic, Semivolatile Organic, Metals, and Cyanide Data

Fire & Environmental Consulting Laboratories, Inc.

FECL

Preliminary Report
Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
January 29, 1999

FECL #: AA71994
Tag: OBG MW-1
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	J P	01/28/99
Metals						
Cadmium, Dissolved	Not detected	mg/L	0.0002	200.8	P R	01/29/99
Chromium, Dissolved	Not detected	mg/L	0.01	200.8	P R	01/29/99
Copper, Dissolved	0.01	mg/L	0.01	200.8	P R	01/29/99
Lead, Dissolved	0.008	mg/L	0.003	200.8	P R	01/29/99
Nickel, Dissolved	0.015	mg/L	0.005	200.8	P R	01/29/99
Zinc, Dissolved	0.02	mg/L	0.01	200.8	P R	01/29/99
Organics						
BNA Extraction	Completed			625/8270	S G	01/27/99
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	0.01	8270	JB	01/28/99
Acenaphthylene	Not detected	mg/L	0.01	8270	JB	01/28/99
Anthracene	Not detected	mg/L	0.01	8270	JB	01/28/99
Benzo(a)anthracene	Not detected	mg/L	0.01	8270	JB	01/28/99
Benzo(b)fluoranthene	Not detected	mg/L	0.01	8270	JB	01/28/99
Benzo(k)fluoranthene	Not detected	mg/L	0.01	8270	JB	01/28/99
Benzo(ghi)perylene	Not detected	mg/L	0.01	8270	JB	01/28/99
Benzo(a)pyrene	Not detected	mg/L	0.01	8270	JB	01/28/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	0.01	8270	JB	01/28/99
Bis(2-chloroethyl)ether	Not detected	mg/L	0.01	8270	JB	01/28/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	0.01	8270	JB	01/28/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/L	0.01	8270	JB	01/28/99
4-Bromophenyl phenyl ether	Not detected	mg/L	0.01	8270	JB	01/28/99
Butyl benzyl phthalate	Not detected	mg/L	0.01	8270	JB	01/28/99
4-Chloroaniline	Not detected	mg/L	0.01	8270	JB	01/28/99
2-Chloronaphthalene	Not detected	mg/L	0.01	8270	JB	01/28/99
4-Chloro-3-methylphenol	Not detected	mg/L	0.01	8270	JB	01/28/99
2-Chlorophenol	Not detected	mg/L	0.01	8270	JB	01/28/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	0.01	8270	JB	01/28/99
Chrysene	Not detected	mg/L	0.01	8270	JB	01/28/99
p,m-Cresol	Not detected	mg/L	0.01	8270	JB	01/28/99
o-Cresol	Not detected	mg/L	0.01	8270	JB	01/28/99

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January 29, 1999

FECL #: AA71994 (Continued)
Tag: OBG MW-1
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	Qualify	MDL	Method	Analyst	Date R...
Organics (Continued)							
GC/MS Semi-Volatile Organics (Continued)							
Dibenzo(a,h)anthracene	Not detected	mg/L		0.01	8270	JB	01/28/9
Dibenzofuran	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
Di-n-butyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
1,2-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/28/9
1,3-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/28/9
1,4-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/28/9
3,3'-Dichlorobenzidine	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
2,4-Dichlorophenol	Not detected	mg/L		0.01	8270	JB	01/28/9
Diethyl phthalate	ND ~~Not detected~~	mg/L	UJ	0.01	8270	JB	01/28/9
2,4-Dimethylphenol	Not detected	mg/L		0.01	8270	JB	01/28/9
Dimethyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
4,6-Dinitro-2-methylphenol	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
2,4-Dinitrophenol	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
2,4-Dinitrotoluene	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
2,6-Dinitrotoluene	Not detected	mg/L	UJ	0.01	8270	JB	01/2
Di-n-octyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
Fluoranthene	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
Fluorene	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
Hexachlorobenzene	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
Hexachlorobutadiene	Not detected	mg/L		0.01	8270	JB	01/28/9
Hexachlorocyclopentadiene	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
Hexachloroethane	Not detected	mg/L		0.01	8270	JB	01/28/9
Indeno(1,2,3-cd)pyrene	Not detected	mg/L		0.01	8270	JB	01/28/9
Isophorone	Not detected	mg/L		0.01	8270	JB	01/28/9
2-Methylnaphthalene	Not detected	mg/L		0.01	8270	JB	01/28/9
Naphthalene	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
2-Nitroaniline	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
3-Nitroaniline	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
4-Nitroaniline	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
Nitrobenzene	Not detected	mg/L		0.01	8270	JB	01/28/9
2-Nitrophenol	Not detected	mg/L		0.01	8270	JB	01/28/9
4-Nitrophenol	Not detected	mg/L	UJ	0.01	8270	JB	01/28/9
N-Nitrosodiphenylamine	Not detected	mg/L		0.01	8270	JB	01/28/9
N-Nitrosodi-n-propylamine	Not detected	mg/L		0.01	8270	JB	01/28/9
Pentachlorophenol	Not detected	mg/L		0.01	8270	JB	01/28/9

(Not listed in App)

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Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
January 29, 1999

FECL #: AA71994 (Continued)
Tag: OBG MW-1
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	Qualifier	MDL	Method	Analyst	Date Run
Organics (Continued)							
GC/MS Semi-Volatile Organics (Continued)							
Phenanthrene	Not detected	mg/L	UJ	0.01	8270	JB	01/28/99
Phenol	Not detected	mg/L	UJ	0.01	8270	JB	01/28/99
Pyrene	Not detected	mg/L		0.01	8270	JB	01/28/99
1,2,4-Trichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/28/99
2,4,5-Trichlorophenol	Not detected	mg/L		0.01	8270	JB	01/28/99
2,4,6-Trichlorophenol	Not detected	mg/L		0.01	8270	JB	01/28/99
Volatile Organics							
Benzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
Bromodichloromethane	Not detected	mg/L		0.001	8260	VFM	01/27/99
Bromoform	Not detected	mg/L		0.001	8260	VFM	01/27/99
Bromomethane	Not detected	mg/L		0.001	8260	VFM	01/27/99
n-Butylbenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
sec-Butylbenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
tert-Butylbenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
Carbon tetrachloride	Not detected	mg/L		0.001	8260	VFM	01/27/99
Chlorobenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
Chloroethane	Not detected	mg/L		0.001	8260	VFM	01/27/99
Chloroform	Not detected	mg/L		0.001	8260	VFM	01/27/99
Chloromethane	Not detected	mg/L		0.001	8260	VFM	01/27/99
Dibromochloromethane	Not detected	mg/L		0.001	8260	VFM	01/27/99
1,2-Dichlorobenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
1,3-Dichlorobenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
1,4-Dichlorobenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
1,1-Dichloroethane	Not detected	mg/L		0.001	8260	VFM	01/27/99
1,2-Dichloroethane	Not detected	mg/L		0.001	8260	VFM	01/27/99
1,1-Dichloroethene	Not detected	mg/L		0.001	8260	VFM	01/27/99
cis-1,2-Dichloroethene	Not detected	mg/L		0.001	8260	VFM	01/27/99
trans-1,2-Dichloroethene	Not detected	mg/L		0.001	8260	VFM	01/27/99
1,2-Dichloropropane	Not detected	mg/L		0.001	8260	VFM	01/27/99
cis-1,3-Dichloropropene	Not detected	mg/L		0.001	8260	VFM	01/27/99
trans-1,3-Dichloropropene	Not detected	mg/L		0.001	8260	VFM	01/27/99
Ethylbenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
Isopropylbenzene	Not detected	mg/L		0.001	8260	VFM	01/27/99
p-Isopropyltoluene	Not detected	mg/L		0.001	8260	VFM	01/27/99

Not listed in SPDP

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O'Brien & Gere Engineers, Inc.
January 29, 1999

FECL #: AA71994 (Continued)
Tag: OBG MW-1
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
Methylene chloride 0.003	~~Not detected~~	mg/L U	0.001	8260	VFM	01/27/99
Naphthalene	Not detected	mg/L	0.001	8260	VFM	01/27/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Styrene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Toluene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,2,4-Trimethylbenzene	0.002	mg/L U	0.001	8260	VFM	01/27/99
1,3,5-Trimethylbenzene	0.001	mg/L U	0.001	8260	VFM	01/27/99
Vinyl chloride	Not detected	mg/L	0.001	8260	VFM	01/27/99
o-Xylene	Not detected	mg/L	0.001	8260	VFM	01/27/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	01/27
Acetone	Not detected	mg/L ~~U~~ UJ	0.05	8260	VFM	01/27/99
2-Butanone	Not detected	mg/L ~~U~~ UJ	0.05	8260	VFM	01/27/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	01/27/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	01/27/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	01/27/99

FECL #: AA71995
Tag: OBG MW-2
Date/Time Collected: 01/26/99 11:35
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/L	0.005	335.2	Lachat J P	01/28/99
Metals						
Cadmium, Dissolved	0.0004	mg/L	0.0002	200.8	P R	01/29/99
Chromium, Dissolved	Not detected	mg/L	0.01	200.8	P R	01/29/99

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O'Brien & Gere Engineers, Inc
January 29, 1999

FECL #: AA71995 (Continued)
Tag: OBG MW-2
Date/Time Collected: 01/26/99 11:35
Matrix: Groundwater

Analysis	Results	Units	Qualifiers	MDL	Method	Analyst	Date R...
Metals (Continued)							
Copper, Dissolved	0.02	mg/L		0.01	200.8	P R	01/29/9...
Lead, Dissolved	0.032	mg/L		0.003	200.8	P R	01/29/9...
Nickel, Dissolved	0.013	mg/L		0.005	200.8	P R	01/29/9...
Zinc, Dissolved	0.05	mg/L		0.01	200.8	P R	01/29/9...
Organics							
BNA Extraction	Completed				625/8270	S G	01/27/9...
GC/MS Semi-Volatile Organics							
Acenaphthene	Not detected	mg/L	UJ-	0.01	8270	JB	01/29/99
Acenaphthylene	Not detected	mg/L	↓-	0.01	8270	JB	01/29/99
Anthracene	Not detected	mg/L	↓-	0.01	8270	JB	01/29/99
Benzo(a)anthracene	Not detected	mg/L		0.01	8270	JB	01/29/99
Benzo(b)fluoranthene	Not detected	mg/L	UJ-	0.01	8270	JB	01/29/99
Benzo(k)fluoranthene	Not detected	mg/L		0.01	8270	JB	01/29/99
Benzo(ghi)perylene	Not detected	mg/L		0.01	8270	JB	01/29/99
Benzo(a)pyrene	Not detected	mg/L		0.01	8270	JB	01/29/99
Bis(2-chloroethoxy)methane	Not detected	mg/L		0.01	8270	JB	01/29/99
Bis(2-chloroethyl)ether	Not detected	mg/L		0.01	8270	JB	01/29/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
4-Bromophenyl phenyl ether	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Butyl benzyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
4-Chloroaniline	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
2-Chloronaphthalene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
4-Chloro-3-methylphenol	Not detected	mg/L		0.01	8270	JB	01/29/99
2-Chlorophenol	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
4-Chlorophenyl phenyl ether	Not detected	mg/L		0.01	8270	JB	01/29/99
Chrysene	Not detected	mg/L		0.01	8270	JB	01/29/99
p,m-Cresol	Not detected	mg/L		0.01	8270	JB	01/29/99
o-Cresol	Not detected	mg/L		0.01	8270	JB	01/29/99
Dibenzo(a,h)anthracene	Not detected	mg/L		0.01	8270	JB	01/29/99
Dibenzofuran	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Di-n-butyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
1,2-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99
1,3-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99

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O'Brien & Gere Engineers, Inc.
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FECL #: AA71995 (Continued)
Tag: OBG MW-2
Date/Time Collected: 01/26/99 11:35
Matrix: Groundwater

Analysis	Results	Units	Quality	MDL	Method	Analyst	Date Run
Organics (Continued)							
GC/MS Semi-Volatile Organics (Continued)							
1,4-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99
3,3'-Dichlorobenzidine	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
2,4-Dichlorophenol	Not detected	mg/L		0.01	8270	JB	01/29/99
Diethyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
2,4-Dimethylphenol	Not detected	mg/L		0.01	8270	JB	01/29/99
Dimethyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
2,4-Dinitrophenol	Not detected	mg/L		0.01	8270	JB	01/29/99
2,4-Dinitrotoluene	Not detected	mg/L		0.01	8270	JB	01/29/99
2,6-Dinitrotoluene	Not detected	mg/L		0.01	8270	JB	01/29/99
Di-n-octyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Fluoranthene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Fluorene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Hexachlorobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99
Hexachlorobutadiene	Not detected	mg/L		0.01	8270	JB	01/29/
Hexachlorocyclopentadiene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Hexachloroethane	Not detected	mg/L		0.01	8270	JB	01/29/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L		0.01	8270	JB	01/29/99
Isophorone	Not detected	mg/L		0.01	8270	JB	01/29/99
2-Methylnaphthalene	Not detected	mg/L		0.01	8270	JB	01/29/99
Naphthalene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
2-Nitroaniline	Not detected	mg/L		0.01	8270	JB	01/29/99
3-Nitroaniline	Not detected	mg/L		0.01	8270	JB	01/29/99
4-Nitroaniline	Not detected	mg/L		0.01	8270	JB	01/29/99
Nitrobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99
2-Nitrophenol	Not detected	mg/L		0.01	8270	JB	01/29/99
4-Nitrophenol	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
N-Nitrosodiphenylamine	Not detected	mg/L		0.01	8270	JB	01/29/99
N-Nitrosodi-n-propylamine	Not detected	mg/L		0.01	8270	JB	01/29/99
Pentachlorophenol	Not detected	mg/L		0.01	8270	JB	01/29/99
Phenanthrene	Not detected	mg/L		0.01	8270	JB	01/29/99
Phenol	Not detected	mg/L		0.01	8270	JB	01/29/99
Pyrene	Not detected	mg/L		0.01	8270	JB	01/29/99
1,2,4-Trichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99
2,4,5-Trichlorophenol	Not detected	mg/L		0.01	8270	JB	01/29/99

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FECL #: AA71995 (Continued)
Tag: OBG MW-2
Date/Time Collected: 01/26/99 11:35
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4,6-Trichlorophenol	Not detected	mg/L	0.01	8270	JB	01/29/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromoform	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromomethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
sec-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	01/27/99
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Chloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Chloroform	Not detected	mg/L	0.001	8260	VFM	01/27/99
Chloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	01/27/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	01/27/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Methylene chloride 0.003	~~Not detected~~	mg/L U	0.001	8260	VFM	01/27/99
Naphthalene	Not detected	mg/L	0.001	8260	VFM	01/27/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Styrene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99

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FECL #: AA71995 (Continued)
Tag: OBG MW-2
Date/Time Collected: 01/26/99 11:35
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Toluene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,2,4-Trimethylbenzene	0.001	mg/L U	0.001	8260	VFM	01/27/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Vinyl chloride	Not detected	mg/L	0.001	8260	VFM	01/27/99
o-Xylene	Not detected	mg/L	0.001	8260	VFM	01/27/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Acetone	Not detected	mg/L UJ	0.05	8260	VFM	01/27/99
2-Butanone	Not detected	mg/L UJ	0.05	8260	VFM	01/27/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	01/27/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	01/27/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	01/27/99

FECL #: AA71996
Tag: MS
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.104	mg/L	0.005	335.2 Lachat	J P	01/28/99
Metals						
Cadmium, Dissolved	0.2621	mg/L	0.0002	200.8	P R	01/29/99
Chromium, Dissolved	0.26	mg/L	0.01	200.8	P R	01/29/99
Copper, Dissolved	0.29	mg/L	0.01	200.8	P R	01/29/99
Lead, Dissolved	0.259	mg/L	0.003	200.8	P R	01/29/99
Nickel, Dissolved	0.264	mg/L	0.005	200.8	P R	01/29/99
Zinc, Dissolved	0.28	mg/L	0.01	200.8	P R	01/29/99

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FECL #: AA71996 (Continued)
Tag: MS
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics						
BNA Extraction	Completed			625/8270	S G	01/27/99
GC/MS Semi-Volatile Organics						
Acenaphthene	0.020	mg/L	0.010	8270	JB	01/29/99
Acenaphthylene	0.020	mg/L	0.010	8270	JB	01/29/99
Anthracene	0.021	mg/L	0.010	8270	JB	01/29/99
Benzo(a)anthracene	0.026	mg/L	0.010	8270	JB	01/29/99
Benzo(b)fluoranthene	0.023	mg/L	0.010	8270	JB	01/29/99
Benzo(k)fluoranthene	0.023	mg/L	0.010	8270	JB	01/29/99
Benzo(ghi)perylene	0.031	mg/L	0.010	8270	JB	01/29/99
Benzo(a)pyrene	0.026	mg/L	0.010	8270	JB	01/29/99
Bis(2-chloroethoxy)methane	0.029	mg/L	0.010	8270	JB	01/29/99
Bis(2-chloroethyl)ether	0.028	mg/L	0.010	8270	JB	01/29/99
Bis(2-chloroisopropyl)ether	0.022	mg/L	0.010	8270	JB	01/29/99
Bis(2-ethylhexyl)phthalate	0.024	mg/L	0.010	8270	JB	01/29/99
4-Bromophenyl phenyl ether	0.023	mg/L	0.010	8270	JB	01/29/99
Butyl benzyl phthalate	0.024	mg/L	0.010	8270	JB	01/29/99
4-Chloroaniline	0.022	mg/L	0.010	8270	JB	01/29/99
2-Chloronaphthalene	0.022	mg/L	0.010	8270	JB	01/29/99
4-Chloro-3-methylphenol	0.033	mg/L	0.010	8270	JB	01/29/99
2-Chlorophenol	0.023	mg/L	0.010	8270	JB	01/29/99
4-Chlorophenyl phenyl ether	0.027	mg/L	0.010	8270	JB	01/29/99
Chrysene	0.028	mg/L	0.010	8270	JB	01/29/99
p,m-Cresol	0.027	mg/L	0.010	8270	JB	01/29/99
o-Cresol	0.027	mg/L	0.010	8270	JB	01/29/99
Dibenzo(a,h)anthracene	0.027	mg/L	0.010	8270	JB	01/29/99
Dibenzofuran	0.024	mg/L	0.010	8270	JB	01/29/99
Di-n-butyl phthalate	0.019	mg/L	0.010	8270	JB	01/29/99
1,2-Dichlorobenzene	0.026	mg/L	0.010	8270	JB	01/29/99
1,3-Dichlorobenzene	0.027	mg/L	0.010	8270	JB	01/29/99
1,4-Dichlorobenzene	0.025	mg/L	0.010	8270	JB	01/29/99
3,3'-Dichlorobenzidine	0.022	mg/L	0.010	8270	JB	01/29/99
2,4-Dichlorophenol	0.029	mg/L	0.010	8270	JB	01/29/99
Diethyl phthalate	0.024	mg/L	0.010	8270	JB	01/29/99
2,4-Dimethylphenol	0.030	mg/L	0.010	8270	JB	01/29/99
Dimethyl phthalate	0.024	mg/L	0.010	8270	JB	01/29/99

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Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
4,6-Dinitro-2-methylphenol	0.020	mg/L	0.010	8270	JB	01/29/99
2,4-Dinitrophenol	0.021	mg/L	0.010	8270	JB	01/29/99
2,4-Dinitrotoluene	0.024	mg/L	0.010	8270	JB	01/29/99
2,6-Dinitrotoluene	0.024	mg/L	0.010	8270	JB	01/29/99
Di-n-octyl phthalate	0.023	mg/L	0.010	8270	JB	01/29/99
Fluoranthene	0.022	mg/L	0.010	8270	JB	01/29/99
Fluorene	0.022	mg/L	0.010	8270	JB	01/29/99
Hexachlorobenzene	0.024	mg/L	0.010	8270	JB	01/29/99
Hexachlorobutadiene	0.034	mg/L	0.010	8270	JB	01/29/99
Hexachlorocyclopentadiene	0.040	mg/L	0.010	8270	JB	01/29/99
Hexachloroethane	0.030	mg/L	0.010	8270	JB	01/29/99
Indeno(1,2,3-cd)pyrene	0.029	mg/L	0.010	8270	JB	01/29/99
Isophorone	0.027	mg/L	0.010	8270	JB	01/29/99
2-Methylnaphthalene	0.027	mg/L	0.010	8270	JB	01/29/99
Naphthalene	0.023	mg/L	0.010	8270	JB	01/29/99
2-Nitroaniline	0.018	mg/L	0.010	8270	JB	01/29/99
3-Nitroaniline	0.016	mg/L	0.010	8270	JB	01/29/99
4-Nitroaniline	0.017	mg/L	0.010	8270	JB	01/29/99
Nitrobenzene	0.026	mg/L	0.010	8270	JB	01/29/99
2-Nitrophenol	0.028	mg/L	0.010	8270	JB	01/29/99
4-Nitrophenol	0.018	mg/L	0.010	8270	JB	01/29/99
N-Nitrosodiphenylamine	0.022	mg/L	0.010	8270	JB	01/29/99
N-Nitrosodi-n-propylamine	0.019	mg/L	0.010	8270	JB	01/29/99
Pentachlorophenol	0.014	mg/L	0.010	8270	JB	01/29/99
Phenanthrene	0.021	mg/L	0.010	8270	JB	01/29/99
Phenol	0.024	mg/L	0.010	8270	JB	01/29/99
Pyrene	0.028	mg/L	0.010	8270	JB	01/29/99
1,2,4-Trichlorobenzene	0.036	mg/L	0.010	8270	JB	01/29/99
2,4,5-Trichlorophenol	0.031	mg/L	0.010	8270	JB	01/29/99
2,4,6-Trichlorophenol	0.028	mg/L	0.010	8270	JB	01/29/99

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FECL #: AA71996 (Continued)
Tag: MS
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Organics (Continued)						
Volatile Organics						
Benzene	0.026	mg/L	0.001	8260	VFM	01/27/99
Bromodichloromethane	0.027	mg/L	0.001	8260	VFM	01/27/99
Bromoform	0.026	mg/L	0.001	8260	VFM	01/27/99
Bromomethane	0.025	mg/L	0.001	8260	VFM	01/27/99
n-Butylbenzene	0.024	mg/L	0.001	8260	VFM	01/27/99
sec-Butylbenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
tert-Butylbenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
Carbon tetrachloride	0.027	mg/L	0.001	8260	VFM	01/27/99
Chlorobenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
Chloroethane	0.024	mg/L	0.001	8260	VFM	01/27/99
Chloroform	0.027	mg/L	0.001	8260	VFM	01/27/99
Chloromethane	0.022	mg/L	0.001	8260	VFM	01/27/99
Dibromochloromethane	0.025	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichlorobenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
1,3-Dichlorobenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
1,4-Dichlorobenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
1,1-Dichloroethane	0.026	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichloroethane	0.028	mg/L	0.001	8260	VFM	01/27/99
1,1-Dichloroethene	0.024	mg/L	0.001	8260	VFM	01/27/99
cis-1,2-Dichloroethene	0.026	mg/L	0.001	8260	VFM	01/27/99
trans-1,2-Dichloroethene	0.025	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichloropropane	0.026	mg/L	0.001	8260	VFM	01/27/99
cis-1,3-Dichloropropene	0.025	mg/L	0.001	8260	VFM	01/27/99
trans-1,3-Dichloropropene	0.025	mg/L	0.001	8260	VFM	01/27/99
Ethylbenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
Isopropylbenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
p-Isopropyltoluene	0.025	mg/L	0.001	8260	VFM	01/27/99
Methylene chloride	0.029	mg/L	0.001	8260	VFM	01/27/99
Naphthalene	0.019	mg/L	0.001	8260	VFM	01/27/99
n-Propylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
Styrene	0.024	mg/L	0.001	8260	VFM	01/27/99
1,1,2,2-Tetrachloroethane	0.025	mg/L	0.001	8260	VFM	01/27/99
Tetrachloroethene	0.026	mg/L	0.001	8260	VFM	01/27/99
Toluene	0.027	mg/L	0.001	8260	VFM	01/27/99
1,1,1-Trichloroethane	0.027	mg/L	0.001	8260	VFM	01/27/99

FECL #: AA71996 (Continued)
Tag: MS
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
1,1,2-Trichloroethane	0.027	mg/L	0.001	8260	VFM	01/27/99
Trichloroethene	0.027	mg/L	0.001	8260	VFM	01/27/99
1,2,4-Trimethylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
1,3,5-Trimethylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
Vinyl chloride	0.022	mg/L	0.001	8260	VFM	01/27/99
o-Xylene	0.026	mg/L	0.001	8260	VFM	01/27/99
p,m-Xylene	0.051	mg/L	0.001	8260	VFM	01/27/99
Acetone	Not detected	mg/L	0.05	8260	VFM	01/27/99
2-Butanone	Not detected	mg/L	0.05	8260	VFM	01/27/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	01/27/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	01/27/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	01/27/99

FECL #: AA71997
Tag: MSD
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.100	mg/L	0.005	335.2	Lachat J P	01/28/99
Metals						
Cadmium, Dissolved	0.2623	mg/L	0.0002	200.8	P R	01/29/99
Chromium, Dissolved	0.26	mg/L	0.01	200.8	P R	01/29/99
Copper, Dissolved	0.27	mg/L	0.01	200.8	P R	01/29/99
Lead, Dissolved	0.260	mg/L	0.003	200.8	P R	01/29/99
Nickel, Dissolved	0.265	mg/L	0.005	200.8	P R	01/29/99
Zinc, Dissolved	0.27	mg/L	0.01	200.8	P R	01/29/99
Organics						
BNA Extraction	Completed			625/8270	S G	01/27/99

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FECL #: AA71997 (Continued)
Tag: MSD
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics						
Acenaphthene	0.021	mg/L	0.010	8270	JB	01/29/99
Acenaphthylene	0.021	mg/L	0.010	8270	JB	01/29/99
Anthracene	0.021	mg/L	0.010	8270	JB	01/29/99
Benzo(a)anthracene	0.028	mg/L	0.010	8270	JB	01/29/99
Benzo(b)fluoranthene	0.025	mg/L	0.010	8270	JB	01/29/99
Benzo(k)fluoranthene	0.027	mg/L	0.010	8270	JB	01/29/99
Benzo(ghi)perylene	0.031	mg/L	0.010	8270	JB	01/29/99
Benzo(a)pyrene	0.027	mg/L	0.010	8270	JB	01/29/99
Bis(2-chloroethoxy)methane	0.027	mg/L	0.010	8270	JB	01/29/99
Bis(2-chloroethyl)ether	0.027	mg/L	0.010	8270	JB	01/29/99
Bis(2-chloroisopropyl)ether	0.021	mg/L	0.010	8270	JB	01/29/99
Bis(2-ethylhexyl)phthalate	0.025	mg/L	0.010	8270	JB	01/29/99
4-Bromophenyl phenyl ether	0.023	mg/L	0.010	8270	JB	01/29/99
Butyl benzyl phthalate	0.024	mg/L	0.010	8270	JB	01/29/99
4-Chloroaniline	0.022	mg/L	0.010	8270	JB	01/29/99
2-Chloronaphthalene	0.023	mg/L	0.010	8270	JB	01/29/99
4-Chloro-3-methylphenol	0.031	mg/L	0.010	8270	JB	01/29/99
2-Chlorophenol	0.024	mg/L	0.010	8270	JB	01/29/99
4-Chlorophenyl phenyl ether	0.026	mg/L	0.010	8270	JB	01/29/99
Chrysene	0.029	mg/L	0.010	8270	JB	01/29/99
p,m-Cresol	0.026	mg/L	0.010	8270	JB	01/29/99
o-Cresol	0.026	mg/L	0.010	8270	JB	01/29/99
Dibenzo(a,h)anthracene	0.028	mg/L	0.010	8270	JB	01/29/99
Dibenzofuran	0.025	mg/L	0.010	8270	JB	01/29/99
Di-n-butyl phthalate	0.019	mg/L	0.010	8270	JB	01/29/99
1,2-Dichlorobenzene	0.027	mg/L	0.010	8270	JB	01/29/99
1,3-Dichlorobenzene	0.027	mg/L	0.010	8270	JB	01/29/99
1,4-Dichlorobenzene	0.026	mg/L	0.010	8270	JB	01/29/99
3,3'-Dichlorobenzidine	0.024	mg/L	0.010	8270	JB	01/29/99
2,4-Dichlorophenol	0.029	mg/L	0.010	8270	JB	01/29/99
Diethyl phthalate	0.024	mg/L	0.010	8270	JB	01/29/99
2,4-Dimethylphenol	0.029	mg/L	0.010	8270	JB	01/29/99
Dimethyl phthalate	0.024	mg/L	0.010	8270	JB	01/29/99
4,6-Dinitro-2-methylphenol	0.021	mg/L	0.010	8270	JB	01/29/99
2,4-Dinitrophenol	0.025	mg/L	0.010	8270	JB	01/29/99

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FECL #: AA71997 (Continued)
Tag: MSD
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4-Dinitrotoluene	0.024	mg/L	0.010	8270	JB	01/29/99
2,6-Dinitrotoluene	0.024	mg/L	0.010	8270	JB	01/29/99
Di-n-octyl phthalate	0.024	mg/L	0.010	8270	JB	01/29/99
Fluoranthene	0.022	mg/L	0.010	8270	JB	01/29/99
Fluorene	0.023	mg/L	0.010	8270	JB	01/29/99
Hexachlorobenzene	0.025	mg/L	0.010	8270	JB	01/29/99
Hexachlorobutadiene	0.033	mg/L	0.010	8270	JB	01/29/99
Hexachlorocyclopentadiene	0.041	mg/L	0.010	8270	JB	01/29/99
Hexachloroethane	0.028	mg/L	0.010	8270	JB	01/29/99
Indeno(1,2,3-cd)pyrene	0.029	mg/L	0.010	8270	JB	01/29/99
Isophorone	0.025	mg/L	0.010	8270	JB	01/29/99
2-Methylnaphthalene	0.027	mg/L	0.010	8270	JB	01/29/99
Naphthalene	0.024	mg/L	0.010	8270	JB	01/29/99
2-Nitroaniline	0.019	mg/L	0.010	8270	JB	01/29/99
3-Nitroaniline	0.017	mg/L	0.010	8270	JB	01/29
4-Nitroaniline	0.018	mg/L	0.010	8270	JB	01/29/99
Nitrobenzene	0.026	mg/L	0.010	8270	JB	01/29/99
2-Nitrophenol	0.029	mg/L	0.010	8270	JB	01/29/99
4-Nitrophenol	0.018	mg/L	0.010	8270	JB	01/29/99
N-Nitrosodiphenylamine	0.022	mg/L	0.010	8270	JB	01/29/99
N-Nitrosodi-n-propylamine	0.017	mg/L	0.010	8270	JB	01/29/99
Pentachlorophenol	0.015	mg/L	0.010	8270	JB	01/29/99
Phenanthrene	0.021	mg/L	0.010	8270	JB	01/29/99
Phenol	0.023	mg/L	0.010	8270	JB	01/29/99
Pyrene	0.029	mg/L	0.010	8270	JB	01/29/99
1,2,4-Trichlorobenzene	0.036	mg/L	0.010	8270	JB	01/29/99
2,4,5-Trichlorophenol	0.033	mg/L	0.010	8270	JB	01/29/99
2,4,6-Trichlorophenol	0.029	mg/L	0.010	8270	JB	01/29/99
Volatile Organics						
Benzene	0.026	mg/L	0.001	8260	VFM	01/27/99
Bromodichloromethane	0.026	mg/L	0.001	8260	VFM	01/27/99
Bromoform	0.025	mg/L	0.001	8260	VFM	01/27/99
Bromomethane	0.024	mg/L	0.001	8260	VFM	01/27/99
n-Butylbenzene	0.023	mg/L	0.001	8260	VFM	01/27/99

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FECL #: AA71997 (Continued)
Tag: MSD
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
sec-Butylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
tert-Butylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
Carbon tetrachloride	0.026	mg/L	0.001	8260	VFM	01/27/99
Chlorobenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
Chloroethane	0.022	mg/L	0.001	8260	VFM	01/27/99
Chloroform	0.026	mg/L	0.001	8260	VFM	01/27/99
Chloromethane	0.021	mg/L	0.001	8260	VFM	01/27/99
Dibromochloromethane	0.024	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichlorobenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
1,3-Dichlorobenzene	0.026	mg/L	0.001	8260	VFM	01/27/99
1,4-Dichlorobenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
1,1-Dichloroethane	0.026	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichloroethane	0.027	mg/L	0.001	8260	VFM	01/27/99
1,1-Dichloroethene	0.024	mg/L	0.001	8260	VFM	01/27/99
cis-1,2-Dichloroethene	0.026	mg/L	0.001	8260	VFM	01/27/99
trans-1,2-Dichloroethene	0.024	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichloropropane	0.026	mg/L	0.001	8260	VFM	01/27/99
cis-1,3-Dichloropropene	0.025	mg/L	0.001	8260	VFM	01/27/99
trans-1,3-Dichloropropene	0.025	mg/L	0.001	8260	VFM	01/27/99
Ethylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
Isopropylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
p-Isopropyltoluene	0.024	mg/L	0.001	8260	VFM	01/27/99
Methylene chloride	0.030	mg/L	0.001	8260	VFM	01/27/99
Naphthalene	0.021	mg/L	0.001	8260	VFM	01/27/99
n-Propylbenzene	0.024	mg/L	0.001	8260	VFM	01/27/99
Styrene	0.024	mg/L	0.001	8260	VFM	01/27/99
1,1,2,2-Tetrachloroethane	0.024	mg/L	0.001	8260	VFM	01/27/99
Tetrachloroethene	0.026	mg/L	0.001	8260	VFM	01/27/99
Toluene	0.027	mg/L	0.001	8260	VFM	01/27/99
1,1,1-Trichloroethane	0.027	mg/L	0.001	8260	VFM	01/27/99
1,1,2-Trichloroethane	0.027	mg/L	0.001	8260	VFM	01/27/99
Trichloroethene	0.026	mg/L	0.001	8260	VFM	01/27/99
1,2,4-Trimethylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
1,3,5-Trimethylbenzene	0.025	mg/L	0.001	8260	VFM	01/27/99
Vinyl chloride	0.021	mg/L	0.001	8260	VFM	01/27/99

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FECL #: AA71997 (Continued)
Tag: MSD
Date/Time Collected: 01/26/99 11:25
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date R
Organics (Continued)						
Volatile Organics (Continued)						
o-Xylene	0.025	mg/L	0.001	8260	VFM	01/27/9
p,m-Xylene	0.051	mg/L	0.001	8260	VFM	01/27/9
Acetone	Not detected	mg/L	0.05	8260	VFM	01/27/9
2-Butanone	Not detected	mg/L	0.05	8260	VFM	01/27/9
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	01/27/9
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	01/27/9
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	01/27/9

FECL #: AA71998
Tag: Dup
Date/Time Collected: 01/26/99
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date R
Inorganics						
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	J P	01/28/99
Metals						
Cadmium, Dissolved	Not detected	mg/L	0.0002	200.8	P R	01/29/9
Chromium, Dissolved	Not detected	mg/L	0.01	200.8	P R	01/29/9
Copper, Dissolved	0.01	mg/L	0.01	200.8	P R	01/29/99
Lead, Dissolved	0.009	mg/L	0.003	200.8	P R	01/29/9
Nickel, Dissolved	0.015	mg/L	0.005	200.8	P R	01/29/99
Zinc, Dissolved	0.02	mg/L	0.01	200.8	P R	01/29/9
Organics						
BNA Extraction	Completed			625/8270	S G	01/27/9

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FECL #: AA71998 (Continued)
Tag: Dup
Date/Time Collected: 01/26/99
Matrix: Groundwater

Analysis	Results	Units	Qual	MDL	Method	Analyst	Date R
Organics (Continued)							
GC/MS Semi-Volatile Organics							
Acenaphthene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
Acenaphthylene	Not detected	mg/L		0.01	8270	JB	01/29/9
Anthracene	Not detected	mg/L		0.01	8270	JB	01/29/9
Benzo(a)anthracene	Not detected	mg/L		0.01	8270	JB	01/29/9
Benzo(b)fluoranthene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
Benzo(k)fluoranthene	Not detected	mg/L		0.01	8270	JB	01/29/9
Benzo(ghi)perylene	Not detected	mg/L		0.01	8270	JB	01/29/9
Benzo(a)pyrene	Not detected	mg/L		0.01	8270	JB	01/29/9
Bis(2-chloroethoxy)methane	Not detected	mg/L		0.01	8270	JB	01/29/9
Bis(2-chloroethyl)ether	Not detected	mg/L		0.01	8270	JB	01/29/9
Bis(2-chloroisopropyl)ether	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
Bis(2-ethylhexyl)phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
4-Bromophenyl phenyl ether	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
Butyl benzyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
4-Chloroaniline	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
2-Chloronaphthalene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
4-Chloro-3-methylphenol	Not detected	mg/L		0.01	8270	JB	01/29/9
2-Chlorophenol	Not detected	mg/L	UJ	0.01	8270	JB	01/29/9
4-Chlorophenyl phenyl ether	Not detected	mg/L		0.01	8270	JB	01/29/9
Chrysene	Not detected	mg/L		0.01	8270	JB	01/29/9
p,m-Cresol	Not detected	mg/L		0.01	8270	JB	01/29/9
o-Cresol	Not detected	mg/L		0.01	8270	JB	01/29/9
Dibenzo(a,h)anthracene	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Dibenzofuran	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
Di-n-butyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
1,2-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99
1,3-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99
1,4-Dichlorobenzene	Not detected	mg/L		0.01	8270	JB	01/29/99
3,3'-Dichlorobenzidine	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
2,4-Dichlorophenol	Not detected	mg/L		0.01	8270	JB	01/29/99
Diethyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
2,4-Dimethylphenol	Not detected	mg/L		0.01	8270	JB	01/29/99
Dimethyl phthalate	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	UJ	0.01	8270	JB	01/29/99
2,4-Dinitrophenol	Not detected	mg/L		0.01	8270	JB	01/29/99

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FECL #: AA71998 (Continued)
Tag: Dup
Date/Time Collected: 01/26/99
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4-Dinitrotoluene	Not detected	mg/L	0.01	8270	JB	01/29/99
2,6-Dinitrotoluene	Not detected	mg/L	0.01	8270	JB	01/29/99
Di-n-octyl phthalate	Not detected	mg/L	0.01	8270	JB	01/29/99
Fluoranthene	Not detected	mg/L	0.01	8270	JB	01/29/99
Fluorene	Not detected	mg/L	0.01	8270	JB	01/29/99
Hexachlorobenzene	Not detected	mg/L	0.01	8270	JB	01/29/99
Hexachlorobutadiene	Not detected	mg/L	0.01	8270	JB	01/29/99
Hexachlorocyclopentadiene	Not detected	mg/L	0.01	8270	JB	01/29/99
Hexachloroethane	Not detected	mg/L	0.01	8270	JB	01/29/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	0.01	8270	JB	01/29/99
Isophorone	Not detected	mg/L	0.01	8270	JB	01/29/99
2-Methylnaphthalene	Not detected	mg/L	0.01	8270	JB	01/29/99
Naphthalene	Not detected	mg/L	0.01	8270	JB	01/29/99
2-Nitroaniline	Not detected	mg/L	0.01	8270	JB	01/29/99
3-Nitroaniline	Not detected	mg/L	0.01	8270	JB	01/29/99
4-Nitroaniline	Not detected	mg/L	0.01	8270	JB	01/29/99
Nitrobenzene	Not detected	mg/L	0.01	8270	JB	01/29/99
2-Nitrophenol	Not detected	mg/L	0.01	8270	JB	01/29/99
4-Nitrophenol	Not detected	mg/L	0.01	8270	JB	01/29/99
N-Nitrosodiphenylamine	Not detected	mg/L	0.01	8270	JB	01/29/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	0.01	8270	JB	01/29/99
Pentachlorophenol	Not detected	mg/L	0.01	8270	JB	01/29/99
Phenanthrene	Not detected	mg/L	0.01	8270	JB	01/29/99
Phenol	Not detected	mg/L	0.01	8270	JB	01/29/99
Pyrene	Not detected	mg/L	0.01	8270	JB	01/29/99
1,2,4-Trichlorobenzene	Not detected	mg/L	0.01	8270	JB	01/29/99
2,4,5-Trichlorophenol	Not detected	mg/L	0.01	8270	JB	01/29/99
2,4,6-Trichlorophenol	Not detected	mg/L	0.01	8270	JB	01/29/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromoform	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromomethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99

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FECL #: AA71998 (Continued)
Tag: Dup
Date/Time Collected: 01/26/99
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date R.
Organics (Continued)						
Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
tert-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	01/27/9
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
Chloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/9
Chloroform	Not detected	mg/L	0.001	8260	VFM	01/27/9
Chloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/9
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/9
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/9
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	01/27/9
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	01/27/9
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	01/27/9
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
Isopropylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	VFM	01/27/9
Methylene chloride 0.002	~~Not detected~~	mg/L U	0.001	8260	VFM	01/27/9
Naphthalene	Not detected	mg/L	0.001	8260	VFM	01/27/9
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
Styrene	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/9
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/9
Toluene	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/9
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/9
Vinyl chloride	Not detected	mg/L	0.001	8260	VFM	01/27/9

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FECL #: AA71998 (Continued)
Tag: Dup
Date/Time Collected: 01/26/99
Matrix: Groundwater

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
o-Xylene	Not detected	mg/L	0.001	8260	VFM	01/27/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Acetone	Not detected	mg/L UJ	0.05	8260	VFM	01/27/99
2-Butanone	Not detected	mg/L UJ	0.05	8260	VFM	01/27/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	01/27/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	01/27/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	01/27/99

FECL #: AA71999
Tag: Trip Blank
Date/Time Collected:
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics						
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromoform	Not detected	mg/L	0.001	8260	VFM	01/27/99
Bromomethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
sec-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	01/27/99
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Chloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Chloroform	Not detected	mg/L	0.001	8260	VFM	01/27/99
Chloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99

Preliminary Report
Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
January 29, 1999

FECL #: AA71999 (Continued)
Tag: Trip Blank
Date/Time Collected:
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	01/27/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	01/27/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Methylene chloride 0.003	~~Not detected~~	mg/L U	0.001	8260	VFM	01/27/99
Naphthalene	Not detected	mg/L	0.001	8260	VFM	01/27/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Styrene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Toluene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	01/27/99
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	01/27/99
1,2,4-Trimethylbenzene	0.002	mg/L UJ	0.001	8260	VFM	01/27/99
1,3,5-Trimethylbenzene	0.002	mg/L UJ	0.001	8260	VFM	01/27/99
Vinyl chloride	Not detected	mg/L	0.001	8260	VFM	01/27/99
o-Xylene	Not detected	mg/L	0.001	8260	VFM	01/27/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	01/27/99
Acetone	Not detected	mg/L	0.05	8260	VFM	01/27/99
2-Butanone	Not detected	mg/L	0.05	8260	VFM	01/27/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	01/27/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	01/27/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	01/27/99

Note: Methods may be modified for improved performance.
Results reported on a dry weight basis, where applicable.
Results relate only to items tested.
Report shall not be reproduced except in full, without the written approval of FECL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

APPENDIX A

Summary of validated USEPA method analytical results

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
January 04, 1999

FECL #: AA70951
Tag: Tap water
Date/Time Collected: 12/21/98 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Ru:
Metals						
Arsenic	0.005	mg/L	0.001	200.8	E B	12/29/98
Barium	0.18	mg/L	0.01	200.8	E B	12/29/98
Cadmium	Not detected	mg/L	0.0002	200.8	E B	12/29/98
Chromium	Not detected	mg/L	0.01	200.8	E B	12/29/98
Copper	Not detected	mg/L	0.01	200.8	E B	12/29/98
Lead	Not detected	mg/L	0.003	200.8	E B	12/29/98
Mercury	Not detected	mg/L	0.0002	245.1	E B	12/29/98
Selenium	Not detected	mg/L	0.005	200.8	E B	12/29/98
Silver	Not detected	mg/L	0.0005	200.8	E B	12/29/98
Zinc	0.03	mg/L	0 01	200.8	E B	12/29/98

FECL #: AA70952
Tag: West Alkali Basin Floor
Date/Time Collected: 12/21/98 10:30
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Ru:
Metals						
Arsenic	0.003	mg/L	0.001	200.8	E B	12/29/98
Barium	0.07	mg/L	0.01	200.8	E B	12/29/98
Cadmium	Not detected	mg/L	0.0002	200.8	E B	12/29/98
Chromium	0.03	mg/L	0.01	200.8	E B	12/29/98
Copper	0.10	mg/L	0.01	200.8	E B	12/29/98
Lead	Not detected	mg/L	0.003	200.8	E B	12/29/98
Mercury	Not detected	mg/L	0.0002	245.1	E B	12/29/98
Selenium	Not detected	mg/L	0.005	200.8	E B	12/29/98
Silver	Not detected	mg/L	0.0005	200.8	E B	12/29/98
Zinc	0.06	mg/L	0 01	200.8	E B	12/29/98

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
January 04, 1999

FECL #: AA70953
Tag: deionized Water Basin Floor
Date/Time Collected: 12/21/98 11:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Ru
Metals						
Arsenic	Not detected	mg/L	0.001	200.8	E B	12/29/9
Barium	0.03	mg/L	0.01	200.8	E B	12/29/9
Cadmium	Not detected	mg/L	0.0002	200.8	E B	12/29/9
Chromium	Not detected	mg/L	0.01	200.8	E B	12/29/9
Copper	0.03	mg/L	0.01	200.8	E B	12/29/9
Lead	0.003	mg/L	0.003	200.8	E B	12/29/9
Mercury	Not detected	mg/L	0.0002	245.1	E B	12/29/9
Selenium	Not detected	mg/L	0.005	200.8	E B	12/29/9
Silver	Not detected	mg/L	0.0005	200.8	E B	12/29/9
Zinc	0.08	mg/L	0 01	200.8	E B	12/29/9

Note: Methods may be modified for improved performance.
Results reported on a dry weight basis, where applicable.
Results relate only to items tested.
Report shall not be reproduced except in full, without the written approval of FECL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
April 26, 1999

FECL #: AA75338
Tag: Easte Basement Basin Rinseate
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.016	mg/L	0.005	335.2 Lachat	J P	04/21/99
Metals						
Cadmium	Not detected	mg/L	0.0005	200.8	E B	04/22/99
Chromium	0.26	mg/L	0.01	200.8	E B	04/22/99
Copper	3.35	mg/L	0.01	200.8	E B	04/22/99
Lead	0.096	mg/L	0.003	200.8	E B	04/22/99
Nickel	0.994	mg/L	0.005	200.8	E B	04/22/99
Zinc	1.08	mg/L	0 01	200.8	E B	04/22/99
Organics						
BNA Extraction	Completed			625/8270	E C	04/21/99
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Acenaphthylene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(a)anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(b)fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(k)fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(ghi)perylene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(a)pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroethyl)ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-ethylhexyl)phthalate	0.02	mg/L	* 0.02	8270	JB	04/23/99
4-Bromophenyl phenyl ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Butyl benzyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chloroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Chloronaphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chloro-3-methylphenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Chlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Chrysene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
p,m-Cresol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
o-Cresol	Not detected	mg/L	* 0.02	8270	JB	04/23/99

*Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75338 (Continued)
Tag: Easte Basement Basin Rinseate
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
Dibenzo(a,h)anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Dibenzofuran	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Di-n-butyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,2-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,3-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,4-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
3,3'-Dichlorobenzidine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4-Dichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Diethyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4-Dimethylphenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Dimethyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
,6-Dinitro-2-methylphenol UJ	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Dinitrophenol UJ	Not detected	mg/L	* 0.02	8270	JB	04/23/99
,4-Dinitrotoluene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,6-Dinitrotoluene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Di-n-octyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Fluorene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorobutadiene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorocyclopentadiene UJ	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachloroethane	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Isophorone	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Methylnaphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Naphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
3-Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Nitrobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Nitrophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Nitrophenol UJ	Not detected	mg/L	* 0.02	8270	JB	04/23/99
N-Nitrosodiphenylamine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Pentachlorophenol UJ	Not detected	mg/L	* 0.02	8270	JB	04/23/99

Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
April 26, 1999

FECL #: AA75338 (Continued)
Tag: Easte Basement Basin Rinseate
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
Phenanthrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Phenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,2,4-Trichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4,5-Trichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4,6-Trichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromodichloromethane	0.004	mg/L	0.001	8260	JB	04/26/99
Bromoform	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromomethane	Not detected	mg/L	0.001	8260	JB	04/26/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
sec-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	JB	04/26/99
Chlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroform	0.005	mg/L	0.001	8260	JB	04/26/99
Chloromethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Dibromochloromethane	0.003	mg/L	0.001	8260	JB	04/26/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
Ethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	JB	04/26/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75338 (Continued)
Tag: Easte Basement Basin Rinseate
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
Methylene chloride	Not detected	mg/L	0.001	8260	JB	04/26/99
Naphthalene	0.003	mg/L	0.001	8260	JB	04/26/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Styrene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
Toluene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Trichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Vinyl chloride	Not detected	mg/L	0.001	8260	JB	04/26/99
o-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
p,m-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
Acetone	Not detected	mg/L	0.001	8260	JB	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	JB	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	JB	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	JB	04/26/99

FECL #: AA75339
Tag: MS (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.112	mg/L	0.005	335.2	Lachat J P	04/21/99
Metals						
Cadmium	0.256	mg/L	0.0002	200.8	E B	04/22/99
Chromium	0.50	mg/L	0.01	200.8	E B	04/22/99

FECL #: AA75339 (Continued)
Tag: MS (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Metals (Continued)						
Copper	3.62	mg/L	0.01	200.8	E B	04/22/99
Lead	0.342	mg/L	0.003	200.8	E B	04/22/99
Nickel	1.22	mg/L	0.005	200.8	E B	04/22/99
Zinc	1.31	mg/L	0 01	200.8	E B	04/22/99
Organics						
BNA Extraction	Completed			625/8270	S G	04/21/99
GC/MS Semi-Volatile Organics						
Acenaphthene	0.05	mg/L	0.02	8270	JB	04/23/99
Acenaphthylene	0.05	mg/L	0.02	8270	JB	04/23/99
Anthracene	0.04	mg/L	0.02	8270	JB	04/23/99
Benzo(a)anthracene	0.04	mg/L	0.02	8270	JB	04/23/99
Benzo(b)fluoranthene	0.04	mg/L	0.02	8270	JB	04/23/99
Benzo(k)fluoranthene	0.05	mg/L	0.02	8270	JB	04/23/99
Benzo(ghi)perylene	0.04	mg/L	0.02	8270	JB	04/23/99
Benzo(a)pyrene	0.03	mg/L	0.02	8270	JB	04/23/99
Bis(2-chloroethoxy)methane	0.04	mg/L	0.02	8270	JB	04/23/99
Bis(2-chloroethyl)ether	0.04	mg/L	0.02	8270	JB	04/23/99
Bis(2-chloroisopropyl)ether	0.05	mg/L	0.02	8270	JB	04/23/99
Bis(2-ethylhexyl)phthalate	0.08	mg/L	0.02	8270	JB	04/23/99
4-Bromophenyl phenyl ether	0.04	mg/L	0.02	8270	JB	04/23/99
Butyl benzyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
4-Chloroaniline	0.04	mg/L	0.02	8270	JB	04/23/99
2-Chloronaphthalene	0.05	mg/L	0.02	8270	JB	04/23/99
4-Chloro-3-methylphenol	0.03	mg/L	0.02	8270	JB	04/23/99
2-Chlorophenol	0.04	mg/L	0.02	8270	JB	04/23/99
4-Chlorophenyl phenyl ether	0.04	mg/L	0.02	8270	JB	04/23/99
Chrysene	0.05	mg/L	0.02	8270	JB	04/23/99
p,m-Cresol	0.03	mg/L	0.02	8270	JB	04/23/99
o-Cresol	0.03	mg/L	0.02	8270	JB	04/23/99
Dibenzo(a,h)anthracene	0.04	mg/L	0.02	8270	JB	04/23/99
Dibenzofuran	0.04	mg/L	0.02	8270	JB	04/23/99
Di-n-butyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
1,2-Dichlorobenzene	0.04	mg/L	0.02	8270	JB	04/23/99
1,3-Dichlorobenzene	0.04	mg/L	0.02	8270	JB	04/23/99

FECL #: AA75339 (Continued)
Tag: MS (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
1,4-Dichlorobenzene	0.04	mg/L	0.02	8270	JB	04/23/99
3,3'-Dichlorobenzidine	0.04	mg/L	0.02	8270	JB	04/23/99
2,4-Dichlorophenol	0.03	mg/L	0.02	8270	JB	04/23/99
Diethyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
2,4-Dimethylphenol	0.04	mg/L	0.02	8270	JB	04/23/99
Dimethyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	0.02	8270	JB	04/23/99
2,4-Dinitrophenol	Not detected	mg/L	0.02	8270	JB	04/23/99
2,4-Dinitrotoluene	0.03	mg/L	0.02	8270	JB	04/23/99
2,6-Dinitrotoluene	0.04	mg/L	0.02	8270	JB	04/23/99
Di-n-octyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
luoranthene	0.05	mg/L	0.02	8270	JB	04/23/99
luorene	0.05	mg/L	0.02	8270	JB	04/23/99
Hexachlorobenzene	0.04	mg/L	0.02	8270	JB	04/23/99
Hexachlorobutadiene	0.05	mg/L	0.02	8270	JB	04/23/99
Hexachlorocyclopentadiene	Not detected	mg/L	0.02	8270	JB	04/23/99
Hexachloroethane	0.05	mg/L	0.02	8270	JB	04/23/99
Indeno(1,2,3-cd)pyrene	0.05	mg/L	0.02	8270	JB	04/23/99
Isophorone	0.04	mg/L	0.02	8270	JB	04/23/99
2-Methylnaphthalene	0.04	mg/L	0.02	8270	JB	04/23/99
Naphthalene	0.05	mg/L	0.02	8270	JB	04/23/99
2-Nitroaniline	0.04	mg/L	0.02	8270	JB	04/23/99
3-Nitroaniline	0.03	mg/L	0.02	8270	JB	04/23/99
4-Nitroaniline	0.03	mg/L	0.02	8270	JB	04/23/99
Nitrobenzene	0.04	mg/L	0.02	8270	JB	04/23/99
2-Nitrophenol	0.03	mg/L	0.02	8270	JB	04/23/99
4-Nitrophenol	0.03	mg/L	0.02	8270	JB	04/23/99
N-Nitrosodiphenylamine	0.05	mg/L	0.02	8270	JB	04/23/99
N-Nitrosodi-n-propylamine	0.05	mg/L	0.02	8270	JB	04/23/99
Pentachlorophenol	0.02	mg/L	0.02	8270	JB	04/23/99
Phenanthrene	0.05	mg/L	0.02	8270	JB	04/23/99
Phenol	0.05	mg/L	0.02	8270	JB	04/23/99
Pyrene	0.06	mg/L	0.02	8270	JB	04/23/99
1,2,4-Trichlorobenzene	0.05	mg/L	0.02	8270	JB	04/23/99
2,4,5-Trichlorophenol	0.03	mg/L	0.02	8270	JB	04/23/99

FECL #: AA75339 (Continued)
Tag: MS (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4,6-Trichlorophenol	0.04	mg/L	0.02	8270	JB	04/23/99
Volatile Organics						
Benzene	0.026	mg/L	0.001	8260	JB	04/26/99
Bromodichloromethane	0.029	mg/L	0.001	8260	JB	04/26/99
Bromoform	0.025	mg/L	0.001	8260	JB	04/26/99
Bromomethane	0.026	mg/L	0.001	8260	JB	04/26/99
n-Butylbenzene	0.023	mg/L	0.001	8260	JB	04/26/99
sec-Butylbenzene	0.024	mg/L	0.001	8260	JB	04/26/99
tert-Butylbenzene	0.026	mg/L	0.001	8260	JB	04/26/99
Carbon tetrachloride	0.026	mg/L	0.001	8260	JB	04/26/99
Chlorobenzene	0.029	mg/L	0.001	8260	JB	04/26/99
Chloroethane	0.024	mg/L	0.001	8260	JB	04/26/99
Chloroform	0.030	mg/L	0.001	8260	JB	04/26/99
Chloromethane	0.023	mg/L	0.001	8260	JB	04/26/99
Dibromochloromethane	0.028	mg/L	0.001	8260	JB	04/26/99
1,2-Dichlorobenzene	0.030	mg/L	0.001	8260	JB	04/26/99
1,3-Dichlorobenzene	0.030	mg/L	0.001	8260	JB	04/26/99
1,4-Dichlorobenzene	0.029	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethane	0.024	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloroethane	0.029	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethene	0.024	mg/L	0.001	8260	JB	04/26/99
cis-1,2-Dichloroethene	0.025	mg/L	0.001	8260	JB	04/26/99
trans-1,2-Dichloroethene	0.024	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloropropane	0.024	mg/L	0.001	8260	JB	04/26/99
cis-1,3-Dichloropropene	0.024	mg/L	0.001	8260	JB	04/26/99
trans-1,3-Dichloropropene	0.024	mg/L	0.001	8260	JB	04/26/99
Ethylbenzene	0.026	mg/L	0.001	8260	JB	04/26/99
Isopropylbenzene	0.026	mg/L	0.001	8260	JB	04/26/99
p-Isopropyltoluene	0.025	mg/L	0.001	8260	JB	04/26/99
Methylene chloride	0.030	mg/L	0.001	8260	JB	04/26/99
Naphthalene	0.026	mg/L	0.001	8260	JB	04/26/99
n-Propylbenzene	0.026	mg/L	0.001	8260	JB	04/26/99
Styrene	0.027	mg/L	0.001	8260	JB	04/26/99
1,1,2,2-Tetrachloroethane	0.024	mg/L	0.001	8260	JB	04/26/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
April 26, 1999

FECL #: AA75339 (Continued)
Tag: MS (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
Tetrachloroethene	0.023	mg/L	0.001	8260	JB	04/26/99
Toluene	0.028	mg/L	0.001	8260	JB	04/26/99
1,1,1-Trichloroethane	0.025	mg/L	0.001	8260	JB	04/26/99
1,1,2-Trichloroethane	0.025	mg/L	0.001	8260	JB	04/26/99
Trichloroethene	0.026	mg/L	0.001	8260	JB	04/26/99
1,2,4-Trimethylbenzene	0.024	mg/L	0.001	8260	JB	04/26/99
1,3,5-Trimethylbenzene	0.029	mg/L	0.001	8260	JB	04/26/99
Vinyl chloride	0.021	mg/L	0.001	8260	JB	04/26/99
o-Xylene	0.028	mg/L	0.001	8260	JB	04/26/99
p,m-Xylene	0.061	mg/L	0.001	8260	JB	04/26/99
Acetone	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	JB	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	JB	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	JB	04/26/99

FECL #: AA75340
Tag: MSD (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.110	mg/L	0.005	335.2 Lachat	J P	04/21/99
Metals						
Cadmium	0.257	mg/L	0.0002	200.8	E B	04/22/99
Chromium	0.49	mg/L	0.01	200.8	E B	04/22/99
Copper	3.35	mg/L	0.01	200.8	E B	04/22/99
Lead	0.334	mg/L	0.003	200.8	E B	04/22/99
Nickel	1.15	mg/L	0.005	200.8	E B	04/22/99
Zinc	1.23	mg/L	0.01	200.8	E B	04/22/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
April 26, 1999

FECL #: AA75340 (Continued)
Tag: MSD (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics						
BNA Extraction	Completed			625/8270	S G	04/21/99
GC/MS Semi-Volatile Organics						
Acenaphthene	0.05	mg/L	0.02	8270	JB	04/23/99
Acenaphthylene	0.05	mg/L	0.02	8270	JB	04/23/99
Anthracene	0.05	mg/L	0.02	8270	JB	04/23/99
Benzo(a)anthracene	0.04	mg/L	0.02	8270	JB	04/23/99
Benzo(b)fluoranthene	0.04	mg/L	0.02	8270	JB	04/23/99
Benzo(k)fluoranthene	0.05	mg/L	0.02	8270	JB	04/23/99
Benzo(ghi)perylene	0.05	mg/L	0.02	8270	JB	04/23/99
Benzo(a)pyrene	0.04	mg/L	0.02	8270	JB	04/23/99
Bis(2-chloroethoxy)methane	0.04	mg/L	0.02	8270	JB	04/23/99
is(2-chloroethyl)ether	0.04	mg/L	0.02	8270	JB	04/23/99
Bis(2-chloroisopropyl)ether	0.05	mg/L	0.02	8270	JB	04/23/99
Bis(2-ethylhexyl)phthalate	0.09	mg/L	0.02	8270	JB	04/23/99
4-Bromophenyl phenyl ether	0.04	mg/L	0.02	8270	JB	04/23/9
Butyl benzyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
4-Chloroaniline	0.05	mg/L	0.02	8270	JB	04/23/99
2-Chloronaphthalene	0.06	mg/L	0.02	8270	JB	04/23/99
4-Chloro-3-methylphenol	0.04	mg/L	0.02	8270	JB	04/23/99
2-Chlorophenol	0.04	mg/L	0.02	8270	JB	04/23/99
4-Chlorophenyl phenyl ether	0.04	mg/L	0.02	8270	JB	04/23/99
Chrysene	0.05	mg/L	0.02	8270	JB	04/23/99
p,m-Cresol	0.04	mg/L	0.02	8270	JB	04/23/99
o-Cresol	0.03	mg/L	0.02	8270	JB	04/23/99
Dibenzo(a,h)anthracene	0.04	mg/L	0.02	8270	JB	04/23/99
Dibenzofuran	0.04	mg/L	0.02	8270	JB	04/23/99
Di-n-butyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
1,2-Dichlorobenzene	0.04	mg/L	0.02	8270	JB	04/23/99
1,3-Dichlorobenzene	0.04	mg/L	0.02	8270	JB	04/23/99
1,4-Dichlorobenzene	0.05	mg/L	0.02	8270	JB	04/23/99
3,3'-Dichlorobenzidine	0.04	mg/L	0.02	8270	JB	04/23/99
2,4-Dichlorophenol	0.03	mg/L	0.02	8270	JB	04/23/99
Diethyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
2,4-Dimethylphenol	0.04	mg/L	0.02	8270	JB	04/23/99
Dimethyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
April 26, 1999

FECL #: AA75340 (Continued)
Tag: MSD (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
4,6-Dinitro-2-methylphenol	0.02	mg/L	0.02	8270	JB	04/23/99
2,4-Dinitrophenol	Not detected	mg/L	0.02	8270	JB	04/23/99
2,4-Dinitrotoluene	0.04	mg/L	0.02	8270	JB	04/23/99
2,6-Dinitrotoluene	0.04	mg/L	0.02	8270	JB	04/23/99
Di-n-octyl phthalate	0.05	mg/L	0.02	8270	JB	04/23/99
Fluoranthene	0.05	mg/L	0.02	8270	JB	04/23/99
Fluorene	0.05	mg/L	0.02	8270	JB	04/23/99
Hexachlorobenzene	0.05	mg/L	0.02	8270	JB	04/23/99
Hexachlorobutadiene	0.05	mg/L	0.02	8270	JB	04/23/99
Hexachlorocyclopentadiene	Not detected	mg/L	0.02	8270	JB	04/23/99
Hexachloroethane	0.05	mg/L	0.02	8270	JB	04/23/99
ıdeno(1,2,3-cd)pyrene	0.05	mg/L	0.02	8270	JB	04/23/99
;ophorone	0.05	mg/L	0.02	8270	JB	04/23/99
2-Methylnaphthalene	0.04	mg/L	0.02	8270	JB	04/23/99
Naphthalene	0.05	mg/L	0.02	8270	JB	04/23/99
2-Nitroaniline	0.04	mg/L	0.02	8270	JB	04/23/99
3-Nitroaniline	0.03	mg/L	0.02	8270	JB	04/23/99
4-Nitroaniline	0.03	mg/L	0.02	8270	JB	04/23/99
Nitrobenzene	0.04	mg/L	0.02	8270	JB	04/23/99
2-Nitrophenol	0.04	mg/L	0.02	8270	JB	04/23/99
4-Nitrophenol	Not detected	mg/L	0.02	8270	JB	04/23/99
N-Nitrosodiphenylamine	0.05	mg/L	0.02	8270	JB	04/23/99
N-Nitrosodi-n-propylamine	0.05	mg/L	0.02	8270	JB	04/23/99
Pentachlorophenol	0.03	mg/L	0.02	8270	JB	04/23/99
Phenanthrene	0.06	mg/L	0.02	8270	JB	04/23/99
Phenol	0.04	mg/L	0.02	8270	JB	04/23/99
Pyrene	0.06	mg/L	0.02	8270	JB	04/23/99
1,2,4-Trichlorobenzene	0.04	mg/L	0.02	8270	JB	04/23/99
2,4,5-Trichlorophenol	0.03	mg/L	0.02	8270	JB	04/23/99
2,4,6-Trichlorophenol	0.04	mg/L	0.02	8270	JB	04/23/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
April 26, 1999

FECL #: AA75340 (Continued)
Tag: MSD (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics						
Benzene	0.026	mg/L	0.001	8260	JB	04/26/99
Bromodichloromethane	0.029	mg/L	0.001	8260	JB	04/26/99
Bromoform	0.025	mg/L	0.001	8260	JB	04/26/99
Bromomethane	0.025	mg/L	0.001	8260	JB	04/26/99
n-Butylbenzene	0.023	mg/L	0.001	8260	JB	04/26/99
sec-Butylbenzene	0.024	mg/L	0.001	8260	JB	04/26/99
tert-Butylbenzene	0.027	mg/L	0.001	8260	JB	04/26/99
Carbon tetrachloride	0.027	mg/L	0.001	8260	JB	04/26/99
Chlorobenzene	0.030	mg/L	0.001	8260	JB	04/26/99
Chloroethane	0.023	mg/L	0.001	8260	JB	04/26/99
Chloroform	0.029	mg/L	0.001	8260	JB	04/26/99
Chloromethane	0.023	mg/L	0.001	8260	JB	04/26/99
Dibromochloromethane	0.028	mg/L	0.001	8260	JB	04/26/99
1,2-Dichlorobenzene	0.030	mg/L	0.001	8260	JB	04/26/99
1,3-Dichlorobenzene	0.031	mg/L	0.001	8260	JB	04/26/99
1,4-Dichlorobenzene	0.030	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethane	0.023	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloroethane	0.028	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethene	0.024	mg/L	0.001	8260	JB	04/26/99
cis-1,2-Dichloroethene	0.025	mg/L	0.001	8260	JB	04/26/99
trans-1,2-Dichloroethene	0.023	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloropropane	0.025	mg/L	0.001	8260	JB	04/26/99
cis-1,3-Dichloropropene	0.025	mg/L	0.001	8260	JB	04/26/99
trans-1,3-Dichloropropene	0.025	mg/L	0.001	8260	JB	04/26/99
Ethylbenzene	0.027	mg/L	0.001	8260	JB	04/26/99
Isopropylbenzene	0.026	mg/L	0.001	8260	JB	04/26/99
p-Isopropyltoluene	0.024	mg/L	0.001	8260	JB	04/26/99
Methylene chloride	0.029	mg/L	0.001	8260	JB	04/26/99
Naphthalene	0.026	mg/L	0.001	8260	JB	04/26/99
n-Propylbenzene	0.026	mg/L	0.001	8260	JB	04/26/99
Styrene	0.027	mg/L	0.001	8260	JB	04/26/99
1,1,2,2-Tetrachloroethane	0.024	mg/L	0.001	8260	JB	04/26/99
Tetrachloroethene	0.023	mg/L	0.001	8260	JB	04/26/99
Toluene	0.028	mg/L	0.001	8260	JB	04/26/99
1,1,1-Trichloroethane	0.026	mg/L	0.001	8260	JB	04/26/99

FECL #: AA75340 (Continued)
Tag: MSD (East BB)
Date/Time Collected: 04/20/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
1,1,2-Trichloroethane	0.024	mg/L	0.001	8260	JB	04/26/99
Trichloroethene	0.026	mg/L	0.001	8260	JB	04/26/99
1,2,4-Trimethylbenzene	0.025	mg/L	0.001	8260	JB	04/26/99
1,3,5-Trimethylbenzene	0.030	mg/L	0.001	8260	JB	04/26/99
Vinyl chloride	0.021	mg/L	0.001	8260	JB	04/26/99
o-Xylene	0.028	mg/L	0.001	8260	JB	04/26/99
p,m-Xylene	0.060	mg/L	0.001	8260	JB	04/26/99
Acetone	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	JB	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	JB	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	JB	04/26/99

FECL #: AA75341
Tag: Rinseate Dup
Date/Time Collected: 04/20/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.014	mg/L	0.005	335.2 Lachat	J P	04/21/99
Metals						
Cadmium	Not detected	mg/L	0.0005	200.8	E B	04/22/99
Chromium	0.24	mg/L	0.01	200.8	E B	04/22/99
Copper	3.06	mg/L	0.01	200.8	E B	04/22/99
Lead	0.093	mg/L	0.003	200.8	E B	04/22/99
Nickel	0.913	mg/L	0.005	200.8	E B	04/22/99
Zinc	0.99	mg/L	0.01	200.8	E B	04/22/99
Organics						
BNA Extraction	Completed			625/8270	C E	04/21/99

FECL #: AA75341 (Continued)
Tag: Rinseate Dup
Date/Time Collected: 04/20/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Acenaphthylene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(a)anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(b)fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(k)fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(ghi)perylene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(a)pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroethyl)ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
is(2-ethylhexyl)phthalate	0.03	mg/L	* 0.02	8270	JB	04/23/99
4-Bromophenyl phenyl ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Butyl benzyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chloroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/9
2-Chloronaphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chloro-3-methylphenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Chlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Chrysene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
p,m-Cresol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
o-Cresol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Dibenzo(a,h)anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Dibenzofuran	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Di-n-butyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,2-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,3-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,4-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
3,3'-Dichlorobenzidine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4-Dichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Diethyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4-Dimethylphenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Dimethyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4-Dinitrophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75341 (Continued)
Tag: Rinseate Dup
Date/Time Collected: 04/20/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4-Dinitrotoluene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,6-Dinitrotoluene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Di-n-octyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Fluorene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorobutadiene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorocyclopentadiene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachloroethane	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Isophorone	Not detected	mg/L	* 0.02	8270	JB	04/23/99
-Methylnaphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
aphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
3-Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Nitrobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Nitrophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Nitrophenol UJ	Not detected	mg/L	* 0.02	8270	JB	04/23/99
N-Nitrosodiphenylamine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Pentachlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Phenanthrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Phenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,2,4-Trichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4,5-Trichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4,6-Trichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromodichloromethane	U 0.004	mg/L	0.001	8260	JB	04/26/99
Bromoform	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromomethane	Not detected	mg/L	0.001	8260	JB	04/26/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75341 (Continued)
Tag: Rinseate Dup
Date/Time Collected: 04/20/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	JB	04/26/99
Chlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroform	U 0.005	mg/L	0.001	8260	JB	04/26/99
Chloromethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Dibromochloromethane	U 0.003	mg/L	0.001	8260	JB	04/26/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
,1-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
Ethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	JB	04/26/99
Methylene chloride	J 0.009 U ~~Not detected~~	mg/L	0.001	8260	JB	04/26/99
Naphthalene	0.003	mg/L	0.001	8260	JB	04/26/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Styrene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
Toluene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Trichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Vinyl chloride	Not detected	mg/L	0.001	8260	JB	04/26/99

FECL #: AA75341 (Continued)
Tag: Rinseate Dup
Date/Time Collected: 04/20/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
o-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
p,m-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
Acetone	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	JB	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	JB	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	JB	04/26/99

FECL #: AA75342
Tag: Center Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.007	mg/L	0.005	335.2 Lachat	J P	04/21/99
Metals						
Cadmium	Not detected	mg/L	0.0005	200.8	E B	04/22/99
Chromium	0.08	mg/L	0.01	200.8	E B	04/22/99
Copper	0.43	mg/L	0.01	200.8	E B	04/22/99
Lead	0.020	mg/L	0.003	200.8	E B	04/22/99
Nickel	0.140	mg/L	0.005	200.8	E B	04/22/99
Zinc	0.24	mg/L	0 01	200.8	E B	04/22/99
Organics						
BNA Extraction	Completed			625/8270	C E	04/21/99

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O'Brien & Gere Engineers, Inc.
April 26, 1999

FECL #: AA75342 (Continued)
Tag: Center Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Acenaphthylene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(a)anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(b)fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(k)fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(ghi)perylene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Benzo(a)pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroethyl)ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Bis(2-ethylhexyl)phthalate	0.04	mg/L	* 0.02	8270	JB	04/23/99
4-Bromophenyl phenyl ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Butyl benzyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chloroaniline UJ	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Chloronaphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chloro-3-methylphenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Chlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Chrysene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
p,m-Cresol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
o-Cresol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Dibenzo(a,h)anthracene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Dibenzofuran	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Di-n-butyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,2-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,3-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,4-Dichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
3,3'-Dichlorobenzidine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4-Dichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Diethyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4-Dimethylphenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Dimethyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4-Dinitrophenol UJ	Not detected	mg/L	* 0.02	8270	JB	04/23/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL #: AA75342 (Continued)
Tag: Center Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4-Dinitrotoluene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,6-Dinitrotoluene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Di-n-octyl phthalate	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Fluoranthene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Fluorene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorobutadiene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachlorocyclopentadiene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Hexachloroethane	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Isophorone	Not detected	mg/L	* 0.02	8270	JB	04/23/99
-Methylnaphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Naphthalene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
3-Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Nitroaniline	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Nitrobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2-Nitrophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
4-Nitrophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
N-Nitrosodiphenylamine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Pentachlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Phenanthrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Phenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Pyrene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
1,2,4-Trichlorobenzene	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4,5-Trichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
2,4,6-Trichlorophenol	Not detected	mg/L	* 0.02	8270	JB	04/23/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromodichloromethane	0.005	mg/L	0.001	8260	JB	04/26/99
Bromoform	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromomethane	Not detected	mg/L	0.001	8260	JB	04/26/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99

Higher detection limits due to matrix interference and/or high target concentrations.

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O'Brien & Gere Engineers, Inc
April 26, 1999

FECL #: AA75342 (Continued)
Tag: Center Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:00
Matrix: Liquid

Analysis	Qual	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)							
Volatile Organics (Continued)							
sec-Butylbenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
tert-Butylbenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
Carbon tetrachloride		Not detected	mg/L	0.001	8260	JB	04/26/99
Chlorobenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroethane		Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroform	U	0.006	mg/L	0.001	8260	JB	04/26/99
Chloromethane		Not detected	mg/L	0.001	8260	JB	04/26/99
Dibromochloromethane	U	0.003	mg/L	0.001	8260	JB	04/26/99
1,2-Dichlorobenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
1,3-Dichlorobenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
1,4-Dichlorobenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
,1-Dichloroethane		Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloroethane		Not detected	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethene		Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,2-Dichloroethene		Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,2-Dichloroethene		Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloropropane		Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,3-Dichloropropene		Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,3-Dichloropropene		Not detected	mg/L	0.001	8260	JB	04/26/99
Ethylbenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
Isopropylbenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
p-Isopropyltoluene		Not detected	mg/L	0.001	8260	JB	04/26/99
Methylene chloride	J0.009U	~~Not detected~~	mg/L	0.001	8260	JB	04/26/99
Naphthalene		0.001	mg/L	0.001	8260	JB	04/26/99
n-Propylbenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
Styrene		Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2,2-Tetrachloroethane		Not detected	mg/L	0.001	8260	JB	04/26/99
Tetrachloroethene		Not detected	mg/L	0.001	8260	JB	04/26/99
Toluene		0.002	mg/L	0.001	8260	JB	04/26/99
1,1,1-Trichloroethane		Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2-Trichloroethane		Not detected	mg/L	0.001	8260	JB	04/26/99
Trichloroethene		Not detected	mg/L	0.001	8260	JB	04/26/99
1,2,4-Trimethylbenzene		Not detected	mg/L	0.001	8260	JB	04/26/99
1,3,5-Trimethylbenzene		0.001	mg/L	0.001	8260	JB	04/26/99
Vinyl chloride		Not detected	mg/L	0.001	8260	JB	04/26/99

FECL #: AA75342 (Continued)
Tag: Center Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
o-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
p,m-Xylene	0.001	mg/L	0.001	8260	JB	04/26/99
Acetone	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	JB	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	JB	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	JB	04/26/99

FECL #: AA75343
Tag: West Basement Basin Rinseate
ate/Time Collected: 04/21/99 10:30
latrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	0.066	mg/L	0.005	335.2 Lachat	J P	04/21/99
Metals						
Cadmium	0.0012	mg/L	0.0002	200.8	E B	04/22/99
Chromium	2.18	mg/L	0.01	200.8	E B	04/22/99
Copper	11.4	mg/L	0.01	200.8	E B	04/22/99
Lead	0.169	mg/L	0.003	200.8	E B	04/22/99
Nickel	3.85	mg/L	0.005	200.8	E B	04/22/99
Zinc	4.19	mg/L	0 01	200.8	E B	04/22/99
Organics						
BNA Extraction	Completed			625/8270	C E	04/21/99

FECL #: AA75343 (Continued)
Tag: West Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:30
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Acenaphthylene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Anthracene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Benzo(a)anthracene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Benzo(b)fluoranthene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Benzo(k)fluoranthene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Benzo(ghi)perylene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Benzo(a)pyrene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Bis(2-chloroethyl)ether	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	* 0.04	8270	JB	04/23/99
is(2-ethylhexyl)phthalate	0.07	mg/L	* 0.04	8270	JB	04/23/99
4-Bromophenyl phenyl ether	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Butyl benzyl phthalate	Not detected	mg/L	* 0.04	8270	JB	04/23/99
4-Chloroaniline	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2-Chloronaphthalene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
4-Chloro-3-methylphenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2-Chlorophenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Chrysene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
p,m-Cresol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
o-Cresol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Dibenzo(a,h)anthracene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Dibenzofuran	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Di-n-butyl phthalate	Not detected	mg/L	* 0.04	8270	JB	04/23/99
1,2-Dichlorobenzene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
1,3-Dichlorobenzene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
1,4-Dichlorobenzene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
3,3'-Dichlorobenzidine	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2,4-Dichlorophenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Diethyl phthalate	0.07	mg/L	* 0.04	8270	JB	04/23/99
2,4-Dimethylphenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Dimethyl phthalate	Not detected	mg/L	* 0.04	8270	JB	04/23/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2,4-Dinitrophenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99

Higher detection limits due to matrix interference and/or high target concentrations.

FECL

nalytical Laboratory Report
O'Brien & Gere Engineers, Inc
April 26, 1999

FECL #: AA75343 (Continued)
Tag: West Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:30
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4-Dinitrotoluene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2,6-Dinitrotoluene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Di-n-octyl phthalate	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Fluoranthene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Fluorene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Hexachlorobenzene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Hexachlorobutadiene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Hexachlorocyclopentadiene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Hexachloroethane	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Isophorone	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Methylnaphthalene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
laphthalene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2-Nitroaniline	Not detected	mg/L	* 0.04	8270	JB	04/23/99
3-Nitroaniline	Not detected	mg/L	* 0.04	8270	JB	04/23/99
4-Nitroaniline	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Nitrobenzene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2-Nitrophenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
4-Nitrophenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
N-Nitrosodiphenylamine	Not detected	mg/L	* 0.04	8270	JB	04/23/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Pentachlorophenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Phenanthrene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Phenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Pyrene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
1,2,4-Trichlorobenzene	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2,4,5-Trichlorophenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
2,4,6-Trichlorophenol	Not detected	mg/L	* 0.04	8270	JB	04/23/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromodichloromethane	0.003	mg/L	0.001	8260	JB	04/26/99
Bromoform	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromomethane	Not detected	mg/L	0.001	8260	JB	04/26/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99

*Higher detection limits due to matrix interference and/or high target concentrations.

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
April 26, 1999

FECL #: AA75343 (Continued)
Tag: West Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:30
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	JB	04/26/99
Chlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroform	U 0.004	mg/L	0.001	8260	JB	04/26/99
Chloromethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Dibromochloromethane	U 0.002	mg/L	0.001	8260	JB	04/26/99
1,2-Dichlorobenzene	0.003	mg/L	0.001	8260	JB	04/26/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
,1-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
Ethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	JB	04/26/99
Methylene chloride	~~Not detected~~ 0.005 U	mg/L	0.001	8260	JB	04/26/99
Naphthalene	0.003	mg/L	0.001	8260	JB	04/26/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Styrene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
Toluene	0.004	mg/L	0.001	8260	JB	04/26/99
1,1,1-Trichloroethane	0.004	mg/L	0.001	8260	JB	04/26/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Trichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2,4-Trimethylbenzene	0.002	mg/L	0.001	8260	JB	04/26/99
1,3,5-Trimethylbenzene	0.003	mg/L	0.001	8260	JB	04/26/99
Vinyl chloride	Not detected	mg/L	0.001	8260	JB	04/26/99

FECL #: AA75343 (Continued)
Tag: West Basement Basin Rinseate
Date/Time Collected: 04/21/99 10:30
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
o-Xylene	0.005	mg/L	0.001	8260	JB	04/26/99
p,m-Xylene	0.003	mg/L	0.001	8260	JB	04/26/99
Acetone	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	JB	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	JB	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	JB	04/26/99

FECL #: AA75344
Tag: Tap Water
Date/Time Collected: 04/21/99 11:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	J P	04/21/99
Metals						
Cadmium	Not detected	mg/L	0.0005	200.8	E B	04/22/99
Chromium	Not detected	mg/L	0.01	200.8	E B	04/22/99
Copper	U 0.01	mg/L	0.01	200.8	E B	04/22/99
Lead	0.052	mg/L	0.003	200.8	E B	04/22/99
Nickel	Not detected	mg/L	0.005	200.8	E B	04/22/99
Zinc	U 0.02	mg/L	0 01	200.8	E B	04/22/99
Organics						
BNA Extraction	Completed			625/8270	S G	04/21/99

FECL #: AA75344 (Continued)
Tag: Tap Water
Date/Time Collected: 04/21/99 11:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	0.01	8270	JB	04/23/99
Acenaphthylene	Not detected	mg/L	0.01	8270	JB	04/23/99
Anthracene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(a)anthracene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(b)fluoranthene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(k)fluoranthene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(ghi)perylene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(a)pyrene	Not detected	mg/L	0.01	8270	JB	04/23/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	0.01	8270	JB	04/23/99
Bis(2-chloroethyl)ether	Not detected	mg/L	0.01	8270	JB	04/23/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	0.01	8270	JB	04/23/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Bromophenyl phenyl ether	Not detected	mg/L	0.01	8270	JB	04/23/99
Butyl benzyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/9
4-Chloroaniline UJ	Not detected	mg/L	0.01	8270	JB	04/23/9
2-Chloronaphthalene	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Chloro-3-methylphenol	Not detected	mg/L	0.01	8270	JB	04/23/99
2-Chlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	0.01	8270	JB	04/23/99
Chrysene	Not detected	mg/L	0.01	8270	JB	04/23/99
p,m-Cresol	Not detected	mg/L	0.01	8270	JB	04/23/99
o-Cresol	Not detected	mg/L	0.01	8270	JB	04/23/99
Dibenzo(a,h)anthracene	Not detected	mg/L	0.01	8270	JB	04/23/99
Dibenzofuran	Not detected	mg/L	0.01	8270	JB	04/23/99
Di-n-butyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
1,2-Dichlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
1,3-Dichlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
1,4-Dichlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
3,3'-Dichlorobenzidine	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4-Dichlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Diethyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4-Dimethylphenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Dimethyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4-Dinitrophenol UJ	Not detected	mg/L	0.01	8270	JB	04/23/99

FECL

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc.
April 26, 1999

FECL #: AA75344 (Continued)
Tag: Tap Water
Date/Time Collected: 04/21/99 11:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4-Dinitrotoluene	Not detected	mg/L	0.01	8270	JB	04/23/99
2,6-Dinitrotoluene	Not detected	mg/L	0.01	8270	JB	04/23/99
Di-n-octyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
Fluoranthene	Not detected	mg/L	0.01	8270	JB	04/23/99
Fluorene	Not detected	mg/L	0.01	8270	JB	04/23/99
Hexachlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
Hexachlorobutadiene	Not detected	mg/L	0.01	8270	JB	04/23/99
Hexachlorocyclopentadiene	Not detected	mg/L	0.01	8270	JB	04/23/99
Hexachloroethane	Not detected	mg/L	0.01	8270	JB	04/23/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	0.01	8270	JB	04/23/99
Isophorone	Not detected	mg/L	0.01	8270	JB	04/23/99
-Methylnaphthalene	Not detected	mg/L	0.01	8270	JB	04/23/99
Naphthalene	Not detected	mg/L	0.01	8270	JB	04/23/99
2-Nitroaniline	Not detected	mg/L	0.01	8270	JB	04/23/99
3-Nitroaniline	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Nitroaniline	Not detected	mg/L	0.01	8270	JB	04/23/99
Nitrobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
2-Nitrophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Nitrophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
N-Nitrosodiphenylamine	Not detected	mg/L	0.01	8270	JB	04/23/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	0.01	8270	JB	04/23/99
Pentachlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Phenanthrene	Not detected	mg/L	0.01	8270	JB	04/23/99
Phenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Pyrene	Not detected	mg/L	0.01	8270	JB	04/23/99
1,2,4-Trichlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4,5-Trichlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4,6-Trichlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromodichloromethane	0.005	mg/L	0.001	8260	JB	04/26/99
Bromoform	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromomethane	Not detected	mg/L	0.001	8260	JB	04/26/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99

Analytical Laboratory Report
O'Brien & Gere Engineers, Inc
April 26, 1999

FECL #: AA75344 (Continued)
Tag: Tap Water
Date/Time Collected: 04/21/99 11:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	JB	04/26/99
Chlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroform	U 0.006	mg/L	0.001	8260	JB	04/26/99
Chloromethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Dibromochloromethane	U 0.004	mg/L	0.001	8260	JB	04/26/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
,1-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/9
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/9
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
Ethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	JB	04/26/99
Methylene chloride	J 0.009 ~~Not detected~~	mg/L	0.001	8260	JB	04/26/99
Naphthalene	Not detected	mg/L	0.001	8260	JB	04/26/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Styrene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
Toluene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Trichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Vinyl chloride	Not detected	mg/L	0.001	8260	JB	04/26/99

FECL #: AA75344 (Continued)
Tag: Tap Water
Date/Time Collected: 04/21/99 11:00
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
o-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
p,m-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
Acetone	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	JB	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	JB	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	JB	04/26/99

FECL #: AA75345
Tag: Rinseate EB
ate/Time Collected: 04/21/99 11:10
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Inorganics						
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	J P	04/21/99
Metals						
Cadmium	Not detected	mg/L	0.0005	200.8	E B	04/22/99
Chromium	Not detected	mg/L	0.01	200.8	E B	04/22/99
Copper	0.01	mg/L	0.01	200.8	E B	04/22/99
Lead	0.003	mg/L	0.003	200.8	E B	04/22/99
Nickel	Not detected	mg/L	0.005	200.8	E B	04/22/99
Zinc	0.02	mg/L	0 01	200.8	E B	04/22/99
Organics						
BNA Extraction	Completed			625/8270	S G	04/21/99

FECL #: AA75345 (Continued)
Tag: Rinseate EB
Date/Time Collected: 04/21/99 11:10
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics						
Acenaphthene	Not detected	mg/L	0.01	8270	JB	04/23/99
Acenaphthylene	Not detected	mg/L	0.01	8270	JB	04/23/99
Anthracene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(a)anthracene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(b)fluoranthene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(k)fluoranthene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(ghi)perylene	Not detected	mg/L	0.01	8270	JB	04/23/99
Benzo(a)pyrene	Not detected	mg/L	0.01	8270	JB	04/23/99
Bis(2-chloroethoxy)methane	Not detected	mg/L	0.01	8270	JB	04/23/99
Bis(2-chloroethyl)ether	Not detected	mg/L	0.01	8270	JB	04/23/99
Bis(2-chloroisopropyl)ether	Not detected	mg/L	0.01	8270	JB	04/23/99
Bis(2-ethylhexyl)phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Bromophenyl phenyl ether	Not detected	mg/L	0.01	8270	JB	04/23/99
Butyl benzyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/
4-Chloroaniline	Not detected	mg/L	0.01	8270	JB	04/23/99
2-Chloronaphthalene	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Chloro-3-methylphenol	Not detected	mg/L	0.01	8270	JB	04/23/99
2-Chlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Chlorophenyl phenyl ether	Not detected	mg/L	0.01	8270	JB	04/23/99
Chrysene	Not detected	mg/L	0.01	8270	JB	04/23/99
p,m-Cresol	Not detected	mg/L	0.01	8270	JB	04/23/99
o-Cresol	Not detected	mg/L	0.01	8270	JB	04/23/99
Dibenzo(a,h)anthracene	Not detected	mg/L	0.01	8270	JB	04/23/99
Dibenzofuran	Not detected	mg/L	0.01	8270	JB	04/23/99
Di-n-butyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
1,2-Dichlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
1,3-Dichlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
1,4-Dichlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
3,3'-Dichlorobenzidine	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4-Dichlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Diethyl phthalate	0.02	mg/L	0.01	8270	JB	04/23/99
2,4-Dimethylphenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Dimethyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
4,6-Dinitro-2-methylphenol	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4-Dinitrophenol	Not detected	mg/L	0.01	8270	JB	04/23/99

FECL #: AA75345 (Continued)
Tag: Rinseate EB
Date/Time Collected: 04/21/99 11:10
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
GC/MS Semi-Volatile Organics (Continued)						
2,4-Dinitrotoluene	Not detected	mg/L	0.01	8270	JB	04/23/99
2,6-Dinitrotoluene	Not detected	mg/L	0.01	8270	JB	04/23/99
Di-n-octyl phthalate	Not detected	mg/L	0.01	8270	JB	04/23/99
Fluoranthene	Not detected	mg/L	0.01	8270	JB	04/23/99
Fluorene	Not detected	mg/L	0.01	8270	JB	04/23/99
Hexachlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
Hexachlorobutadiene	Not detected	mg/L	0.01	8270	JB	04/23/99
Hexachlorocyclopentadiene	Not detected	mg/L	0.01	8270	JB	04/23/99
Hexachloroethane	Not detected	mg/L	0.01	8270	JB	04/23/99
Indeno(1,2,3-cd)pyrene	Not detected	mg/L	0.01	8270	JB	04/23/99
Isophorone	Not detected	mg/L	0.01	8270	JB	04/23/99
-Methylnaphthalene	Not detected	mg/L	0.01	8270	JB	04/23/99
aphthalene	Not detected	mg/L	0.01	8270	JB	04/23/99
2-Nitroaniline	Not detected	mg/L	0.01	8270	JB	04/23/99
3-Nitroaniline	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Nitroaniline	Not detected	mg/L	0.01	8270	JB	04/23/99
Nitrobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
2-Nitrophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
4-Nitrophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
N-Nitrosodiphenylamine	Not detected	mg/L	0.01	8270	JB	04/23/99
N-Nitrosodi-n-propylamine	Not detected	mg/L	0.01	8270	JB	04/23/99
Pentachlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Phenanthrene	Not detected	mg/L	0.01	8270	JB	04/23/99
Phenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Pyrene	Not detected	mg/L	0.01	8270	JB	04/23/99
1,2,4-Trichlorobenzene	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4,5-Trichlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
2,4,6-Trichlorophenol	Not detected	mg/L	0.01	8270	JB	04/23/99
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromodichloromethane	0.005	mg/L	0.001	8260	JB	04/26/99
Bromoform	Not detected	mg/L	0.001	8260	JB	04/26/99
Bromomethane	Not detected	mg/L	0.001	8260	JB	04/26/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99

FECL #: AA75345 (Continued)
Tag: Rinseate EB
Date/Time Collected: 04/21/99 11:10
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
sec-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	JB	04/26/99
Chlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Chloroform	0.006	mg/L	0.001	8260	JB	04/26/99
Chloromethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Dibromochloromethane	0.004	mg/L	0.001	8260	JB	04/26/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
.1-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
ı,2-Dichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	JB	04/26/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	JB	04/26/99
Ethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	JB	04/26/99
Methylene chloride 0.009	~~Not detected~~	mg/L	0.001	8260	JB	04/26/99
Naphthalene	Not detected	mg/L	0.001	8260	JB	04/26/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Styrene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
Toluene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	JB	04/26/99
Trichloroethene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	JB	04/26/99
Vinyl chloride	Not detected	mg/L	0.001	8260	JB	04/26/99

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FECL #: AA75345 (Continued)
Tag: Rinseate EB
Date/Time Collected: 04/21/99 11:10
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
o-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
p,m-Xylene	Not detected	mg/L	0.001	8260	JB	04/26/99
Acetone	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	JB	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	JB	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	JB	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	JB	04/26/99

FECL #: AA75346
Tag: Trip Blank
Date/Time Collected: 04/21/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics						
Volatile Organics						
Benzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Bromodichloromethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
Bromoform	Not detected	mg/L	0.001	8260	VFM	04/26/99
Bromomethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
n-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
sec-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
tert-Butylbenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Carbon tetrachloride	Not detected	mg/L	0.001	8260	VFM	04/26/99
Chlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Chloroethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
Chloroform 0.002	~~Not detected~~	mg/L	0.001	8260	VFM	04/26/99
Chloromethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
Dibromochloromethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,2-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,3-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,4-Dichlorobenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,1-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	04/26/99

FECL #: AA75346 (Continued)
Tag: Trip Blank
Date/Time Collected: 04/21/99
Matrix: Liquid

Analysis	Results	Units	MDL	Method	Analyst	Date Run
Organics (Continued)						
Volatile Organics (Continued)						
1,2-Dichloroethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,1-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/26/99
cis-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/26/99
trans-1,2-Dichloroethene	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,2-Dichloropropane	Not detected	mg/L	0.001	8260	VFM	04/26/99
cis-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	04/26/99
trans-1,3-Dichloropropene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Ethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Isopropylbenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
p-Isopropyltoluene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Methylene chloride 0.016	~~Not detected~~	mg/L	0.001	8260	VFM	04/26/99
Naphthalene	Not detected	mg/L	0.001	8260	VFM	04/26/99
n-Propylbenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Styrene	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,1,2,2-Tetrachloroethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
Tetrachloroethene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Toluene	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,1,1-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,1,2-Trichloroethane	Not detected	mg/L	0.001	8260	VFM	04/26/99
Trichloroethene	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,2,4-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
1,3,5-Trimethylbenzene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Vinyl chloride	Not detected	mg/L	0.001	8260	VFM	04/26/99
o-Xylene	Not detected	mg/L	0.001	8260	VFM	04/26/99
p,m-Xylene	Not detected	mg/L	0.001	8260	VFM	04/26/99
Acetone	Not detected	mg/L	0.05	8260	VFM	04/26/99
2-Butanone	Not detected	mg/L	0.05	8260	VFM	04/26/99
Carbon Disulfide	Not detected	mg/L	0.05	8260	VFM	04/26/99
2-Hexanone	Not detected	mg/L	0.05	8260	VFM	04/26/99
4-Methyl-2-pentanone	Not detected	mg/L	0.05	8260	VFM	04/26/99

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Note: Methods may be modified for improved performance.
Results reported on a dry weight basis, where applicable.
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Violetta F. Murshak

Violetta F. Murshak
Laboratory Director