GEOMATRIX

SUMMARY OF ADDITIONAL INVESTIGATION ACTIVITIES AND SITE CONDITIONS
Former Fabco Manufacturing Facility
1249 67th Street
Emeryville, California

November 18, 2004
Project No. 8367.001

This report was prepared by the staff of Geomatrix Consultants, Inc., under the supervision of the Engineer whose seal and signature appear hereon.

The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, in accordance with generally accepted professional engineering and geologic practice. No warranty is expressed or implied.

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September 1, 2004
Project 8367.001

Mr. Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Summary of Additional Investigation Activities and Site Conditions
Former Fabco Manufacturing Facility
1249 67th Street
Emeryville, California

Dear Mr. Chan:

Geomatrix Consultants, Inc. (Geomatrix) is submitting this report on behalf of Pulte Home Corporation to document additional investigation activities performed at the 1249 67th Street Site and summarized site conditions.

Based on the information collected to date, the presence of chemicals in soil and groundwater at the site do not pose an unacceptable human health risk to future residents, under the conditions evaluated. Therefore, no further action is recommended. Please call either of the undersigned if you have questions or require additional information.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Jennifer L. Patterson, P.E.
Senior Engineer

Robert Cheung
Senior Toxicologist

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cc: Mike Kim, Pulte Home Corporation
Ravi Arulanantham, Geomatrix Consultants

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Summary of Additional Investigation Activities and Site Conditions

Former Fabco Manufacturing Facility

1249 67th Street

Emeryville, California

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September 2004

Project No. 8367.001

Geomatrix Consultants

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TABLE OF CONTENTS

TABLES

FIGURES

TABLE OF CONTENTS
(Continued)

APPENDIXES

GEOMATRIX

SUMMARY OF ADDITIONAL INVESTIGATION ACTIVITIES AND SITE CONDITIONS

Former Fabco Manufacturing Facility
1249 67th Street
Emeryville, California

1.0 INTRODUCTION

On behalf of Pulte Home Corporation (Pulte), Geomatrix Consultants, Inc. (Geomatrix), has prepared this report to document the results of additional investigation activities performed at the former Fabco Manufacturing facility (the site; Figure 1). Pulte currently is redeveloping the site into high-density multi-family residential housing. Based on Pulte's design plans, the site will be covered by asphaltic concrete, ornamental trees, and housing units on concrete foundations. In areas of landscaping, approximately 0.5 to 2 feet of native soil will be removed and replaced with imported topsoil. Additionally, Pulte has applied a vapor membrane (Liquid Boot®) over the subgrade beneath the building slabs along the western perimeter and near the southwest corner of the property. The investigation program described herein consisted of four primary field activities:

- underground storage tank (UST) removal and confirmation soil sampling;
- debris excavation and removal and confirmation soil and surface water sampling;
- shallow grab groundwater sampling; and
- deeper grab groundwater sampling.

The objective of the work described herein was to further investigate environmental conditions at the site, as requested by the Alameda County Health Care Services Agency (ACHCSA). This report presents background information, descriptions of the field activities, results of the investigations, and recommendations for site closure.

2.0 BACKGROUND

Geomatrix performed a Phase I Environmental Site Assessment (ESA) for the site (Figure 1) in October 2002 (Geomatrix, 2002). Information reviewed as part of the Phase I indicated that the site was used by Fabco Automotive Corporation (Fabco) since 1918 to develop and manufacture components for heavy-duty commercial trucks and vehicles. Potential on-site

environmental concerns identified during the ESA included historical evidence of an unpaved area that likely was used for the storage of equipment and materials, a former paint spraying booth, evidence of a concrete sump, former USTs, and an area where cutting/lubricating oils were allowed to drip dry from metal shavings. In addition, the site is located in a former industrial area of Emeryville where groundwater underlying the site may be affected from off-site sources. A review of regulatory agency files for nearby properties indicated that the depth to first-encountered groundwater is approximately 10 to 15 feet below ground surface (bgs) and flows to the south-southwest toward San Francisco Bay.

Based on the results of the ESA, Geomatrix conducted a limited Phase II soil and grab groundwater investigation in November 2002 to evaluate baseline environmental conditions at the site (Geomatrix, 2003a and b). Results from this investigation indicated first groundwater at depths between 6 and 10 feet bgs and the presence of low concentrations of polynuclear aromatic hydrocarbons (PAHs) in soil and volatile organic compounds (VOCs) in groundwater. Benzo(a)pyrene exceeded California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) environmental screening levels (ESLs; RWQCB, 2003) for residential land use in soil at one location (Boring GMX-1). No other chemicals were detected in soil above residential ESLs where groundwater is not a current or potential drinking water source.

Based on the results of the Phase II investigation and a review of Pulte's preliminary designs for the proposed high-density multi-family residential housing complex, Geomatrix conducted a targeted Phase III soil and grab groundwater sampling and analysis program in November and December 2003 (Geomatrix, 2004) to further assess subsurface conditions. Benzo(a)pyrene exceeded ESLs for residential use in soil at an additional location (B-3). Additional step-out borings were advanced around borings GMX-1 and B-3 to assess the extent of benzo(a)pyrene exceeding ESLs. Results from this investigation indicated that the presence of benzo(a)pyrene in soil at concentrations exceeding ESLs for residential land use is limited in both lateral and vertical extents. This is further supported by the arithmetic average of benzo(a)pyrene in soil samples collected in the immediate vicinity of GMX-1 and B-3. Including non-detects at ½ the SQLs, the arithmetic average is equivalent to the residential ESL of 0.038 mg/kg, suggesting that the presence of PAHs and benzo(a)pyrene in soil at the site does not pose an unacceptable human health risk to future residents at the site, under the conditions evaluated. In addition, based on Pulte's design plans, the area in the vicinity of GMX-1 and B-3 will be covered by either asphalt concrete or housing units; therefore, potential exposures from direct contact with soil are incomplete. Moreover, VOCs detected in groundwater, including trichloroethene (TCE), are present at concentrations below the respective ESLs for sites at which groundwater

is not a current or potential drinking water source. Therefore, it was concluded that, based on the information collected to date, the presence of chemicals in soil and groundwater at the site does not pose an unacceptable human health risk to future residents under the conditions evaluated.

During site preparation activities conducted in February 2004, a UST and subsurface debris consisting of concrete, metal, and containers were encountered at the site. The activities described in this report resulted from the discovery of these items.

Previous soil sample analytical results for total extractable petroleum hydrocarbons, metals, and pesticides are presented in Table 1; for polynuclear aromatic hydrocarbons (PAHs) are presented in Table 2; and for VOCs are presented in Table 3. Previous grab groundwater analytical results are presented in Table 4.

3.0 FIELD ACTIVITIES

The investigation program described herein consisted of four primary field activities:

- UST removal and confirmation soil sampling;
- debris excavation and removal and confirmation soil and surface water sampling;
- shallow grab groundwater sampling; and
- deeper grab groundwater sampling.

Each field activity is described in detail below.

3.1 UNDERGROUND STORAGE TANK REMOVAL

During performance of grading activities in February 2004, a UST was encountered in the subsurface by Duran and Venables, Inc. (D&V), Pulte's grading contractor. D&V alerted Pulte and R&B Equipment, Inc. (R&B), Pulte's hazardous waste contractor/handler. D&V was instructed by Pulte to stop digging in the area and cordon off the UST. In preparation for removing the tank, Geomatrix obtained a tank removal permit from the City of Oakland Fire Prevention Bureau (COFPB) and contacted the (ACHCSA). The permit is included in Appendix A.

On February 27, 2004, R&B pumped out the contents of the tank. Tank contents consisted of oily water. On March 3, 2004, R&B removed the tank under supervision of Geomatrix,

ACHCSA, and COFPB personnel. Following removal, the tank was measured to be approximately 8 feet in length and 3.9 feet in diameter; it was estimated to have a capacity of approximately 750 gallons. The tank was observed for leaks, holes, and damage; none were observed.

Soil surrounding the tank, some of which was observed to be discolored, was excavated; the final dimensions of the excavation were approximately 14 feet long by 8 feet wide by 6 feet deep. The location of the UST excavation is shown on Figure 2. Excavated soil was monitored for organic vapors using a photoionization detector (PID). PID measurements were 0 parts per million (ppm). Approximately 25 cubic yards of excavated soil was stockpiled on site pending characterization for off-site disposal. Water was observed in the excavation when the UST was removed. At the request of the COFPB, water was pumped from the excavation to allow for recharge and sampling. A sheen was observed on the soil at the bottom of the excavation after the water was removed. Therefore, additional soil was excavated. Water did not recharge into the excavation after additional soil was removed indicating that the water encountered was likely a result of recent precipitation and saturated soil conditions and not groundwater. In accordance with RWQCB recommendations for UST removal (RWQCB, 1990) and at the request of the COFPB, a confirmation soil sample was collected from the bottom of the excavation at a depth of 6 feet bgs (labeled UST-B-6.0). The confirmation soil sampling location is shown on Figure 2.

Four soil samples (labeled SP-30304) were collected from the stockpile to characterize waste for disposal purposes. Soil samples were collected in clean, brass tubes; sealed with plastic end caps, Teflon® sheets, and silicone tape; labeled; and placed in a cooler prior to delivery to the analytical laboratory.

Soil samples collected from the excavation and the stockpile were submitted for chemical analysis to Curtis and Tompkins, Ltd. (C&T), of Berkeley, California, a state-certified analytical laboratory, under Geomatrix chain-of-custody procedures. The four stockpile samples were composited by the laboratory prior to analysis. The soil samples associated with the UST removal were analyzed for:

- total petroleum hydrocarbons quantified as gasoline (TPHg) using U.S. Environmental Protection Agency (EPA) Method 8015M;

- TPH quantified as diesel (TPHd) and motor oil (TPHmo) using EPA Method 8015M following silica gel cleanup (EPA Method 3630C);
- VOCs using EPA Method 8260B;
- Leaking Underground Fuel Tank (LUFT) metals (cadmium, chromium, lead, nickel, and zinc) using EPA Method 6010B;
- polychlorinated biphenyls (PCBs) using EPA Method 8082 (stockpile sample only);
- PAHs using EPA Method 8270C with Selected Ion Monitoring (SIM; stockpile sample only); and
- California Administrative Manual (CAM) metals using EPA Methods 6000/7000 series (stockpile sample only).

Analytical results of soil samples from the UST excavation were conveyed to ACHCSA and COFPB personnel. After receiving their approval, the excavation was backfilled with excess soil from grading operations at the site. Geomatrix did not observe backfilling activities that were carried out by Pulte's contractor.

3.2 DEBRIS EXCAVATION AND REMOVAL

At the time the UST was discovered, a variety of debris, including metal containers, bottles, and drums, was encountered in the subsurface by D&V southwest of the UST location (Figure 2). Under the direction of Geomatrix, R&B used excavating equipment to expose and remove the debris and surrounding soil, which was stockpiled on plastic sheeting adjacent to the excavation pending characterization for off-site disposal. Confirmation soil samples (labeled SS-5.0-21104, SW-N-30304, and SW-S-30404) were collected from the bottom, northern side, and southern side of the excavation, respectively, to confirm that affected soil had been removed. One sample (IDW-21104) was collected from the excavation during soil removal activities to characterize the soil for disposal. Sample locations are presented on Figure 2. Samples were collected in clean, brass tubes; sealed with plastic end caps, Teflon® sheets, and silicone tape; labeled; and placed in a cooler prior to delivery to C&T under Geomatrix chain-of-custody procedures.

Water was present in the excavation that was likely a result of recent precipitation. R&B pumped this water into an on-site holding tank pending characterization for off-site disposal. A sample of the water present in the eastern portion of the excavation (labeled Pitwater-30304) was collected for chemical analysis. The sample was collected using a new disposable bailer

and decanted into sample bottles supplied by the laboratory. Chemical analytes for confirmation soil and water samples associated with the debris removal included:

- TPHg using EPA Method 8015M (water sample only);
- TPHd and TPHmo using EPA Method 8015M following silica gel cleanup (EPA Method 3630C);
- VOCs using EPA Method 8260B;
- PCBs using EPA Method 8082 (soil samples only);
- PAHs using EPA Method 8270C SIM (soil samples only); and
- LUFT metals (cadmium, chromium, lead, nickel, and zinc) using EPA Method 6010B (soil samples only).

Initial analytical results for soil sample SW-N-30304 indicated elevated concentration of PAHs and lead relative to screening levels discussed in Section 4.2.1. Therefore, additional soil was excavated from the northern side of the excavation. Following this additional soil removal, a fourth soil sample was collected from the excavation (labeled SW-N-2-4.0; Figure 2) to confirm removal of affected soil from the northern side of the excavation. This sample was analyzed for:

- PAHs using EPA Method 8270C SIM; and
- lead using EPA Method 6010B.

The final extent of the debris excavation was approximately 50 by 40 feet and ranged from approximately 3 to 10 feet deep; approximately 450 cubic yards of soil were removed. Following oral approval from the ACHCSA, the excavation was backfilled with excess soil from grading operations at the site. Geomatrix did not observe backfilling activities that were carried out by Pulte's contractor.

Chemical analytes for the waste characterization sample (IDW-21104) included:

- TPHg using EPA Method 8015M;
- TPHd and TPHmo using EPA Method 8015M following silica gel cleanup (EPA Method 3630C);
- VOCs using EPA Method 8260B;

- PCBs using EPA Method 8082;
- Semivolatile organic compounds (SVOCs) using EPA Method 8270C;
- California Administrative Manual (CAM) metals using EPA Methods 6000/7000 series; and
- Waste extraction test (WET) for lead.

3.3 WASTE DISPOSAL (ASSOCIATED WTH UST AND DEBRIS)

Oily water removed from the UST were transported by American Valley Waste Oil to Riverbank Oil Transfer, of Modesto, California for disposal. Ecology Control Industries (ECI) transported the tank to their facility in Richmond, California. Following disposal characterization, the stockpiled soil from both excavations and the debris (approximately 500 tons) were transported off-site by R&B and disposed of at West Contra Costa County Landfill. Copies of disposal manifests provided to Geomatrix by R&B are included in Appendix B. Water pumped from the debris excavation was stored in a tank along with other stormwater pumped from the site. According to R&B, this water was discharged into a storm drain under a National Pollutant Discharge Elimination System (NPDES) Permit issued by the Regional Water Quality Control Board, San rancisco Bay Region (RWQCB).

3.4 GRAB GROUNDWATER SAMPLING

In response to the discovery of the UST and debris in the site subsurface and the analytical results of accumulated water in the debris excavation (Pitwater-30304), the ACHSA requested collection of shallow and deep groundwater samples downgradient (i.e., south-southwest) of the excavations to evaluate the presence of affected groundwater, if any. Prior to initiating field work, drilling permits were obtained from the Alameda County Water Resources Section (ACWRS). The permits are included in Appendix A. Additionally, Subsurface Locating Service (SLS), of Petaluma, California, a private utility locator, was contracted to perform an underground utility clearance at each boring location.

Four (4) sha[redacted] through S-4; Figure 2) were advanced on March 11, 2004 by Resonant Sonic, International (RSI), of Woodland, California, a state-licensed contractor. The boring were located in an assumed downgradient location from the debris excavation and UST and were advanced using a hydraulically driven, direct-push drilling rig equipped with an Enviro-Core® continuous sampling system. A 1⅝-inch-outside-diameter steel drive casing lined with new, clean, butyrate soil liners was advanced to the desired depth at each boring

location. Borings were advanced to a total depth of either 16 feet bgs (borings S-1 and S-4) or 18 feet bgs (borings S-2 and S-3). A nearly continuous soil core was generated from each boring and logged by a Geomatrix geologist, who described soil using visual-manual procedures of American Society of Testing and Materials (ASTM) Standard D2488 for guidance, which is based on the Unified Soil Classification System (USCS). Recovered soil was screened with an organic vapor meter (OVM) equipped with a photoionization detector (PID). Lithologic logs are included in Appendix C.

Three (3) deep borings (CPT-1 through CPT-3; Figure 2) were advanced on March 25, 2004 by Gregg Drilling and Testing, Inc. (Gregg), of Martinez, California, a state-licensed contractor. The CPT borings were located in an assumed downgradient location from the debris excavation and UST and were advanced using a 20-ton cone penetrometer test (CPT) rig equipped with a tip area of 15 square centimeters (cm^2) and a friction sleeve area of 225 cm^2; all CPT soundings were performed following the revised (2002) ASTM standards (D5778-95). Borings were advanced to a total depth of either 50 feet bgs (CPT-1 and CPT-3) or 47 feet bgs (CPT-2) to assess subsurface lithology and identify a flow zone for deep groundwater sampling. One depth interval per location was selected for grab groundwater sample collection. Samples were collected by advancing the drive casing to the desired depth in a new hole adjacent to the original CPT sounding, within approximately 3 feet. The selected depth intervals were approximately 40 to 44 feet bgs (CPT-1), 38 to 42 feet bgs (CPT-2), and 44 to 48 feet bgs (CPT-3). CPT logs are included in Appendix C.

Grab groundwater samples were collected by placing a temporary well point constructed of ¾-inch or one-inch-diameter polyvinyl chloride (PVC) casing with 5 feet of screen into the borehole. The drive casing then was retracted from the bottom of the boring to allow groundwater to infiltrate the temporary well point. All temporary well points, except CPT-1, were allowed to recharge overnight. Grab groundwater samples were collected from borings S-1 through S-4 on March 12, 2004, from boring CPT-1 on March 25, 2004, and from CPT-2 and CPT-3 on March 26, 2004. The sample from CPT-1 was collected using a clean stainless steel bailer, the remaining samples were collected using new disposable bailers. All samples were decanted into sample bottles provided by the analytical laboratory which were then labeled, sealed in plastic bags, and stored in an ice-cooled chest. Following collection of grab groundwater samples, the temporary well casings were removed and each borehole was backfilled with cement grout from the total depth of the borehole to ground surface using tremie pipe.

Grab groundwater samples were submitted for chemical analysis to C&T under Geomatrix chain-of-custody procedures. Samples were analyzed for:

- VOCs using EPA Method 8260B; and
- TPHd and TPHmo using EPA Method 8015M following silica gel cleanup (EPA Method 3630C).

Drilling and sampling equipment were steam-cleaned prior to use at each location. Temporary well casings were disposed of as municipal waste.

4.0 RESULTS

This section presents results of the soil and groundwater sampling activities.

4.1 STRATIGRAPHY

The stratigraphic units observed during drilling are shown on boring logs presented in Appendix C. Native soil encountered in the borings generally was similar to that encountered during previous site investigations and predominantly consisted of lean clay, lean clay with sand, clayey sand, and poorly graded sand with clay with variable amounts of gravel. Based on the soil cores observed during drilling, shallow soil immediately below ground surface in borings S-1 through S-4 was observed to predominantly consist of fine-grained material (e.g., lean clay) extending to depths between 6.5 and 8 feet bgs, which was underlain by predominantly coarser-grained material (e.g., poorly graded sand with clay or clayey sand) to the total depth investigated.

The CPT logs are dominated by soil composed of clay and silt (i.e., silty clay, clay, silt, and clayey silt). Coarser-grained materials (i.e., sandy silt, silty sand, and sand) were encountered at depths of approximately 7.5 to 12.5 feet bgs and 42 to 48 feet bgs (CPT-1), 39 to 40.5 feet bgs (CPT-2), and 46 to 46.5 feet bgs (CPT-3).

PID readings were measured at 0 parts per million (ppm) in all recovered soil core intervals. Before grab groundwater samples were collected from borings S-1 through S-4, depth to groundwater was measured to be between 7.3 and 16 feet bgs.

4.2 SOIL ANALYSIS

Soil analytical results are summarized in Tables 5, 6, and 7. A total of six (6) soil samples were collected for analysis. Copies of the chain-of-custody records and analytical laboratory reports are presented in Appendix D.

4.2.1 UST and Debris Excavation Soil Samples

Soil results from the excavation samples were compared to ESLs based on human health for residential land use where groundwater is not a potential drinking water resource. The ESLs are conservative screening levels that correspond to an acceptable risk level and reflect varying combinations of site characteristics including both residential and industrial land uses. Concentrations of compounds detected below corresponding ESLs can be assumed to not pose a significant threat to human health and the environment. Conversely, exceedance of the corresponding ESL does not necessarily indicate that adverse health effects will occur, but suggests that additional evaluation of potential risks is warranted.

Sample UST-B-6.0, collected from the bottom of the UST excavation, contained low concentrations of TPHd, TPHmo, acetone, methylene chloride, 2-butanone, cadmium, chromium, lead, nickel, and zinc. TPHg was not detected in the sample above laboratory reporting limits. Evaluation of analytical data for this sample indicates that concentrations of all detected constituents are below ESLs; therefore, additional soil removal in the vicinity of the UST is not necessary.

Soil samples SS-5.0-21104, SW-N-30304, and SW-S-30404 were collected from the bottom, north sidewall, and south sidewall of the debris excavation, respectively. TPHd, TPHmo, methylene chloride, cadmium, chromium, lead, nickel, zinc, and various PAHs were detected in one or more of these samples. Concentrations of detected constituents were below ESLs, with the exceptions of lead and benzo(a)pyrene in sample SW-N-30304. Therefore, additional soil removal was conducted along the north wall of the excavation. A second confirmation sample (SW-N-2-4.0) was then collected from the over-excavated sidewall. PAHs were not detected above laboratory detection limits in the confirmation sample and the concentration of lead detected was below the ESL. Therefore, additional soil removal in the vicinity of the debris is not necessary.

4.2.2 Waste Profiling Soil Samples

Analytical results for sample SP-30304 were used to characterize soil from the UST excavation for disposal. Analytical results for sample IDW-21104 were used to characterize soil excavated

from around the debris for disposal. TPHd, TPHmo, various metals and PAHs were detected in these samples. In addition, TPHg, acetone, and 2-butanone were detected in sample SP-30304. The concentration of lead in the WET leachate from sample IDW-21104 was 2,300 micrograms per liter (µg/l). At the request of Pulte, waste characterization sample results were forwarded to R&B; Geomatrix was not involved in the disposition of soil generated during excavation activities. Sample results are shown on Tables 5 through 7 and waste disposal is discussed in Section 3.3.

4.3 GRAB GROUNDWATER ANALYSIS

Grab groundwater analytical results are presented in Table 8. A total of seven (7) grab groundwater samples were collected for analysis. Copies of the chain-of-custody records and analytical laboratory reports are presented in Appendix D.

A sample was collected of the water that had pooled in the debris excavation. A sheen was observed on the water and elevated concentrations of TPHg, TPHd, and TPHmo were detected in the sample. In addition, acetone, 2-butanone, xylenes, and 1,2,4-trimethylbenzene were detected in the sample. The water was pumped from the excavation into a holding tank. Observations over several days indicated that the water did not recharge into the excavation. Therefore, it is likely that the water in the excavation was a result of saturated soil conditions from recent precipitation and not groundwater. The constituents detected in the water sample were likely a result of the water being in contact with the debris and soil that was excavated and do not indicate the presence of affected groundwater at the site. The shallow and deep groundwater grab groundwater samples were collected to further evaluate groundwater conditions.

Acetone, cis-1,2-dichloroethene, ethylbenzene, tetrachloroethene (PCE), xylenes, TCE, and trans-1,2-dichloroethene were detected in at least one shallow grab groundwater sample at low concentrations. No constituents were detected above laboratory reporting limits in deeper grab groundwater samples collected from borings CPT-1 through CPT-3.

Because the site is located within the cities of Emeryville and Oakland where shallow groundwater is unlikely to be a source of drinking water for the foreseeable future, residential ESLs for sites at which groundwater is not a current or potential source of drinking water were selected as screening criteria (Table 8). As presented in Table 8, the concentrations of chemicals detected in shallow and deep grab groundwater samples are below the corresponding

ESLs, indicating that site groundwater does not pose a significant threat to human health and the environment.

5.0 SUMMARY AND RECOMMENDATIONS

Based on the results of the Phase II, Phase III, and this additional sampling program, the following is a summary of site conditions:

- The site is underlain by predominantly fine-grained soils with coarser-grained units observed between 7 and 18 feet bgs and deeper than 40 feet bgs. First groundwater at the site was encountered at approximately 6 to 16 feet bgs. The apparent groundwater flow direction is south, southwest towards San Francisco Bay.

- Based on Pulte's design plans for the multi-family housing complex, the majority of the site will be covered by asphalt concrete, ornamental trees, and/or housing units on concrete foundations. We understand that in areas of landscaping, approximately 0.5 to 2 feet of native soil will be removed and replaced with imported top soil. Therefore, potential exposures via incidental ingestion or dermal contact with native soil by future residents at the site are incomplete.

- During the Phase II and Phase III sampling programs, nine (9) soil samples were collected and analyzed for VOCs. VOCs were not detected above the laboratory SQLs in soil samples analyzed. Similarly, OCPs were not detected above the SQLs in eight shallow soil samples analyzed.

- During the Phase II and Phase III sampling programs, twenty-one (21) soil samples were collected from 15 borings located throughout the site and analyzed for TPHd, TPHmo, metals (arsenic, cadmium, chromium, lead, nickel, and zinc), and PAHs. Metals, except for arsenic, TPHd, and TPHmo were not detected above the residential ESLs in any of the soil samples analyzed. The arithmetic average of detected arsenic in soil collected from the Phase II and Phase III investigations is equivalent to the residential ESL of 5.5 mg/kg, a value which is the mean concentration presented in the LBNL report. The range of concentrations of arsenic detected in on-site soil suggests that the presence of arsenic is likely attributed to naturally-occurring background.

- During the Phase II and Phase III sampling programs, benzo(a)pyrene was detected above the residential ESL in shallow soil at 2 and 2.5 feet bgs from borings GMX-1 and B-3, respectively. Additional soil samples were collected from step-out borings located within an approximately 10 by 60 square-foot area in the immediate vicinity of these two borings. PAHs detected in soil samples collected in the vicinity of borings GMX-1 and B-3 were below the respective residential ESLs. The results indicate that the presence of benzo(a)pyrene at concentrations exceeding the residential ESL is limited in both lateral and vertical

extent. This is further supported by the arithmetic average of benzo(a)pyrene in soil samples collected in the immediate vicinity of GMX-1 and B-3. Including non-detects at ½ the SQLs, the arithmetic average is equivalent to the residential ESL of 0.038 mg/kg, suggesting that the presence of PAHs and benzo(a)pyrene in soil at the site does not pose an unacceptable human health risk to future residents at the site. In addition, based on Pulte's design plans, the area in the vicinity of GMX-1 and B-3 will be covered by either asphalt concrete or housing units; therefore, potential exposures from direct contact with soil are incomplete.

- During the Phase II and Phase III sampling programs, fifteen (15) grab groundwater samples were collected across the site and analyzed for VOCs. TCE was detected in 6 grab groundwater samples at concentrations ranging from 1.3 to 62 micrograms per liter (µg/L). VOCs detected in groundwater, including TCE, are below the respective ESLs where groundwater is not a current or potential drinking water resource.

- Five (5) soil samples were collected in the UST and debris excavations to confirm removal of affected soil; detected analytes from soil remaining at the site were present at concentrations below the respective ESLs for sites at which groundwater is not a current or potential drinking water resource.

- Four (4) shallow and three (3) deep grab groundwater samples were collected downgradient of the UST and debris excavations and analyzed for VOCs, TPHd, and TPHmo. TPHd and TPHmo were not detected above laboratory reporting limits in any grab groundwater samples analyzed. TCE was detected in two shallow groundwater samples at 0.6 and 26 µg/l. PCE was detected in one shallow groundwater sample at 4 µg/l. VOCs were not detected in deep grab groundwater samples. VOCs detected in groundwater were below the respective ESLs for sites at which groundwater is not a current or potential drinking water resource.

- Based on the data collected, affected soil associated with the UST and debris encountered at the site has been removed and no further action is recommended with respect to these features.

- Additionally, comparison of analytical data from soil samples collected at the site with the RWQCB's ESLs indicate that the maximum detected concentrations of arsenic and benzo(a)pyrene in soil exceed their respective screening level based on direct contact. However, further review of the data distributions across the site and from adjacent soil samples suggest that no further action is necessary for these residual chemical constituents in soil. No other chemicals in soil were detected above their respective screening levels.

- Based on the results of the groundwater quality investigations, shallow groundwater has been affected by low concentrations of VOCs. However, the concentrations of VOCs are lower than applicable screening criteria suggesting

that no further action is necessary with respect to groundwater at the site. Additionally, Pulte has applied a vapor membrane (Liquid Boot®) over the subgrade beneath the building slabs in the vicinity of low VOC detections in groundwater along the western perimeter and near the southwest corner of the property. Based on future development plans (i.e., site will be predominantly paved or covered with building) and low chemical concentrations, chemicals present in soil are unlikely to pose a continuing threat to groundwater.

In summary, based on the information collected to date, the presence of chemicals in soil and groundwater at the site does not pose an unacceptable human health risk to future residents, under the conditions evaluated. Therefore, no further action is recommended.

6.0 LIMITATIONS

The conclusions presented herein are professional opinions based solely upon the analytical data described in this report. They are intended exclusively for the purpose outlined herein and the Site location and project indicated and for the sole use and benefit of Pulte Home Corporation. Geomatrix makes no warranties or guarantees as to the accuracy or completeness of information compiled by others. The results reported herein are applicable to the time the sampling occurred; changes in site conditions may occur. The services performed have been conducted in a manner consistent with the level of care ordinarily exercised by members of our profession practicing under similar conditions.

7.0 REFERENCES

California Regional Water Quality Control Board, San Francisco Bay Region, 1990, Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, August 10.

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TABLES

TABLE 1

PREVIOUS SOIL SAMPLE ANALYTICAL RESULTS
TPH, METALS, AND PESTICIDES

1249 67th Street
Emeryville, California

Concentrations reported in milligrams per kilogram (mg/kg)

Sample Location	Sample Depth (feet bgs)	TPHd	TPHmo	Arsenic	Cadmium	Chromium	Lead	Nickel	Zinc	Pesticides
Phase II Sampling[1]										
GMX-01	2	31	310	8	2.3	24	180	35	360	--
GMX-01	4.5	<1	<50	<1	1	16	3.3	9.8	18	--
GMX-03	2	<1	<50	1.8	1.1	16	11	15	20	--
GMX-03	4.5	1.2	<50	1.5	1.2	17	6.8	15	16	--
GMX-04	8.5	200	350	<1	1.8	28	5.3	24	27	--
GMX-05	2	2.1	<50	1.8	1.6	16	7.7	15	35	--
GMX-05	4.5	<1	<50	<1	1.2	17	4.3	26	20	--
GMX-06	2	5.8	66	2.4	1.6	19	11	22	36	--
GMX-06	4.5	<1	<50	2.7	0.97	13	12	14	29	--
GMX-08	2	52	160	16	2.4	18	32	28	69	--
GMX-08	4.5	<1	<50	<1	2.1	29	5.9	56	28	--
GMX-09	2	<1	<50	3.3	2.1	30	7.1	17	24	--
GMX-09	4.5	<1	<50	11	4	31	12	35	41	--
Phase III Sampling[2]										
B-1	4.5	240	350	2.5	<0.27	25	4.9	15	20	ND
B-2[3]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
B-3	2.5	6.2	55	13	0.5	27	83	25	100	ND
B-4	4.5	10	110	3.1	<0.24	23	8.4	16	31	ND
B-5	2.0	61	350	4	<0.25	25	18	24	33	ND
B-6	2.0	5.0	38	4.4	<0.23	24	6.4	17	23	ND
B-7	2.0	5.5	54	6.8	<0.24	29	24	27	100	ND
B-8	4.5	10	83	4.3	0.27	36	14	37	47	ND
B-9	1.5	1.1	11	6.3	0.34	32	5.7	38	52	ND

TABLE 1

PREVIOUS SOIL SAMPLE ANALYTICAL RESULTS
TPH, METALS, AND PESTICIDES

1249 67th Street
Emeryville, California

Concentrations reported in milligrams per kilogram (mg/kg)

Sample Location	Sample Depth (feet bgs)	TPHd	TPHmo	Arsenic	Cadmium	Chromium	Lead	Nickel	Zinc	Pesticides
Step-Out Borings [4]										
SW-S-2.5	2.5	**4.9**	**58**	--	--	--	--	--	--	--
SW-N-2.5	2.5	**2.9**	**56**	--	--	--	--	--	--	--
SW-E-2.5	2.5	<1	<50	--	--	--	--	--	--	--
SW-W-2.5	2.5	**10**	**160**	--	--	--	--	--	--	--
BW-3.0	3.0	<1	<50	--	--	--	--	--	--	--
RWQCB ESLs[5]		500	500	5.5	1.7	58	200	150	600	Various
Background[5]		NA	NA	19.1	2.7	99.6	16.1	120	106	NA

Notes:

[1] Samples collected by Geomatrix Consultants, Inc. (Geomatrix), and analyzed by STL San Francisco (STL) of Pleasanton, California, for total extractable petroleum hydrocarbons using U.S. Environmental Protection Agency (EPA) Method 8015M, and for arsenic and leaking underground fuel tank (LUFT) metals using EPA Method

[2] Samples collected by Geomatrix and analyzed by Curtis and Tompkins, Inc. of Berkeley, California, for TPHd and TPHmo using EPA Method 8015M, for arsenic and LUFT metals using EPA Method 6010B and for organochlorine pesticides (OCPs) using EPA Method 8081A.

[3] Surface soil samples could not be collected because of the thickness of the concrete (more than 12 inches) and poor recovery.

[4] Samples collected by Geomatrix and analyzed by STL for TPHd and TPHmo using EPA Method 8015M.

[5] Regional Water Quality Control Board, San Francisco Bay Area (RWQCB), Environmental Screening Levels (ESLs), July 2003. Residential surface soil ESLs where groundwater is NOT a current or potential source of drinking water.

[6] Lawrence Berkeley National Laboratory Environmental Restoration Program, 1995. 500 samples were taken from 71 locations representing 5 geologic units at LBNL: Colluvian & Fill, Great Valley group, Moraga formation, Orinda formation, and San Pablo group. Concentrations listed are Upper 95% Tolerance Limits of data from 71

Abbreviations:

feet bgs = feet below ground surface

"<" = indicates constituent was not detected above the laboratory reporting limit indicated

TPHd = Total petroleum hydrocarbons quantified as diesel

TPHmo = Total petroleum hydrocarbons quantified as motor oil

-- = Not analyzed

NA = Not applicable

NS = Not sampled

ND = Not detected

TABLE 2

PREVIOUS SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS
1249 67th Street
Emeryville, California

Concentrations reported in micrograms per kilogram (µg/kg)

Sample Location	Sample Depth (feet bgs)	Acenaph-thene	Acenaph-thylene	Anthra-cene	Dibenzo (a,h) anthracene	Benzo(a) anthracene	Benzo(b) fluor-anthene	Benzo(k) fluor-anthene	Benzo (g,h,i) perylene	Benzo(a) pyrene	Chrysene	Fluor-anthene	Fluorene	Indeno (1,2,3) pyrene	Naph-thalene	Phenan-threne	Pyrene
Phase II Sampling[1]																	
GMX-01	2	<50	<50	**53**	<50	**200**	**190**	**140**	**160**	**190**	**200**	**470**	<50	**130**	<50	**330**	**360**
GMX-01	4.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GMX-03	2	**6.8**	<5	**26**	<5	**55**	**27**	**24**	**15**	**33**	**53**	**89**	**10**	**12**	<5	**110**	**110**
GMX-03	4.5	<10	<10	**24**	<10	**46**	**25**	**20**	**16**	**33**	**51**	**69**	<10	**13**	<10	**100**	**90**
GMX-04	8.5	**35**	11	**73**	<5	<5	<5	<5	<5	<5	<5	<5	**160**	<5	<5	**12**	<5
GMX-05	2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GMX-05	4.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GMX-06	2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GMX-06	4.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GMX-08	2	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
GMX-08	4.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GMX-09	2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GMX-09	4.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Phase III Sampling[2]																	
B-1	4.5	<25	<25	<25	<25	<25	<25	<25	<25	**34**	<25	<25	**34**	<25	**62**	**55**	<25
B-2[3]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
B-3	2.5	<5.0	**6.8**	**8.5**	**29**	**39**	**35**	**30**	**23**	**36**	**5.9**	**59**	<5.0	**18**	<5.0	**43**	**67**
B-4	4.5	<5.0	<5.0	<5.0	<5.0	**5.1**	<5.0	**5.2**	<5.0	**5.5**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**7.7**
B-5	2.0	**68**	**11**	**7.1**	**17**	**27**	**41**	**22**	**17**	**34**	**5.0**	**44**	**130**	**14**	**37**	**59**	**46**
B-6	2.0	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
B-7	2.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**5.6**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-8	4.5	<4.9	<4.9	<4.9	**5.7**	**12**	**11**	**10**	**7.4**	**12**	<4.9	**13**	<4.9	**5.4**	<4.9	**9.8**	**16**
B-9	1.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Step-Out Borings[1]																	
SW-S-2.5	2.5	<5	<5	<5	**11**	**15**	**17**	**8.1**	**20**	**16**	<5	**28**	<5	**13**	**7.4**	**17**	**34**
SW-N-2.5	2.5	<5	<5	<5	<5	**5.3**	**5.1**	<5	**9.4**	<5	<5	<5	<5	<5	<5	<5	<5
SW-E-2.5	2.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SW-W-2.5	2.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	**38**	<5	<5	<5	**31**	**49**
BW-3.0	3.0	<5	<5	<5	**7.6**	**11**	**14**	<5	**15**	**12**	<5	**18**	<5	**9.1**	<5	**12**	**23**
RWQCB ESLs[4]		19,000	13,000	2,800	380	38	380	380	27,000	3,800	110	40,000	8,900	380	4,500	11,000	85,000

TABLE 2

PREVIOUS SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS
1249 67th Street
Emeryville, California

Notes:

[1] Samples collected by Geomatrix Consultants, Inc., and analyzed by STL San Francisco of Pleasanton, California, for polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270C with selected ion monitoring (SIM).

[2] Samples collected by Geomatrix Consultants, Inc. and analyzed by Curtis & Thompkins, Inc. of Berkeley, California, for PAHs using EPA Method 8270C SIM.

[3] Surface soil samples could not be collected because of the thickness of the concrete (more than 12 inches) and poor recovery.

[4] Regional Water Quality Control Board, San Francisco Bay Area (RWQCB), Environmental Screening Levels (ESLs), July 2003. Residential surface soil ESLs where groundwater is NOT a current or potential source of drinking water source of drinking water.

Abbreviations:

feet bgs = feet below ground surface
"<" = indicates constituent was not detected above the laboratory reporting limit indicated
-- = Not analyzed
NA = Not available
NS = Not sampled

TABLE 3

PREVIOUS SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS[1]

1249 67th Street
Emeryville, California

Concentrations reported in milligrams per kilogram (mg/kg)

Sample Location	Sample Depth (feet bgs)	VOCs
B-1	5.5	All ND
B-2	5.0	All ND
B-3	5.5	All ND
B-4	5.5	All ND
B-5	5.5	All ND
B-6	5.5	All ND
B-7	5.5	All ND
B-8	5.5	All ND
B-9	5.5	All ND
RWQCB ESLs[2]		Various

Notes:

[1] Samples collected by Geomatrix Consultants, Inc. and analyzed by Curtis and Tompkins, Inc.of Berkeley, California, for VOCs using U.S. Environmental Protection Agency (EPA) Method 8260B. Only those analytes detected are shown.

[2] Regional Water Quality Control Board, San Francisco Bay Area (RWQCB), Environmental Screening Levels (ESLs), July 2003. Residential surface soil ESLs where groundwater is NOT a current or potential source of drinking water.

Abbreviations:
feet bgs = feet below ground surface
ND = Not detected
VOCs = Volatile organic compounds

TABLE 4

PREVIOUS GRAB GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

1249 67th Street
Emeryville, California

Concentrations reported in micrograms per liter (µg/l)

Boring/ Sample ID	1,2-Dichloro-benzene	MTBE	cis-1,2-Dichloro-ethene	trans-1,2-Dichloro-ethene	Chloroform	Trichloro-ethene
Phase II Sampling[1]						
GMX-01	<0.5	<5	NS[2]	NS	NS	NS
GMX-02	NS	NS	NS	NS	NS	NS
GMX-03	NS	NS	NS	NS	NS	NS
GMX-04	<0.5	<5	**0.7**	<0.5	<1.0	**3.1**
GMX-04 Dup[3]	<0.5	<5	**0.69**	<0.5	<1.0	**3.4**
GMX-05	NS	NS	NS	NS	NS	NS
GMX-06	NS	NS	NS	NS	NS	NS
GMX-07	NS	NS	NS	NS	NS	NS
GMX-08	<0.5	<5	**0.5**	<0.5	<1.0	**1.3**
GMX-09	<0.5	<5	**2.6**	**2.9**	<1.0	[redacted]
GMX-10	NS	NS	NS	NS	NS	NS
GMX-11	<0.5	<5	<0.5	<0.5	<1.0	<0.5
GMX-12	**0.52**	<5	**7.7**	**2**	<1.0	[redacted]
GMX-13	<0.5	**7**	<0.5	<0.5	<1.0	<0.5
GMX-14	<0.5	<5	<0.5	<0.5	<1.0	<0.5
GMX-15	<0.5	<5	<0.5	<0.5	<1.0	<0.5
Phase III Sampling[4]						
B-5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-9	<0.5	<0.5	**0.6**	<0.5	<0.5	**5.4**
B-10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-11	<0.5	<0.5	<0.5	<0.5	**2.5**	<0.5
B-12	<0.5	**1.4**	<0.5	<0.5	<0.5	<0.5
B-13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RWQCB ESL[5]	14	1,800	590	590	340	360

TABLE 4

PREVIOUS GRAB GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

1249 67th Street
Emeryville, California

Notes:

[1] Samples collected by Geomatrix Consultants, Inc., and analyzed by STL San Francisco of Pleasanton, California, for volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method 8260B. Only those analytes detected are shown.

[2] NS = Not sampled; insufficient water in the temporary well point.

[3] Field duplicate of GMX-04.

[4] Samples collected by Geomatrix Consultants, Inc., and analyzed by Curtis and Tompkins, Inc. of Berkeley, California, for volatile organic compounds (VOCs) using EPA Method 8260B. Only those analytes detected are

[5] Regional Water Quality Control Board, San Francisco Bay Area (RWQCB), Environmental Screening Levels (ESLs), July 2003. Residential ESLs where groundwater is NOT a current or potential source of drinking water.

Abbreviations:
MTBE = methyl tertiary butyl ether
VOCs = volatile organic compounds
"<" = indicates the constituent was not detected above the laboratory reporting limit indicated.

TABLE 5

SOIL SAMPLE ANALYTICAL RESULTS - TPH, VOCs, PCBs[1]

Former Fabco Manufacturing Facility
1249 67th Street
Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Sample Location	Sample Date	Sample Depth (ft bgs)	Constituents Detected							
				TPHg	TPHd	TPHmo	Acetone	Methylene Chloride	2-Butanone	Other VOCs	PCBs
Underground Storage Tank (UST) Excavation											
UST-B-6.0	Bottom of UST excavation	3/3/04	6	<1[2]	2.6[3]	47	0.14	0.042	0.035	ND	NA
SP-30304	Soil stockpile	3/3/04	--[4]	4.9[3]	1700	170[5]	0.1	<0.020	0.017	ND	ND
Debris Pit Excavation											
SW-N-30304	Northern sidewall of debris excavation	3/3/04	3	NA	305	110	<0.019	<0.019	<0.0093	ND	ND
SS-5.0-21104	Bottom of debris excavation	2/11/04	5	NA	38	190	<0.019	<0.019	<0.0096	ND	ND
SW-S-30404	Southern sidewall of debris excavation	3/4/04	3	NA	58[3]	380	<0.019	0.041	<0.0094	ND	ND
IDW-21104	Waste disposal characterization sample	2/11/04	--[4]	<1	75[3]	190	<0.018	<0.020	<0.0091	ND	ND
RWQCB ESL[6]				100	500	500	0.5	0.52	13	Various	0.22

Notes:

[1] Samples collected by Geomatrix Consultants, Inc., and analyzed by Curtis & Tompkins, Ltd., of Berkeley, California, for TPHg, TPHd, and TPHmo using U.S. Environmental Protection Agency (EPA) Method 8015M; VOCs using EPA Method 8260B; and PCBs using EPA Method 8082. A silica gel preparation (EPA Method 3630C) was performed on soil samples prior to analysis of TPHd and TPHmo.

[2] "<" indicates analyte not detected at or above laboratory reporting limit shown.

[3] Laboratory indicated that heavier hydrocarbons contributed to quantitation and the chromatographic pattern did not match the laboratory standard. The result is considered estimated (J flagged) and may be biased high.

[4] "--" = not applicable or not available.

[5] Laboratory indicated that lighter hydrocarbons contributed to quantitation and the chromatographic pattern did not match the laboratory standard. The result is considered estimated (J flagged) and may be biased high.

[6] Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), 2003, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, July. Shallow soil screening level where groundwater is not a current or potential drinking water resource, Table B-1.

Abbreviations:

TPHg = total petroleum hydrocarbons quantified as gasoline
TPHd = total petroleum hydrocarbons quantified as diesel
TPHmo = total petroleum hydrocarbons quantified as motor oil
VOCs = volatile organic compounds
PCBs = polychlorinated biphenyls
ft bgs = feet below ground surface
ND = not detected at or above laboratory reporting limit(s)
NA = not analyzed
ESL = environmental screening level

TABLE 6

SOIL SAMPLE ANALYTICAL RESULTS - METALS[1]

Former Fabco Manufacturing Facility
1249 67th Street
Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Sample Location	Sample Date	Sample Depth (ft bgs)	Constituents Detected																
				As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Sb	Se	Ag	Tl	V	Zn
Underground Storage Tank (UST) Excavation																				
UST-B-6.0	Bottom of UST excavation	3/3/04	6	NA	NA	NA	0.27	26	NA	NA	10	NA	NA	21	NA	NA	NA	NA	NA	31
SP-30304	Soil stockpile	3/3/04	--[2]	3	130	0.33	0.5	33	8.3	27	13	0.047	<0.85[3]	29	NA	1.6	<0.21	<0.21	32	74
Debris Pit Excavation																				
SW-N-30304	Northern sidewall of debris excavation	3/3/04	3	NA	NA	NA	3.6	42	NA	NA	350	NA	NA	41	NA	NA	NA	NA	NA	810
SW-N-2-4.0	Northern sidewall of debris excavation (after overexcavation of SW-N-30304 location)	3/10/04	4	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-5.0-21104	Bottom of debris excavation	2/11/04	5	NA	NA	NA	<0.24	28	NA	NA	29	NA	NA	22	NA	NA	NA	NA	NA	50
SW-S-30404	Southern sidewall of debris excavation	3/4/04	3	NA	NA	NA	0.6	30	NA	NA	71	NA	NA	32	NA	NA	NA	NA	NA	250
1DW-21104	Waste disposal characterization sample	2/11/04	--[2]	3.9	420	0.38	0.85	22	66	32	80	0.21	1.1	40	<2.5	1.1	<0.21	1.4	23	120
RWQCB ESL[4]				5.5	1000	31	7.8	58	94	630	255	2.5	78	310	6.3	78	78	1	110	1000

Notes:

[1] Samples collected by Geomatrix Consultants, Inc., and analyzed by Curtis & Tompkins, Ltd., of Berkeley, California, for metals using U.S. Environmental Protection Agency (EPA) Methods 6000/7000 series.

[2] "--" = not applicable.

[3] "<" indicates analyte not detected at or above laboratory reporting limit shown.

[4] Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), 2003, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, July. Shallow soil screening level where groundwater is not a current or potential drinking water resource, Table B-1. Urban ecotoxicty criteria were excluded because the pathway is incomplete.

Abbreviations:

ft bgs = feet below ground surface
NA = not analyzed
ESL = environmental screening level

As = Arsenic
Ba = Barium
Be = Beryllium
Cd = Cadmium
Cr = Chromium
Co = Cobalt
Cu = Copper
Pb = Lead
Hg = Mercury
Mo = Molybdenum
Ni = Nickel
Sb = Antimony
Se = Selenium
Ag = Silver
Tl = Thallium
V = Vanadium
Zn = Zinc

TABLE 7

SOIL SAMPLE ANALYTICAL RESULTS - PAHs[1]

Former Fabco Manufacturing Facility
1249 67th Street
Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Sample Location	Sample Date	Sample Depth (ft bgs)	Constituents Detected															
				2-Methylnaph-thalene	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Anthra-cene	Fluoran-thene	Pyrene	Benzo(a) anthracene	Chrysene	Benzo(b) fluoranthene	Benzo(k) flouranthene	Benzo(a) pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i) perylene
Underground Storage Tank (UST) Excavation																			
UST-B-6.0	Bottom of UST excavation	3/3/04	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-30304	Soil stockpile	3/3/04	--	**0.076**	<0.066[2]	<0.066	<0.066	**0.19**	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	**0.098**	<0.066	<0.066	<0.066	<0.066	<0.066
Debris Pit Excavation																				
SW-N-30304	Northern sidewall of debris excavation	3/3/04	3	NA	**0.015**	**0.021**	<0.005	**0.0071**	**0.13**	**0.023**	**0.2**	**0.24**	**0.074**	**0.099**	**0.072**	**0.057**	**0.11**	**0.084**	**0.018**	**0.11**
SW-N-2-4.0	Northern sidewall of debris excavation (after overexcavation of SW-N-30304 location)	3/10/04	4	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
SS-5.0-21104	Bottom of debris excavation	2/11/04	5	NA	**0.0086**	<0.005	<0.005	<0.005	**0.017**	<0.005	**0.017**	**0.018**	**0.0056**	**0.0072**	**0.0057**	<0.005	**0.0075**	<0.005	<0.005	**0.0054**
SW-S-30404	Southern sidewall of debris excavation	3/4/04	3	NA	<0.005	<0.005	<0.005	<0.005	**0.014**	<0.005	**0.016**	**0.022**	**0.011**	**0.016**	**0.016**	**0.01**	**0.012**	**0.011**	<0.005	**0.014**
IDW-21104[3]	Waste disposal characterizaiton sample	2/11/04	--	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	**0.074**	**0.1**	<0.067	<0.067	<0.067	<0.067	<0.067	**0.092**	<0.067	<0.067
RWQCB ESL[4]				0.25	4.5	13.0	19.0	8.9	11.0	2.8	40.0	85.0	0.38	3.8	0.38	0.38	0.038	0.38	0.11	27.0

Notes:

[1] Samples collected by Geomatrix Consultants, Inc., and analyzed by Curtis & Tompkins, Ltd., of Berkeley, California, for PAHs using U.S. Environmental Protection Agency (EPA) Method 8270 with selective ion monitoring (SIM), except for soil stockpile sample, which was analyzed using EPA Method 8270C.

[2] "<" indicates analyte was not detected at or above laboratory reporting limit shown.

[3] Sample IDW-21104 was analyzed for semivolatile orgainc compounds using EPA Method 8270C. SVOCs not shown on this table were not detected above laboratory reporting limits.

[4] Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), 2003, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, July.
Shallow soil screening level where groundwater is not a current or potential drinking water resource, Table B-1.

Abbreviations:
PAHs = polynuclear aromatic hydrocarbons
ft bgs = feet below ground surface
NA = not analyzed
ESL = environmental screening level

TABLE 8

GRAB GROUNDWATER SAMPLE ANALYTICAL RESULTS[1]

Former Fabco Manufacturing Facility
129 67th Street
Oakland, California

Concentrations in micrograms per liter (µg/L)

Sample ID	Sample Date	Constituents Detected												
		TPHg	TPHd	TPHmo	Acetone	2-Butanone	cis-1,2-DCE	Ethylbenzene	PCE	Total Xylenes	1,2,4-TMB	TCE	trans-1,2-DCE	Other VOCs
Debris Pit Excavation														
Pitwater-30304	3/3/04	560[2]	12,000[2]	16,000[3]	48	12	<0.5[4]	<0.5	<0.5	0.7	0.7	<0.5	<0.5	ND
Downgradient of Debris Pit Excavation - Shallow Groundwater														
S-1	3/12/04	NA	<50	<300	130	<10	<0.5	1.1	<0.5	4.4	<0.5	<0.5	<0.5	ND
S-2	3/12/04	NA	<50	<300	67	<10	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	ND
S-3	3/12/04	NA	<50	<300	<10	<10	8.9	<0.5	4.0	<0.5	<0.5	26.0	2.0	ND
S-4	3/12/04	NA	<50	<300	<10	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
Downgradient of Debris Pit Excavation - Deeper Groundwater														
CPT-1-44	3/25/04	NA	<50	<300	<10	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
CPT-2-42	3/26/04	NA	<50	NA	<10	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
CPT-3-48	3/26/04	NA	NA	NA	<10	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
RWQCB ESL[5]		*500*	*640*	*640*	*1,500*	*14,000*	*590*	*290*	*120*	*13.0*	--	*360*	*590*	*Various*

Notes:

[1] Samples collected by Geomatrix Consultants, Inc., and analyzed by Curtis & Tompkins, Ltd., of Berkeley, California, for TPHg, TPHd, and TPHmo using EPA Method 8015M and VOCs using EPA Method 8260B. A silica gel preparation (EPA Method 3630C) was performed on water samples prior to analysis of TPHd and TPHmo.

[2] Laboratory indicated that heavier hydrocarbons contributed to quantitation and the chromatographic pattern did not match the laboratory standard.

[3] Laboratory indicated that lighter hydrocarbons contributed to quantitation and the chromatographic pattern did not match the laboratory standard.

[4] "<" indicates analyte not detected at or above laboratory reporting limit shown.

[5] Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), 2003, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, July. Groundwater screening levels, where groundwater is not a current or potential shrinking water resource, Table F-1b.

Abbreviations:

TPHg = total petroleum hydrocarbons quantified as gasoline
TPHd = total petroleum hydrocarbons quantified as diesel
TPHmo = total petroleum hydrocarbons quantified as motor oil
DCE = dichloroethene
PCE = tetrachloroethene
TMB = trimethylbenzene
TCE = trichloroethene
VOCs = volatile organic compounds
ND = not detected at or above laboratory reporting limit(s)
NA = not analyzed
ESL = environmental screening level

FIGURES

Base map from the U.S. Geological Survey, Oakland West Quadrangle, 7.5 minute series (topographic), 1959 (photo revised 1980).

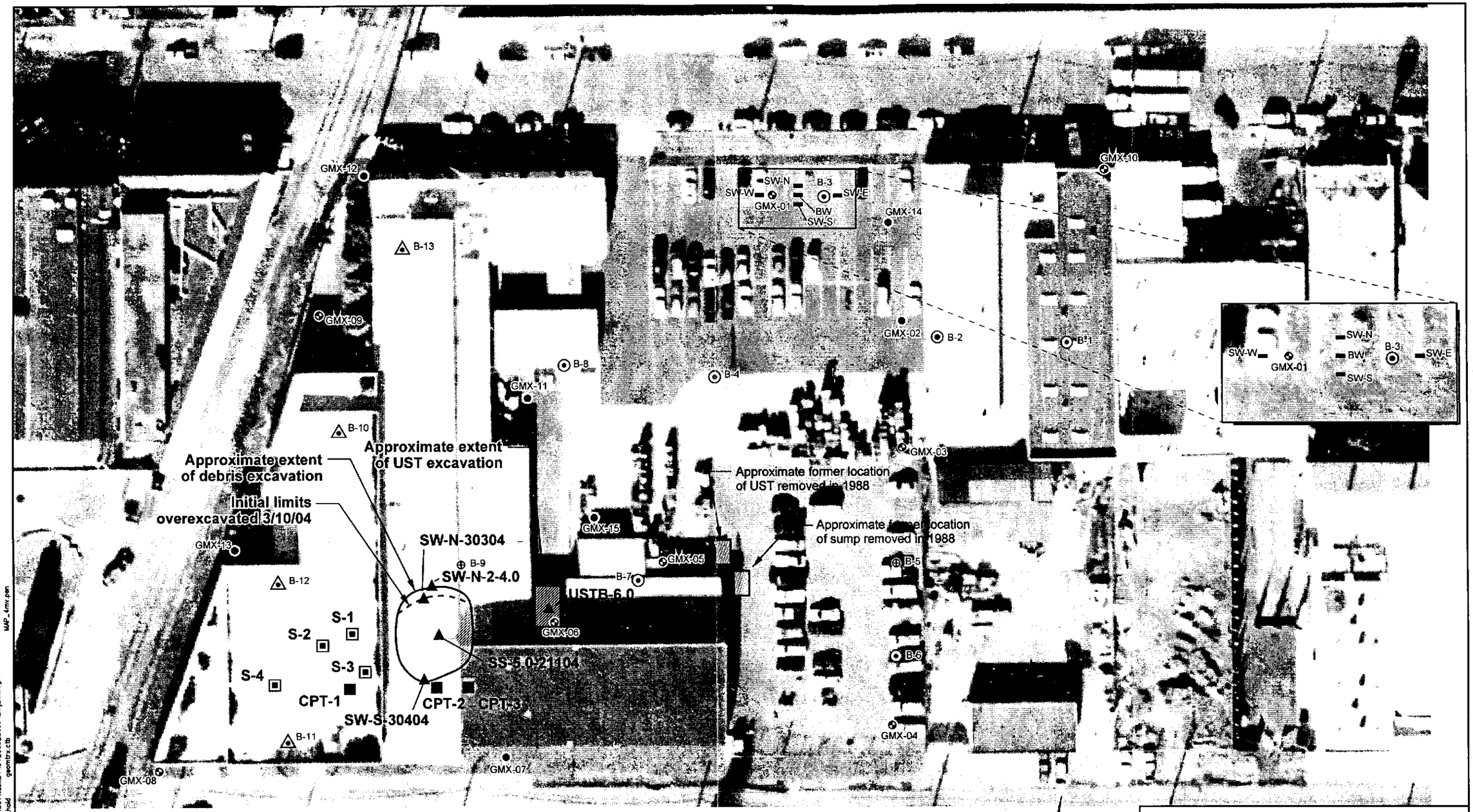
S:\8300\8367\8367.001\task_4\04_0602_csc_fig_01(01).ai

GEOMATRIX

SITE LOCATION MAP
Former Fabco Manufacturing Facility
1249 67th Street
Emeryville, California

Project No.
8367.001

Figure
1



Note:
Aerial photograph from Pacific Aerial Surveys.

EXPLANATION

- Soil and groundwater boring location (November 2002)
- Boring location (November 2002)
- Soil and groundwater boring location (November 2003)
- Soil boring location (November 2003)
- Groundwater location (November 2003)
- Groundwater boring location (March 2004)
- CPT location (March 2004)

SAMPLING AND EXCAVATION LOCATION MAP
1249 67th Street
Emeryville, California

GEOMATRIX

Project No.	Figure
8367.001	2

GEOMATRIX

APPENDIX A

Permits

City Of Oakland
FIRE PREVENTION BUREAU
250 Frank Ogawa Plaza, Ste. 3341
Oakland California 94612-2032
510-238-3851

Permit To Excavate And Install, Repair, Or Remove Inflammable Liquid Tanks

Oakland, California February 19, 2004

Tank Permit Number: 2004 - 014

Permission Is Hereby Granted To:

Remove Underground Unknown **Tank And Excavate Commencing:** **Feet Inside:** Property **Line.**

On The:

Site Address: 1249 67th Street **Present Storage:**

Owner: Pulte Home Corporation **Address:** 7031 Koll Cntr Pkwy, #150, Pleasanton, 94566 **Phone:** 925-849-3280

Applicant: Geomatrix Consultants **Address:** 2101 Webster St., 12th Floor, Oakland, 94612 **Phone:** 510-663-4167

Dimensions Of Street (sidewalk) Surface To Be Disturbed : **X** **No. Of Tanks** 1 **Capacity** 500 **Gallons, Each**

Remarks

This Permit Is Granted In Accordance With Existing City Ordinances. Owner Hereby Agrees To Remove Tanks On Discontinuance Of Use Or When Notified By The City Authorities When Installing, Removing Or Repairing Tanks, No Open Flame To Be On Or Near Premises.

CERTIFICATE OF TANK AND EQUIPMENT INSPECTION

Type Of Inspection: UST Rem.

Inspected And Passed On: 3/3/04

By: H. Gomez

Approved: Fire Marshal

Inspection Fee Paid: $ 540.00

Received By: M McCarthy ck# 65279 rec# 867999

UST/AST Installations/modifications:

Pressure Test: Inspected By: **Date:**

Primary Piping Test: Inspected By: **Date:**

Secondary Containment & Sump Testing:

Inspected By: **Date:**

Final: Inspected By: **Date:**

Before Covering Tanks, Above Certification Must Be Signed When Ready For Inspection Notify Fire Prevention Bureau 238-3851

THIS PERMIT MUST BE LEFT ON THE WORK SITE AS AUTHORITY THEREFORE

Distribution: White - Fire Prevention Bureau, Yellow - Contractor, Pink - Electrical Inspection

CITY OF OAKLAND
FIRE PREVENTION BUREAU
250 Frank Ogawa Plaza, Suite 3341
Oakland, California 94612-2032
(510) 238-3851

APPLICATION for PERMIT to INSTALL, REMOVE or REPAIR TANKS
In the CITY OF OAKLAND

Request Submittal Date: 2/10/04

PLEASE CIRLCE APPROPRIATE ACTIONS: Application is hereby made for permit to:

(a) Remove (b) Install (c) Repair (d) Modify (e) Abandon/Close in Place A

(a) Gasoline (b) Fuel oil (c) Diesel (d) unknown tank(s) and excavate, commencing:

(a) four feet inside the curb line*; (b) inside the property line; (c) aboveground: (d) underground tank(s)
*inside curb line, please attach copy of sidewalk/excavation permit from PLANNING AND BUILDING

on the North side of 66th St/Ave. 250 feet East of RR → Railroad St/Ave.

Site Address: 1249 67th Street, Oakland, CA Present storage water w/ petroleum

Owner: Pulte Homes Corporation Address 7031 Koll Center Parkway, Suite 190 Phone 925-399-3280
Pleasanton, CA 94566

Applicant: Geomatrix Consultants Address 2101 Webster St., 12th Floor Phone 510-663-4167
Oakland, CA 94612

Sidewalk surface to be disturbed 0 X 0 Number of Tanks 1 Capacity ~ 500 Gallons ea.

Remarks Tank found during site grading operations, past use unknown

Signature

PLEASE ATTACH/SUBMIT: (All applicants must have a City Business License Permit)

- (2) Copies of Closure Plans for underground tank removal (s)
- (2) Sets of plans and (1) copy of specifications for above ground tank removal
- (2) Sets of plans and (2) sets of application packets for underground tank installation/modifications
- (2) Sets of plans for aboveground tank installation and specifications
- copy or prepare to show Planning and Building approval for aboveground tank removal and tank repair

NOTE: FOR TANK INSTALLATION PLEASE SUBMIT THIS APPLICATION FORM ALONG WITH A APPLICATION FOR PERMIT TO OPERATE, MAINTAIN OR STORE

FOR OFFICE USE ONLY

Permit No. _____ Amt. Recv'd _____ Date Issued: _____

Copies to: Electrical Inspection ck# _____ Cash _____

Receipt# _____ Recv'd by: _____

City of Oakland, Fire Department, Office of Emergency Services
Hazardous Materials Program
APPLICATION FOR UNDERGROUND TANK REMOVAL

FACILITY

Project Contact & Phone #: Mike Kun 925-249-3219

Facility Name: City limits (multi-family housing development) | Phone#: NA

Address: 1249 67th St., Oakland, CA

Cross Street: Between San Pablo + Railroad tracks

Owner/Operator: Pulte Home Corporation | Phone # 925-249-3219

CONTRACTOR

Contractor Name: R+B Equipment, Inc. | Phone # (510) 782-3774

Contractor Address: 2215 Dunn Rd. Hayward, CA 94545 | CA License # 669008 | Class: A, C-21

Hazardous Waste Certified: (Qualifying license category: HAZARDOUS SUBSTANCES REMOVAL & REMEDIAL ACTIONS CERTIFICATION) Yes ☒ No ☐ | Workers Comp# 4309803 STATE FUND

City of Oakland Business Tax License # 1653407 | Permit #

Does this site have a leaking UST (or did it have a leaking tank system?) Yes ☐ No ☐

TANKS

State Tank ID#	Tank Size	Material That Was Stored	Proposed Removal Date
38- unknown	~500 gallons	unknown	2/13/04
38-			
38-			
38-			
38-			
38-			

PLAN

___APPROVED ___APPROVED WITH CONDITION(S) ___DISAPPROVED

PLAN REVIEWER S SIGNATURE _____ DATE OF APPROVAL _____

APPLICANT MUST PERFORM ALL WORK IN ACCORDANCE WITH CITY OF OAKLAND ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS OF THE CITY OF OAKLAND FIRE SERVICES AGENCY. OWNER OR LICENSED AGENT S SIGNATURE CERTIFIES THE FOLLOWING: I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS INSTALLATION PLAN IS ISSUED, I SHALL NOT EMPLOY ANY PERSON IS SUCH A MANNER AS TO BECOME SUBJECT TO WORKER S COMPENSATION LAWS OF CALIFORNIA. CONTRACTOR S HIRING OR SUBCONTRACTING SIGNATURE CERTIFIES THE FOLLOWING: I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS INSTALLATION PLAN IS ISSUED, I SHALL EMPLOY PERSONS SUBJECT TO WORKER S COMPENSATION LAWS OF CALIFORNIA.

APPLICANT S SIGNATURE [signature] TITLE: Senior Engineer DATE: 2/10/04

INDICATE THE RESPONSIBLE PARTY TO BE BILLED FOR ADDITIONAL FSA/OES STAFF TIME EXPENDED BEYOND THE HOURS COVERED BY THE INITIAL DEPOSIT AMOUNT. THE PARTY MUST ACKNOWLEDGE THIS RESPONSIBILITY FOR THE ADDITIONAL BILLING BY SIGNATURE AND DATE BELOW.

NAME Jennifer Patterson, Geomatrix Consultants, Inc.

MAILING ADDRESS 2101 Webster St, 12th Floor, Oakland CA 94612
STREET **CITY, STATE, ZIP**

DAY PHONE NUMBER 510 - 663 - 4167
area code **phone #**

SIGNATURE [signature]

DATE 2/10/04

CITY OF OAKLAND
Fire Department
Fire Prevention Bureau
Hazardous Materials Program
250 Frank H. Ogawa Plaza, Ste. 3341
Oakland, CA 94612-2032

UNDERGROUND TANK CLOSURE PLAN

(Complete according to instructions)

1) Name of Business Pulte Home Corporation

Business Owner or Contact Person (PRINT) Mike Kim

2) Site Address 1249 67th St

City Oakland Zip 94608 Phone NA

3) Mailing Address 7031 Koll Center Parkway, Suite 150

City Pleasanton Zip 94566 Phone 925-249-3219

4) Property Owner Pulte Home Corporation

Business Name (if applicable)

Address 7031 Koll Center Parkway, Suite 150

City, State Pleasanton, CA Zip 94566

5) Generator name under which tank will be manifested

Pulte Home Corporation

EPA ID Under which tank will be manifested CAL 000276495

6) Contractor R & B Equipment, Inc.

Address 2215 Dunn Rd

City Hayward, CA Phone 510-782-3774

License Type CSLB #669008; A, C-21 ID#

Effective January 1, 1992, Business and Professional Code Section 7058.7 require contractors to also hold Hazardous Waste certification issued by the State Contractor License Board

7) Consultant (if applicable) Geoanalytical Consultants Inc

Address 2101 Webster St, 12th Floor

City, State Oakland, CA Phone 510-465-6467

8) Main Contact Person for Investigation (if applicable)

Name Jennifer Patterson Title Senior Engineer

Company Geoanalytical Consultants Inc.

Phone 510-465-6467

9) Number of underground tanks being closed with this plan 1 (Confirmed with owner operator)

10) State Registered Hazardous Waste Transporters/Facilities (see instructions)

**Underground storage tanks must be handled as hazardous waste **

a) Product/Residual Sludge/Rinsate Transporter

Name ECI EPA I.D. NO. CAD982030173

Hauler License No. 1533 License Exp. Date 3/31/04

Address 255 PARR BLVD

City Richmond State CA Zip 94801

b) Product/Residual Sludge/Rinsate Disposal Site

Name EPA ID No.

Address

City State Zip

e) Tank and Piping Transporter

Name ECI EPA I.D. No. CAD 982030173

Hauler License No. 1533 License Exp. Date 3/31/04

Address 255 PARR BLVD

City RICHMOND State CA Zip 94801

f) Tank and Piping Disposal Site

Name ECI EPA I.D. No. CAD009466392

Address 255 PARR BLVD

City RICHMOND State CA Zip 94801

11) Sample Collector

Name Sarah Nixon

Company Geomatrix Consultants

Address 2101 Webster St 12th Floor

City Oakland State CA Zip 94612

Phone 510-663-4121

12) Laboratory

Name Curtis & Tompkins

Address 2323 5th St

City Berkeley State CA Zip 94710

State Certification No. 01107 CA

13) Have tanks or pipes leaked in the past Yes ☐ No ☐ Unknown ☒

If yes, describe

14) Describe methods to be used for rendering tank (s): inert:

Add dry ice

Before tanks are pumped out and inserted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be permanently plugged.

The Bay Area Air Quality Management District, 415/771-6000 must also be contacted for tank removal permit. The use of a combustible gas indicator to verify tank inertness is required. It is the contractor's responsibility to bring a working combustible gas indicator on-site to verify that the tank is inert. **Note: you may be required to recalibrate the combustible gas indicator on site, to show that it is working properly.**

15) Tank History and Sampling Information *** (see instructions) ***

Tank		Material to be sampled (tank contents, soil, groundwater)	Location and Depth of Samples
Capacity	Use History include date last used (estimated)		If gw present:
~500	Unknown	Soil	Wall next to tank ends at soil/gw interface (one at each end) If gw not present: One sample below fill end of tank
		groundwater	One sample from tank excavation once it has been purged and allowed to refill.

One soil sample must be collected for every 20 linear feet or piping that is removed. A ground water sample must be collected if any ground water is present in the excavation.

EXCAVATED/STOCKPILED SOIL

Stockpiled Soil volume (estimated)	Sampling Plan
~ 100 cubic yards	One 4-point composite per 50 cubic yards; collected in clean brass tubes sealed with teflon sheets and plastic end caps.

Stockpiled soil must be placed on beamed plastic and must be completely covered by plastic sheeting

Will the excavated soil be returned to the excavation immediately after tank removal?

☐ yes ☒ No ☐ unknown

If yes, explain reasoning _____

_____

If unknown at this point in time, please be aware that excavated soil may no be returned to the excavation without prior approval from Fire Services Agency, Office of Emergency Services. This means that the contractor, consultant, or responsible party must communicate with the Hazardous Materials Inspector **IN ADVANCE** of backfilling operations.

16. Chemical methods and associated detection limits to be used for analyzing samples:

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed.
See attached Table 2.

17. Submit Site Health and Safety Plan (see Instructions)

Contaminant Sought	EPA or Other Sample Preparation Method Number	EPA or Other Analysis Method Number	Method Detection Limit	
			Soil (ppm)	water
TPHg	—	EPA 8015	1.0	50
TPHd	silica gel preparation	EPA 8015	1.0	50
VOCs	—	EPA 8260	0.005	0.5
Cd, Cr, Pb, Ni, + Zn	—	EPA 6020		

18. Submit Workers Compensation Certificate copy

Name of Insurer STATE COMPENSATION INSURANCE FUND #4309803 *

19. Submit Plot Plan ***(Be Instructions)***

20. Enclose Permit fee (See Instructions)

21. Report any leaks or contamination to this office within 5 days of discovery.

The written report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report, (ULR) form.

22. Submit a closure report to this office within 60 days of the tank removal. The report must contain all information listed in item 22 of the instructions.

23. Submit State (Underground storage Tank Permit Application) Forms A and B (one B form for each UST to be removed) (mark box 8 for tank removed in the upper right hand corner)

I declare that to, the best of my knowledge and belief that the statements and information provided above are correct and true.

I understand that information, in addition to that proved above, may be needed in order to obtain approval from the Hazardous Materials Division and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA. (Occupational Safety and health Administration) requirements concerning: personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his age and that this responsibility is not shared nor assumed by the City of Oakland.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Inspector at least three working days in advance of site-work, to schedule the required inspections.

CONTRACTOR INFORMATION

Name of Business R & B EQUIPMENT, INC. *

Name of Individual RICK JEFFERY

Signature [signature] Date 2/11/04

PROPERTY OWNER OR MOST RECENT TANK OPERATOR (Circle one)

Name of Business Pulte Home Corporation

Name of Individual Mike Kim

Signature _____ Date 2/10/04

General Instructions

- Three (3) copies of this plan plus attachments and permit must be submitted to this Department.
- Any cutting into tanks requires Fire Services Agency approval.
- One complete copy of your approved plan must be at the construction site at all times; a copy of your approved plan must also be sent to the landowner.
- State of California Permit Application Forms A and B are to submit to this office One Form A per site, one Form B for each removed tank.

Line Item Specific Instructions

2. SITE ADDRESS
Address at which closure is taking place.

5. EPA I.D. NO. - under which the tanks will be manifested
EPA I.D. numbers may be obtained from the State Department of Toxic Substances Control, 916/324-1781

6. CONTRACTOR
Prime contractor for the project.

10. STATE REGISTERED HAZARDOUS WASTE TRANSPORTERS/FACILITIES
a) All residual liquids and sludges are to be removed from tanks before tanks are inerted.
c) Tanks must be hauled as hazardous waste.
d) This is the place where tanks will be taken for cleaning.

15) TANK HISTORY AND SAMPLING INFORMATION
Use History - This information is essential and must be accurate. Include tank installation date, products stored in the tank, and the date when the tank was last used.
Material to be sampled - e.g. water, oil, sludge, soil, etc.

Location and depth of samples - e.g. beneath the tank a maximum of two feet below the native soil/backfill interface, side wall at the trig} water mark, etc.

16) CHEMICAL METHODS AND ASSOCIATED DETECTION LIMITS
See attached Table 2.

17) SITE HEALTH AND SAFETY PLAN
A site specific Health and Safety plan must be submitted. We advocate the site health and safety plan include the following items, at a minimum;
a) The name and responsibilities of the site health and safety officer.
b) An outline of briefings to be held before work each day to appraise employees of site health and safety hazards;

c) Identification of health and safety hazards of each work task. Include potential fire, explosion, physical, and chemical hazards;

SITE HEALTH AND SAFETY PLAN

d) For each hazard, identify the action levels (contaminant concentrations in air) or physical conditions;
e) Description of the work habit changes triggered by the above action levels or physical conditions;
f) Frequency and types of air and personnel monitoring - along with the environmental sampling techniques and instrumentation - to be used to detect the above action levels. Include instrumentation maintenance and calibration methods and frequencies;
h) Confined space entry procedures-(if applicable);
g) Decontamination procedures;
I) Measures to be taken to secure the site, excavation and stockpiled soils during and after work hour (e.g. barricades, caution tape, fencing, trench plates, plastic sheeting, security guard, etc.);
j) Spill containment/emergency/contingency plan. Be sure to include emergency phone numbers, the location of the phone nearest the site, and directions to the hospital near the site;
k) Documentation that all site workers have received the appropriate ASIA approved training and participate medical surveillance per 29 CFR 1910.120;

l) A page for employees to sign acknowledging that they have read and will comply with the site health and safety plan.

The safety plan must be distributed to all employees and contractors working in hazardous waste operations on site. A complete copy of the site health and safety plan along with any standard operating procedures shall be on site and accessible at all times.

Hazardous Waste Operations and Emergency Response; Final Rule, March 6, 1989; Safety plans of certain underground tank sites may need to meet the complete requirements of this Rule.

19) PLOT PLAN
The plan should consist of a scaled view of the facility at which the tank(s) are located and should include the following information:
a) Scale;
b) North Arrow;
c) Property Lines;
d) Location of all structures;
e) Location of all relevant existing equipment including tanks and piping to be removed and dispensers;
f) Streets;
g) Underground conduits, sewers water lines utilities;
h) Existing wells; drinking monitoring, etc;
I) Depth to ground water; and
j) All existing tank(s) and piping in addition to the tank(s) being removed.

20) PERMIT FEE
A check payable to the City of Oakland for the amount indicated must accompany the plans.

21) Blank unauthorized Leak/Contamination Site Report forms may be obtained in limited quantities from this office or from the San Francisco Regional Water Quality Control Board (510) 286-1255. Larger quantities may be directly from the State Water Resources Control Board at (916) 739-2421.

22) TANK CLOSURE REPORT

The Tank Closure reports: General description of the closure activities, indicate;

a) Description of tank, fittings and piping conditions. Size and former contents; note any corrosion, pitting, holes;
b) Description of the excavation itself. Include tank and excavation depth, a log of the stratigraphic units encountered within the excavation, a description of root holes or other potential pathways the depth to any observed ground water, locations of stained or odor-bearing oil, and descriptions of any observed free product or sheen;
c) Detailed description of sampling methods., i.e. - backhoe bucket, drive sampler, bailer, bottles (s), sleeves;
d) Description of any remedial measures conducted at the time of tank removal;
e) To-scale figures showing the excavation size and depth, nearby buildings, sample locations and depths, and tank and piping locations include a copy of the plot plan prepared for the Tank Closure-plan under item #19;
f) Chain of custody records;
g) Copies of signed laboratory reports;
h) Copies of TSDF to Generator Manifests for all hazardous wastes hauled offsite (sludge, Rinsate, tanks and piping, contaminated soil, etc), and
i) Documentation of the disposal of/and volume and final destination all non-manifested contaminated soil disposed offsite.

OAKLAND FIRE DEPARTMENT
FIRE PREVENTION BUREAU

Tank Installation/Removal Processing

All Tank installation/removal plans and applications will be accepted in the Fire Prevention Bureau. Please provide verification/copy of your City Business License Permit (238-3704). **An application to Install, Repair or Remove** and the following are required for complete submittal:

Permit Type	Closure Plans	U.G.Tank Install/Modify Plans App	Plans (2sets)	Specs	Letter to FM	Plot Plan	Forms A, B	Forms A,B,C	App For Permit to Operate, Maintain or Store
Underground Tank Removal	X					X	X		
Abandon/Close In Place	X					X	X		
Aboveground Tank Removal*			X	X					
Underground Tank Installation/Modification		X	X	X				X	X
Aboveground Tank Installation			X	X					X
Residential (home heating)	X					X			
Capping Vent Piping work				X	X	X			
Underground piping	X		X						
Residential (close in place)					X	X			

***Planning & Building Approval** required for **any** Zoning issues or when routing piping into buildings. When sidewalk disturbance occurs you must provide us with a copy/verification of your excavation permit..

Residential home heating oil tanks **under** 1100 gal. are exempt from State requirements (Form A & B not required), closure plans are required. **Residential** closure in place MUST accompany a letter to the attention of the Fire Marshal, Jerry E. Blueford describing why, and how the closure will be done. In addition, a plot plan should be included with the application.

Permit Fees: varies

Once the application and plans have been reviewed, you will receive your permit, by mail, within 1 to 5 days. **You must schedule in advance when you are prepared to do the work. Please call our office at least 48 hours in advance: (510)238-3851. Be prepared to give us your Permit number**, indicated in the upper right corner of your permit. We will try to accomodate your request.

Tank Permit Fees

Type of Request	Permit Processing/Plan Check Fee	Inspection Fee	Total
Aboveground/Underground Removal (1 tank)	$350.00	$190.00	$540.00*
Aboveground Installation (1 tank)	$350.00	$380.00	$730.00*
Closure In Place (underground)(1 tank)	$350.00	$190.00	$540.00*
Dispenser Replacement or Modifications of Aboveground Tanks	$350.00	$190.00	$540.00
Capping a Vent (underground tank)	$100.00	$ 50.00	$150.00
Alter & Repair Monitoring System; Overfill containment installation (aboveground/underground tanks)	$100.00	$ 50.00	$150.00
Modify, Remove, Repair and Replace Piping, Dispensers, Sumps of Underground Tanks	$350.00	$190.00	$540.00*

Underground Tank Installation Fees				
# of Tanks	Annual Fee	Permit Processing/Plan Check Fee	Inspection Fee	Total Payment
1	$210	$ 350	$380	$ 940
2	$312	$ 450	$380	$1142
3	$415	$ 550	$380	$1345
4	$521	$ 650	$380	$1551
5	$603	$ 750	$380	$1733
6	$717	$ 850	$380	$1947
7	$811	$ 950	$380	$2141

Note:

*$110.00 for each additional tank

- A separate permit will be issued for tank Removal, Installation etc.
- After hour inspections require additional fees at a rate of $95.00 an hour

rev: 09/00

UNIFIED PROGRAM CONSOLIDATED FORM

UNDERGROUND STORAGE TANKS - FACILITY

TANKS

(one page per site) Page 1 of 1

TYPE OF ACTION (Check one item only) ☐ 1. NEW SITE PERMIT ☐ 3. RENEWAL PERMIT ☐ 4. AMENDED PERMIT ☐ 5. CHANGE OF INFORMATION specify change local use only _____ ☐ 6. TEMPORARY SITE CLOSURE ☐ 7. PERMANENTLY CLOSED SITE ☒ 8. TANK REMOVED 400

I. FACILITY / SITE INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3

FACILITY ID# 1

NEAREST CROSS STREET 401

FACILITY OWNER TYPE ☒ 1. CORPORATION ☐ 2. INDIVIDUAL ☐ 3. PARTNERSHIP ☐ 4. LOCAL AGENCY/DISTRICT* ☐ 5. COUNTY AGENCY* ☐ 6. STATE AGENCY* ☐ 7. FEDERAL AGENCY* 402

BUSINESS TYPE ☐ 1. GAS STATION ☐ 2. DISTRIBUTOR ☐ 3. FARM ☐ 4. PROCESSOR ☒ 6. OTHER ☐ 5. COMMERCIAL 403

TOTAL NUMBER OF TANKS REMAINING AT SITE 0 404

Is facility on Indian Reservation or trustlands? ☐ Yes ☒ No 405

*If owner of UST is a public agency: name of supervisor of division, section or office which operates the UST (This is the contact person for the tank records.) 406

II. PROPERTY OWNER INFORMATION

PROPERTY OWNER NAME Pulte Home Corporation 407

PHONE 408

MAILING OR STREET ADDRESS 7031 Koll Center Parkway, Suite 150 409

CITY Pleasanton 410

STATE CA 411

ZIP CODE 94566 412

PROPERTY OWNER TYPE ☒ 1. CORPORATION ☐ 2. INDIVIDUAL ☐ 3. PARTNERSHIP ☐ 4. LOCAL AGENCY / DISTRICT ☐ 5. COUNTY AGENCY ☐ 6. STATE AGENCY ☐ 7. FEDERAL AGENCY 413

III. TANK OWNER INFORMATION

TANK OWNER NAME 414

PHONE 415

MAILING OR STREET ADDRESS 416

CITY 417

STATE 418

ZIP CODE 419

TANK OWNER TYPE ☐ 1. CORPORATION ☐ 2. INDIVIDUAL ☐ 3. PARTNERSHIP ☐ 4. LOCAL AGENCY / DISTRICT ☐ 5. COUNTY AGENCY ☐ 6. STATE AGENCY ☐ 7. FEDERAL AGENCY 420

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER

TY (TK) HQ 44- Call (916) 322-9669 if questions arise 421

V. PETROLEUM UST FINANCIAL RESPONSIBILITY

INDICATE METHOD(s) ☐ 1. SELF-INSURED ☐ 2. GUARANTEE ☐ 3. INSURANCE ☐ 4. SURETY BOND ☐ 5. LETTER OF CREDIT ☐ 6. EXEMPTION ☐ 7. STATE FUND ☐ 8. STATE FUND & CFO LETTER ☐ 9. STATE FUND & CD ☐ 10. LOCAL GOVT MECHANISM ☐ 99. OTHER: 422

VI. LEGAL NOTIFICATION AND MAILING ADDRESS

Check one box to indicate which address should be used for legal notifications and mailing. Legal notifications and mailings will be sent to the tank owner unless box 1 or 2 is checked. ☐ 1. FACILITY ☒ 2. PROPERTY OWNER ☐ 3. TANK OWNER 423

VII. APPLICANT SIGNATURE

Certification – I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF APPLICANT

DATE 2/9/04 424

PHONE 510-663-4167 425

NAME OF APPLICANT (print) Jennifer Patterson 426

TITLE OF APPLICANT Senior Engineer 427

STATE UST FACILITY NUMBER (For local use only) 428

1998 UPGRADE CERTIFICATE NUMBER (For local use only) 429

UST - Facility

Formerly SWRCB Form A.

Complete the UST - Facility page for all new permits, permit changes or any facility information changes. This page must be submitted within 30 days of permit or facility information changes, unless approval is required before making any changes.

Submit one UST - Facility page per facility, regardless of the number of tanks located at the site. This form is completed by either the permit applicant or the local agency underground tank inspector. As part of the application, the tank owner must submit a scaled facility plot plan to the local agency showing the location of the USTs with respect to buildings and landmarks [23 CCR §2711 (a)(8)], a description of the tank and piping leak detection monitoring program [23 CCR §2711 (a)(9)], and, for tanks containing petroleum, documentation showing compliance with state financial responsibility requirements [23 CCR §2711 (a)(11)].

Refer to 23 CCR §2711 for state UST information and permit application requirements.
(Note: the numbering of the instructions follows the data element numbers that are on the UPCF pages. These data element numbers are used for electronic submission and are the same as the numbering used in 27 CCR, Appendix C, the Business Section of the Unified Program Data Dictionary.) Please number all pages of your submittal. This helps your CUPA or local agency identify whether the submittal is complete and if any pages are separated.

1. FACILITY ID NUMBER - Leave this blank. This number is assigned by the CUPA. This is the unique number which identifies your facility.
3. BUSINESS NAME - Enter the full legal name of the business.
400. TYPE OF ACTION - Check the reason the page is being completed. CHECK ONE ITEM ONLY.
401. NEAREST CROSS STREET - Enter the name of the cross street nearest to the site of the tank.
402. FACILITY OWNER TYPE - Check the type of business ownership.
403. BUSINESS TYPE - Check the type of business.
404. TOTAL NUMBER OF TANKS REMAINING AT SITE - Indicate the number of tanks remaining on the site after the requested action.
405. INDIAN OR TRUST LAND - Check whether or not the facility is located on an Indian reservation or other trust lands.
406. PUBLIC AGENCY SUPERVISOR NAME - If the facility owner is a public agency, enter the name of the supervisor for the division, section or office which operates the UST. This person must have access to the tank records.
407. PROPERTY OWNER NAME -
408. PROPERTY OWNER PHONE
409. PROPERTY OWNER MAILING OR STREET ADDRESS
410. PROPERTY OWNER CITY
411. PROPERTY OWNER STATE
412. PROPERTY OWNER ZIP CODE

Complete items 407- 412 for the property owner, unless all items are the same as the Owner Information (items 111-116) on the Business Owner/Operator Identification page (OES Form 2730). If the same, write "SAME AS SITE" in this section.

413. PROPERTY OWNER TYPE - Check the type of property ownership.
414. TANK OWNER NAME -
415. TANK OWNER PHONE
416. TANK OWNER MAILING OR STREET ADDRESS
417. TANK OWNER CITY
418. TANK OWNER STATE
419. TANK OWNER ZIP CODE

Complete items 414- 419 for the tank owner,, unless all items are the same as the Owner Information (items 111-116) on the Business Owner/Operator Identification page (OES Form 2730). If the same, write "SAME AS SITE" in this section.

420. TANK OWNER TYPE - Check the type of tank ownership.
421. BOE NUMBER - Enter your Board of Equalization (BOE) UST storage fee account number. This fee applies to regulated USTs storing petroleum products. This is required before your permit application can be processed. If you do not have an account number with the BOE or if you have any questions regarding the fee or exemptions, please call the BOE at (916) 322-9669 or write to the BOE at: Board of Equalization, Fuel Taxes Division, P.O. Box 942879, Sacramento, CA 94279-0030.
422. PETROLEUM UST FINANCIAL RESPONSIBILITY CODE - Check the method(s) used by the owner and/or operator in meeting the Federal and State financial responsibility requirements. CHECK ALL THAT APPLY. If the method is not listed, check "other" and enter the method(s). USTs owned by any Federal or State agency and non-petroleum USTs are exempt from this requirement.
423. LEGAL NOTIFICATION AND MAILING ADDRESS - Indicate the address to which legal notifications and mailings should be sent. The legal notifications and mailings will be sent to the tank owner unless the facility (box 1) or the property owner (box 2) is checked.
SIGNATURE OF APPLICANT - The business owner/operator of the tank facility, or officially designated representative of the owner/operator, shall sign in the space provided. This signature certifies that the signer believes that all the information submitted is accurate and complete.
424. DATE CERTIFIED - Enter the date that the page was signed.
425. APPLICANT PHONE - Enter the phone number of the applicant (person certifying).
426. APPLICANT NAME - Enter the full printed name of the person signing the page.
427. APPLICANT TITLE - Enter the title of the person signing the page.
428. STATE UST FACILITY NUMBER - Leave this blank. This number is assigned by the CUPA as follows: the number is composed of the two digit county number, the three digit jurisdiction number, and a six digit facility number. The facility number must be the same as shown in item 1.
429. 1998 UPGRADE CERTIFICATE NUMBER - Leave this blank. This number is assigned by the CUPA.

UNIFIED PROGRAM CONSOLIDATED FORM

UNDERGROUND STORAGE TANKS – TANK PAGE 1

TANKS

(two pages per tank)

Page ___ of ___

TYPE OF ACTION (Check one item only) ☐ 1 NEW SITE PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☐ 6 TEMPORARY SITE CLOSURE ☐ 3 RENEWAL PERMIT (Specify reason – for local use only) (Specify reason – for local use only) ☐ 7 PERMANENTLY CLOSED ON SITE ☒ 8 TANK REMOVED

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3 FACILITY ID: 430

LOCATION WITHIN SITE (Optional) 431

I. TANK DESCRIPTION (A scaled plot plan with the location of the UST system including buildings and landmarks shall be submitted to the local agency.)

TANK ID # 432	TANK MANUFACTURER 433	COMPARTMENTALIZED TANK ☐ Yes ☐ No 434
		If "Yes", complete one page for each compartment.
DATE INSTALLED (YEAR/MO) 435	TANK CAPACITY IN GALLONS 436 ~500	NUMBER OF COMPARTMENTS 437

ADDITIONAL DESCRIPTION (For local use only) 438

II. TANK CONTENTS

TANK USE 439
- ☐ 1. MOTOR VEHICLE FUEL (If marked complete Petroleum Type)
- ☐ 2. NON-FUEL PETROLEUM
- ☐ 3. CHEMICAL PRODUCT
- ☐ 4. HAZARDOUS WASTE (Includes Used Oil)
- ☒ 95. UNKNOWN

PETROLEUM TYPE 440
- ☐ 1a. REGULAR UNLEADED ☐ 2. LEADED ☐ 5. JET FUEL
- ☐ 1b. PREMIUM UNLEADED ☐ 3. DIESEL ☐ 6. AVIATION FUEL
- ☐ 1c. MIDGRADE UNLEADED ☐ 4. GASOHOL ☐ 99. OTHER

COMMON NAME (from Hazardous Materials Inventory page) 441

CAS# (from Hazardous Materials Inventory page) 442

III. TANK CONSTRUCTION

TYPE OF TANK (Check one item only) 443
- ☐ 1. SINGLE WALL
- ☐ 2. DOUBLE WALL
- ☐ 3. SINGLE WALL WITH EXTERIOR MEMBRANE LINER
- ☐ 4. SIGNLE WALL IN VAULT
- ☐ 5. SINGLE WALL WITH INTERNAL BLADDER SYSTEM
- ☐ 95. UNKNOWN
- ☐ 99. OTHER

TANK MATERIAL – primary tank (Check one item only) 444
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☐ 3. FIBERGLASS / PLASTIC
- ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPTIBLE W/100% METHANOL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER

TANK MATERIAL – secondary tank (Check one item only) 445
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☐ 3. FIBERGLASS / PLASTIC
- ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPTIBLE W/100% METHANOL
- ☐ 10. COATED STEEL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER

TANK INTERIOR LINING OR COATING (Check one item only) 446
- ☐ 1. RUBBER LINED
- ☐ 2 ALKYD LINING
- ☐ 3. EPOXY LINING
- ☐ 4 PHENOLIC LINING
- ☐ 5. GLASS LINING
- ☐ 6 UNLINED
- ☐ 95. UNKNOWN
- ☐ 99 OTHER

DATE INSTALLED 447 (For local use only)

OTHER CORROSION PROTECTION IF APPLICABLE (Check one item only) 448
- ☐ 1 MANUFACTURED CATHODIC PROTECTION
- ☐ 2 SACRIFICIAL ANODE
- ☐ 3 FIBERGLASS REINFORCED PLASTIC
- ☐ 4 IMPRESSED CURRENT
- ☐ 95 UNKNOWN
- ☐ 99 OTHER

DATE INSTALLED 449 (For local use only)

SPILL AND OVERFILL (Check all that apply) YEAR INSTALLED 450 TYPE (local use only) 451
- ☐ 1 SPILL CONTAINMENT
- ☐ 2 DROP TUBE
- ☐ 3 STRIKER PLATE

OVERFILL PROTECTION EQUIPMENT: YEAR INSTALLED 452
- ☐ 1 ALARM
- ☐ 2 BALL FLOAT
- ☐ 3 FILL TUBE SHUT OFF VALVE
- ☐ 4 EXEMPT

IV. TANK LEAK DETECTION (A description of the monitoring program shall be submitted to the local agency.)

IF SINGLE WALL TANK (Check all that apply) 453
- ☐ 1 VISUAL (EXPOSED PORTION ONLY)
- ☐ 2 AUTOMATIC TANK GAUGING (ATG)
- ☐ 3 CONTINUOUS ATG
- ☐ 4 STATISTICAL INVENTORY RECONCILIATION (SIR) BIENNIAL TANK TESTING
- ☐ 5 MANUAL TANK GAUGING (MTG)
- ☐ 6 VADOSE ZONE
- ☐ 7 GROUNDWATER
- ☐ 8 TANK TESTING
- ☐ 99 OTHER

IF DOUBLE WALL TANK OR TANK WITH BLADDER (Check one item only) 454
- ☐ 1 VISUAL (SINGLE WALL IN VAULT ONLY)
- ☐ 2 CONTINUOUS INTERSTITIAL MONITORING
- ☐ 3 MANUAL MONITORING

IV. TANK CLOSURE INFORMATION / PERMANENT CLOSURE IN PLACE

ESTIMATED DATE LAST USED (YR/MO/DAY) 455	ESTIMATED QUANTITY OF SUBSTANCE REMAINING 456	TANK FILLED WITH INERT MATERIAL? 457
	_____ gallons	☐ Yes ☐ No

UST - Tank Page 1

Formerly SWRCB Form B

Complete the UST - Tank pages for each tank for all new permits, permit changes, closures and/or any other tank information change. This page must be submitted within 30 days of permit or facility information changes, unless approval is required before making any changes. For compartmentalized tanks, each compartment is considered a separate tank and requires completion of separate tank pages.

Refer to 23 CCR §2711 for state UST information and permit application requirements.

(Note: the numbering of the instructions follows the data element numbers that are on the UPCF pages. These data element numbers are used for electronic submission and are the same as the numbering used in 27 CCR, Appendix C, the Business Section of the Unified Program Data Dictionary.)

Please number all pages of your submittal. This helps your CUPA or local agency identify whether the submittal is complete and if any pages are separated.

1. FACILITY ID NUMBER - Leave this blank. This number is assigned by the CUPA. This is the unique number which identifies your facility.
3. BUSINESS NAME - Enter the full legal name of the business.
430. TYPE OF ACTION - Check the reason the page is being completed. For amended permits and change of information, include a short statement to direct the inspector to the amendment or changed information.
431. LOCATION WITHIN SITE - Enter the location of the tank within the site.
432. TANK ID NUMBER - Enter the owner's tank ID number. This is a unique number used to identify the tank. It may be assigned by the owner or by the CUPA.
433. TANK MANUFACTURER - Enter the name of the company that manufactured the tank.
434. COMPARTMENTALIZED TANK - Check whether or not the tank is compartmentalized. Each compartment is considered a separate tank and requires the completion of separate tank pages.
435. DATE TANK INSTALLED - Enter the year and month the tank was installed.
436. TANK CAPACITY - Enter the tank capacity in gallons.
437. NUMBER OF TANK COMPARTMENTS - If the tank is compartmentalized, enter the number of compartments.
438. ADDITIONAL DESCRIPTION - Use this space for additional tank or location description.
439. TANK USE - Check the substance stored. If MOTOR VEHICLE FUEL, check box 1 and complete item 440, PETROLEUM TYPE.
440. PETROLEUM TYPE - If box 1 is checked in item 439, check the type of fuel.
441. COMMON NAME - For substances that are not motor vehicle fuels (box 1 is NOT checked in item 439), enter the common name of the substance stored in the tank.
442. CAS # - For substances that are not motor vehicle fuels (box 1 is NOT checked in item 439), enter the CAS (Chemical Abstract Service) number. This is the same as the CAS # in item 209 on the Hazardous Materials Inventory - Chemical Description page.
443. TYPE OF TANK - Check the type of tank construction. If type of tank is not listed, check "other" and enter type.
444. TANK MATERIAL (PRIMARY TANK) - Check the construction material of the tank that comes into immediate contact on its inner surface with the hazardous substance being contained. If the tank is lined do not reference the lining material in this item. Indicate the type of lining material in item 446. If type of tank material is not listed, check "other" and enter material.
445. TANK MATERIAL (SECONDARY TANK) - Check the construction material of the tank that provides the level of containment external to, and separate from, the primary containment. If type of tank material is not listed, check "other" and enter material.
446. TANK INTERIOR LINING OR COATING - If applicable, check the construction material of the interior lining or coating of the tank. If type of interior lining or coating is not listed, check "other" and enter type.
447. DATE TANK INTERIOR LINING INSTALLED - If applicable, enter the date the tank interior lining was installed. This is to assist the CUPA to develop an inspection schedule.
448. OTHER TANK CORROSION PROTECTION - If applicable, check the other tank corrosion protection method used. If other corrosion protection method is not listed, check "other" and enter method.
449. DATE TANK CORROSION PROTECTION INSTALLED - If applicable, enter the date the tank corrosion protection method was installed. This is to assist the CUPA to develop an inspection schedule.
450. YEAR SPILL AND OVERFILL INSTALLED - Check the appropriate box and enter the year in which spill containment, drop tube, and/or striker plate was installed. CHECK ALL THAT APPLY.
451. TYPE OF SPILL PROTECTION - Enter the type of spill containment, drop tube, and/or striker plate. FOR CUPA USE ONLY.
452. YEAR OVERFILL PROTECTION EQUIPMENT INSTALLED - Check the appropriate box and enter the year in which overfill protection was installed or whether there is an exemption from overfill protection. CHECK ALL THAT APPLY, unless tank is exempt.
453. TANK LEAK DETECTION (SINGLE WALL) - For single walled tanks, check the leak detection system(s) used to comply with the monitoring requirements for the tank. CHECK ALL THAT APPLY. If leak detection system is not listed, check "other" and enter system.
454. TANK LEAK DETECTION (DOUBLE WALL) - For double walled tanks or tanks with bladder, check the leak detection system(s) used to comply with the monitoring requirements for the tank. CHECK ONE ITEM ONLY.
455. ESTIMATED DATE LAST USED - For closure in place, enter the date the tank was last used.
456. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN TANK - For closure in place, enter the estimated quantity of hazardous substance remaining in the tank (in gallons).
457. TANK FILLED WITH INERT MATERIAL - For closure in place, check whether or not the tank was filled with an inert material prior to closure.

ATTACHMENTS -

1. Provide a scaled plot plan with the location of the UST system, including buildings and landmarks.
2. Provide a description of the monitoring program.

UNIFIED PROGRAM CONSOLIDATED FORM

TANKS

UNDERGROUND STORAGE TANKS – TANK PAGE 2

VI. PIPING CONSTRUCTION (Check all that apply)

Page __ of __

UNDERGROUND PIPING		ABOVEGROUND PIPING	
SYSTEM TYPE ☐ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY	458	☐ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY	459
CONSTRUCTION ☐ 1. SINGLE WALL ☐ 3. LINED TRENCH ☐ 99. OTHER	460	☐ 1. SINGLE WALL ☒ 95. UNKNOWN	462
MANUFACTURER ☐ 2. DOUBLE WALL ☒ 95. UNKNOWN		☐ 2. DOUBLE WALL ☐ 99. OTHER	
MANUFACTURER	461	MANUFACTURER	463
☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE w/100% METHANOL		☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL	
☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☒ Unknown		☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL	
☐ 3. PLASTIC COMPATIBLE W/ CONTENTS ☐ 99. Other		☐ 3. PLASTIC COMPATIBLE W/ CONTENTS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER	
☐ 4. FIBERGLASS ☐ 8. FLEXIBLE (HDPE)		☐ 4. FIBERGLASS ☐ 9. CATHODIC PROTECTION	
☐ 5. STEEL W/COATING ☐ 9. CATHODIC PROTECTION	464	☐ 5. STEEL W/COATING ☒ 95. UNKNOWN	465

VII. PIPING LEAK DETECTION (Check all that apply) (A description of the monitoring program shall be submitted to the local agency.)

UNDERGROUND PIPING	ABOVEGROUND PIPING
SINGLE WALL PIPING 466	**SINGLE WALL PIPING** 467
PRESSURIZED PIPING (Check all that apply):	PRESSURIZED PIPING (Check all that apply):
☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.	☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.
☐ 2. MONTHLY 0.2 GPH TEST	☐ 2. MONTHLY 0.2 GPH TEST
☐ 3. ANNUAL INTEGRITY TEST (0.1GPH)	☐ 3. ANNUAL INTEGRITY TEST (0.1GPH)
	☐ 4. DAILY VISUAL CHECK
CONVENTIONAL SUCTION SYSTEMS	CONVENTIONAL SUCTION SYSTEMS (Check all that apply)
☐ 5. DAILY VISUAL MONITORING OF PUMPING SYSTEM + TRIENNIAL PIPING INTEGRITY TEST (0.1 GPH)	☐ 5. DAILY VISUAL MONITORING OF PIPING AND PUMPING SYSTEM
	☐ 6. TRIENNIAL INTEGRITY TEST (0.1 GPH)
SAFE SUCTION SYSTEMS (NO VALUES IN BELOW GROUNDPIPING):	SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):
☐ 7. SELF MONITORING	☐ 7. SELF MONITORING
GRAVITY FLOW	GRAVITY FLOW (Check all that apply):
☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)	☐ 8. DAILY VISUAL MONITORING
	☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)
SECONDARILY CONTAINED PIPING	**SECONDARILY CONTAINED PIPING**
PRESSURIZED PIPING (Check all that apply):	PRESSURIZED PIPING (Check all that apply):
10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)	10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS	☐ a AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION	☐ b AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
☐ c. NO AUTO PUMP SHUT OFF	☐ c NO AUTO PUMP SHUT OFF
☐ 11. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITH FLOW SHUT OFF OR RESTRICTION	☐ 11. AUTOMATIC LEAK DETECTOR
☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)	☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)
SUCTION/GRAVITY SYSTEM	SUCTION/GRAVITY SYSTEM
☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS	☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS
EMERGENCY GENERATORS ONLY (Check all that apply)	EMERGENCY GENERATORS ONLY (Check all that apply)
☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF + AUDIBLE AND VISUAL ALARMS	☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF + AUDIBLE AND VISUAL ALARMS
☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITHOUT FLOW SHUT OFF OR RESTRICTION	☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST)
☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)	☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)
☐ 17. DAILY VISUAL CHECK	☐ 17. DAILY VISUAL CHECK

VIII. DISPENSER CONTAINMENT

DISPENSER CONTAINMENT
DATE INSTALLED 468

☐ 1. FLOAT MECHANISM THAT SHUTS OFF SHEAR VALVE
☐ 2. CONTINUOUS DISPENSER PAN SENSOR + AUDIBLE AND VISUAL ALARMS
☐ 3. CONTINUOUS DISPENSER PAN SENSOR WITH AUTO SHUT OFF FOR DISPENSER + AUDIBLE AND VISUAL ALARMS
☐ 4. DAILY VISUAL CHECK
☐ 5. TRENCH LINER / MONITORING
☐ 6. NONE 469

IX. OWNER/OPERATOR SIGNATURE

I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF OWNER/OPERATOR		DATE	
for Mike Kim		2/11/04	470
NAME OF OWNER/OPERATOR (print)	471	TITLE OF OWNER/OPERATOR	472
Mike Kim, Pulte Homes			

Permit Number (For local use only)	473	Permit Approved (For local use only)	474	Permit Expiration Date (For local use only)	475

Formerly SWRCB Form B

(Note: the numbering of the instructions follows the data element numbers that are on the UPCF pages. These data element numbers are used for electronic submission and are the same as the numbering used in 27 CCR, Appendix C, the Business Section of the Unified Program Data Dictionary.)

Please number all pages of your submittal. This helps your CUPA or local agency identify whether the submittal is complete and if any pages are separated.

458. PIPING SYSTEM TYPE (UNDERGROUND) -
459. PIPING SYSTEM TYPE (ABOVEGROUND)

For items 458 and 459, check the tank's piping system information. CHECK ALL THAT APPLY.

460. PIPING CONSTRUCTION (UNDERGROUND) - Check the tank's piping construction information. CHECK ALL THAT APPLY.

461. PIPING MANUFACTURER (UNDERGROUND) - Enter the name of the piping manufacturer.

462. PIPING CONSTRUCTION (ABOVEGROUND) - Check the tank's piping construction information. CHECK ALL THAT APPLY.

463. PIPING MANUFACTURER (ABOVEGROUND) - Enter the name of the piping manufacturer.

464. PIPING MATERIAL AND CORROSION PROTECTION (UNDERGROUND) -
465. PIPING MATERIAL AND CORROSION PROTECTION (ABOVEGROUND)

For items 464 and 465, check the tank's piping material and corrosion protection.

466. PIPING LEAK DETECTION (UNDERGROUND) -
467. PIPING LEAK DETECTION (ABOVEGROUND)

For items 466 and 467, check the leak detection system(s) used to comply with the monitoring requirements for the piping.

468. DATE DISPENSER CONTAINMENT INSTALLED - If applicable, enter the date that dispenser containment was installed.

469. DISPENSER CONTAINMENT TYPE - Check the type of dispenser containment monitoring system.

SIGNATURE OF OWNER/OPERATOR - The owner or agent of the owner shall sign in the space provided. This signature certifies that the signer believes that all the information submitted is true and accurate.

470. DATE CERTIFIED - Enter the date the page was signed.

471. OWNER/ OPERATOR NAME - Print the name of signatory.

472. OWNER/ OPERATOR TITLE - Enter the title of the person signing the page.

473. PERMIT NUMBER - Leave this blank, this number is assigned by the CUPA.

474. PERMIT APPROVED BY - Leave this blank, this is the name of the person approving the permit.

475. PERMIT EXPIRATION DATE - Leave this blank, this is completed by the CUPA.

GEOMATRIX

SITE SPECIFIC HEALTH AND SAFETY PLAN

Approvals		
	Initials	Date
Prepared By	JLP	2/11/04
Approved By		

PROJECT INFORMATION

Date(s) of Field Work: *February 16, 2004*
Project Name: *Fabco* Project Number: *8367.001*
Client: *Pulte Home Corporation* Site Phone: *NA*
Site Address: *1249 67th Street* ☒ Site Plan Attached
Scope of Work: *UST Removal*

Type of Project: ☒Environmental; ☐Geotechnical; ☐Industrial Process; ☐Other: _____
☒HAZWOPER Project: Training & Medical Surveillance must conform to 29 CFR 1910.120 & Geomatrix Guidelines.
☐Client Specific Requirements (Attached)

KEY CONTACTS

Project Manager: *Jennifer Patterson*	Phone: *510-663-4167*	Cell: *510-821-8925*
Project H&S Manager: *Jennifer Patterson*	Phone: *510-663-4167*	Cell: *510-821-8925*
Site H&S Manager: *Sarah Mearon*	Phone: *510-663-4121*	Cell: *510-332-5660*
Client Contact: *Mike Kim*	Phone: *925-249-3280*	Cell: *925-383-2336*
Client's Site Contact: *Mike Kim*	Phone: *925-249-3280*	Cell: *925-383-2336*
Other: _____	Phone: _____	Cell: _____
Other: _____		

Emergency Medical Facility: *Kaiser Foundation Hospital*
Address: *280 W. MacArthur Blvd, Oakland, CA*
Phone Number (general): *510-752-1000* Phone Number (emergency): _____
☐Emergency Medical Facility Confirmed ☒Map to the hospital is attached

Police: 911 Fire: 911 Paramedic/Ambulance: 911
Poison Control Center: *1-800-222-1222*

EMERGENCY PROCEDURES

Medical Emergencies

1. Remove injured or exposed person(s) from immediate danger if possible.
2. Evacuate other on-site personnel to a safe place in an upwind direction until it is safe for work to resume.
3. If serious injury or life-threatening condition exists, call 911 - Paramedics, fire department, police Hospital emergency room Clearly describe location, injury and conditions to dispatcher/hospital. Designate a person to direct emergency equipment to the injured person(s).
4. Provide first aid if necessary. Remove contaminated clothing only if this can be done without endangering the injured person.
5. Call the project manager and/or project health and safety officer.
6. Immediately implement steps to prevent recurrence of the accident.

Accidental Release of Hazardous Materials or Wastes

1. Evacuate all on-site personnel to a safe place in an upwind direction until the PM or PHSO determines that it is safe for work to resume.
2. Immediately instruct a designated person to contact the PM or PHSO.
3. Contain spill, if it is possible and it can be done safely.
4. Initiate cleanup.

General Emergencies

In the case of fire, flood, explosion, or other hazard, work shall be halted and the local police/ fire department shall be notified by calling 911. All on-site personnel will be immediately evacuated to a safe place.

Emergency Equipment Onsite

☒First Aid Kit; ☒Fire Extinguisher; ☐Eye Wash; ☐Other: _____

CHEMICAL HAZARDS

CHEMICAL	EXPOSURE LIMITS		KNOWN/EXPECTED CONCENTRATIONS	HEALTH HAZARDS
	OSHA	ACGIH		
Gasoline	Pel: none (300 ppm)	TWA: 300 ppm STEL: 500 ppm	Unknown	Inhalation, dermal
Benzene	Pel: 1 ppm	TLV: 0.3 ppm	Unknown	Inhalation, dermal
Toluene	Pel: 50 ppm	TLV: 100 ppm	Unknown	Inhalation, dermal
Ethyl Benzene	Pel: 100 ppm	TLV: 100 ppm	Unknown	Inhalation, dermal
Xylenes	Pel: 100 ppm	TLV: 100 ppm	Unknown	Inhalation, dermal
Diesel	Pel: none	TLV: 100 mg/m^3	Soil: 240 mg/kg	Inhalation, dermal
Motor Oil			Soil: 350 mg/kg	Inhalation, dermal
PAHs	Various	Various	Soil: Up to 0.47 mg/kg	Inhalation, dermal
Cis-1,2-DCE			Water: 2.6 µg/l	Inhalation, dermal
Trans-1,2-DCE	Pel: 200 ppm	TLV: 200 ppm	Water: 2.9 µg/l	Inhalation, dermal
TCE	Pel: 100 ppm	TLV: 50 ppm	Water: 62 µg/l	Inhalation, dermal
MTBE	Pel: none	TLV: 40 ppm	Water: 1.4 µg/l	Inhalation, dermal

PHYSICAL HAZARDS:

☐ Heat Stress ☐ Cold Stress ☐ Wet ☒ Noise
☒ Slip, Trip, & Fall ☒ Heavy Equipment ☒ Electrical Hazards
☒ Underground Hazards: One Call Ticket # _____ Date Called: *Contractor to contact USA*
☐ Private Locator Utilized: _____ ☐ Overhead Hazards
☐ Traffic ☒ Excavations/Trenching ☐ Confined Space
☐ Other: _____

Excavation entrance requirements:

1. *If excavation is 4-feet or greater there must be a means of egress within 25-feet of the person.*
2. *If excavation is 5-feet or less, the person may enter as long as a competent person provides no indication of a potential cave-in.*
3. *Deeper excavations will require shoring or benching.*
4. *The atmosphere of the excavation will be checked for oxygen and contaminants.*

BIOLOGICAL HAZARDS:

☐ Pathogens: _____ ☐ Mold: _____
☐ Plants: _____ ☐ Insects: _____
☐ Other Fauna: _____ ☐ Other: _____

SITE CONTROLS: *Site is a construction site and is surrounded by a fence.*

PERSONAL DECONTAMINATION PROCEDURES: *Remove disposable gloves and clothing and place in plastic bags. Wash hands before eating, drinking, or smoking and at end of day.*

PERSONAL PROTECTIVE EQUIPMENT – R = REQUIRED, A = HAVE AVAILABLE

R Eye Protection: ***R*** Safety Glasses; __ Splash Goggles; __ Face Shield; __ Other: _____
R Hard Hat ***R*** Steel-Toed Boots __ Chemical Resistant Boots
R Traffic Safety Vest __ Hearing Protection: _____
__ Protective Clothing: ☐ Tyvek®; ☐ Coated Tyvek®; ☐ Sarinex; ☐ Other: _____
R Gloves: ☒ Nitrile; ☐ PVC; ☐ Neoprene; ☐ cloth/leather; ☐ Other _____
A Respiratory: ☐ Full-Face APR; ☒ Half-Face APR
A Filter: ☒ Organic Vapor; ☐ Acid Gas; ☐ HEPA; ☐ Other: _____

__ Other: _____

If air monitoring in the workers' breathing zone exceeds *10* for 60 seconds or longer, upgrade to Level C (APR) or vacate the immediate area.

MONITORING EQUIPMENT

- ☒ Photo Ionization Detector with *10.2* eV lamp
- ☒ Combustible Gas Indicator
- ☐ Detector Tube (Brand: _____) – Tubes: _____
- ☐ Hydrogen Sulfide Meter
- ☐ Passive Dosimeter _____
- ☐ Air Sampling Pump – Filter Media: _____
- ☐ Other: _____
- ☐ Flame Ionization Detector
- ☐ Oxygen Meter

Frequency of monitoring: *Intermittent*

GEOMATRIX

TAILGATE SAFETY MEETING

Date:

Project Name:

Project Number:

Site Location:

Scope of Work for Day:

Lead By:

Name (printed)	Signature

EXPLANATION

- Previous soil and groundwater boring location
- Previous boring location
- EBMUD soil sampling location
- Soil and groundwater boring location
- Soil boring location
- Groundwater location

Approximate tank location

0 — 50
SCALE IN FEET

Note:
Aerial photograph from Pacific Aerial Surveys; Proposed development plans from Pulte Home Corporation.

EBMUD SOIL SAMPLING LOCATIONS
1249 67th Street
Emeryville, California

GEOMATRIX

Project No.	Figure
8367.001	2

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5554 MARLON MAGALLANES/FRANK COBB (510) 670-5783
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT
1349 67th St
Emeryville CA

CLIENT
Name Pulte Homes
Address 7031 Koll Center Pkwy #150 Phone 925-749-3200
City Pleasanton Zip 94566

APPLICANT
Name Geomatrix Consultants Inc. Fax 510-663-4141
Address 2101 Webster St 12th Floor Phone 510-663-4100
City Oakland Zip 94612

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	( )	General	( )
Water Supply	( )	Contamination	(X)
Monitoring	( )	Well Destruction	( )

PROPOSED WATER SUPPLY WELL USE

New Domestic	( )	Replacement Domestic	( )
Municipal	( )	Irrigation	( )
Industrial	( )	Other _____	( )

DRILLING METHOD:

Mud Rotary	( )	Air Rotary	( )	Auger	( )
Cable	( )	Other	direct push		

DRILLER'S NAME Regional Soils International
DRILLER'S LICENSE NO. 802334

WELL PROJECTS
Drill Hole Diameter 1 in. Maximum
Casing Diameter ____ in. Depth 15 ft.
Surface Seal Depth ____ ft. Owner's Well Number GMW-1 thru GMW-4

GEOTECHNICAL PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

ESTIMATED STARTING DATE 3/12/04
ESTIMATED COMPLETION DATE 3/15/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 3/9/04
PLEASE PRINT NAME Jennifer L. Patterson

Rev. 5-13-00

FOR OFFICE USE
PERMIT NUMBER W04-0216
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources- Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL (Contamination)
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with cuttings placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS BH 1

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 3-10-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD, CA. 94544-1395
PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

PERMIT NO. W04-0216

WATER RESOURCES SECTION
GROUNDWATER PROTECTION ORDINANCE
B#1-GENERAL CONDITIONS: GEOTECHNICAL & CONTAMINATION BOREHOLES

1. Prior to any drilling activities shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that Federal, State, County or to the City and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.

2. Boreholes shall not be left open for a period of more than **24 hours**. All borcholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borchole(s) shall be left in a manner to act as a conduit at any time.

3. Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

4. Permit is valid only for the purpose specified herein **March 12 to March 15, 2004.** No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

5. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

6. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939

2-page fax

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1249 67th Street, Oakland

CLIENT
Name Ruhe Homes
Address 7031 Koll Center Pkwy Phone 925-249-3819
City Pleasanton Zip 94566

APPLICANT
Name Geomatrix Consultants Fax 510-663-4141
Address 2101 Webster St, 12th Floor Phone 510-663-4100
City Oakland Zip 94612

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☒
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE NA

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☒ CPT		

DRILLER'S NAME Gregg Drilling & Testing, Inc.

DRILLER'S LICENSE NO. C-57 485165

WELL PROJECTS NA
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth ____ ft.
Surface Seal Depth ____ ft. Owner's Well Number ____

GEOTECHNICAL PROJECTS -CP1-CP-2
Number of Borings 2 Maximum
Hole Diameter 2 in. Depth 50 ft.

STARTING DATE Monday, March 22/04
COMPLETION DATE Monday, March 22/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Sarah Mearns for Geomatrix DATE 03/17/04
PLEASE PRINT NAME Sarah Mearns for Geomatrix

Rev.9-18-02

FOR OFFICE USE

PERMIT NUMBER W04-0260
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS B-1

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 3-19-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD, CA. 94544-1395
PHONE (510) 670-6633 James You FAX (510) 782-1939

PERMIT NO. W04-0260

WATER RESOURCES SECTION
GROUNDWATER PROTECTION ORDINANCE
B#1-GENERAL CONDITIONS: GEOTECHNICAL & CONTAMINATION BOREHOLES

1. Prior to any drilling activities shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that Federal, State, County or to the City and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

4. Permit is valid only for the purpose specified herein **March 22 to March 22, 2004**. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

5. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

6. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

GEOMATRIX

APPENDIX B

Waste Manifests

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-99)
Please print or type. *Form designed for use on elite (12-pitch) typewriter.*

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CAL000276495	92094		

23392094

GENERATOR

3. Generator's Name and Mailing Address
Pulte Homes
7031 Knoll Center Parkway #150
Pleasanton, Ca 94566

A. State Manifest Document Number: 23392094

4. Generator's Phone: 925 249-3200

B. State Generator's ID:

5. Transporter 1 Company Name: AMERICAN VALLEY WASTE OIL

6. US EPA ID Number: CAL000082787 8

C. State Transporter's ID [Reserved.]:

D. Transporter's Phone: 800-732-4645

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID [Reserved.]:

F. Transporter's Phone:

9. Designated Facility Name and Site Address
RIVERBANK OIL TRANSFER
5300 CLAUS ROAD
RIVERBANK, CA 95367

10. US EPA ID Number: CAL000190816

G. State Facility's ID: CAL000190816

H. Facility's Phone: 209-863-8181

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. NON-RCRA HAZARDOUS WASTE LIQUID (OILY WATER)	001	TT	01400	G	State 221 / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above: OILY WATER

K. Handling Codes for Wastes Listed Above: a. 01 b. c. d.

15. Special Handling Instructions and Additional Information
GLOVES
EMERGENCY PHONE 209-887-8857
SITE: 1249 67th.
Emeryville CA 94621

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Gary Marshall	Gary Marshall	01	27	04

TRANSPORTER

17. Transporter Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
EDDIE GARCIA		01	27	04

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Ron Fenton		01	27	04

DO NOT WRITE BELOW THIS LINE.

Yellow: TSDF SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS. (Generators who submit hazardous waste for transport out-of-state, produce completed copy of this copy and send to DTSC within 30 days.)

DTSC 8022A (1/99)
EPA 8700—22

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802: WITHIN CALIFORNIA, CALL 1-800-852-7550

23392094

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-99)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

22800265 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CA1100012716N915
Manifest Document No. 01165
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Pulte Homes #150 7031 Koll Center Pkwy Pleasanton CA 94566
A. State Manifest Document Number: **22800265**
B. State Generator's ID
4. Generator's Phone ( ) 925-249-3200

5. Transporter 1 Company Name: Ecology Control Industries
6. US EPA ID Number: CAD982030173
C. State Transporter's ID [Reserved.]
D. Transporter's Phone: 510-235-1393

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID [Reserved.]
F. Transporter's Phone

9. Designated Facility Name and Site Address: Ecology Control Industries 255 PARR BLVD. RICHMOND, CA 94801
10. US EPA ID Number: CAD009466392
G. State Facility's ID
H. Facility's Phone: 510-235-1393

GENERATOR

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. NON RCRA HAZARDOUS WASTE SOLID (EMPTY STORAGE TANK)	001	TP	01000	P	State 512 EPA/Other NONE
b. 1 of 11					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
QTY. 1 EMPTY STORAGE TANK # 3/4/14 TANKS HAVE BEEN INERTED WITH 15 LBS DRY ICE PER 1000 GALLONS CAPACITY 52T1046

K. Handling Codes for Wastes Listed Above
a. 01 b. c. d.

15. Special Handling Instructions and Additional Information
Wear proper protective equipment while handling. Weights or volumes are approximate.
24 hour emergancy number: 925 249 3200 SITE ADDRESS: 45TH ST EMERYVILLE
24 hour emergency contact: Tom ECI JIN

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Tom Hoban | Signature: Tom Hoban | Month 03 Day 03 Year 04

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Melvin Allard | Signature: [signature] | Month 03 Day 03 Year 04

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: James Wilcox | Signature: James Wilcox | Month 03 Day 03 Year 04

DO NOT WRITE BELOW THIS LINE.

Yellow: TSDF SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS. (Generators who submit hazardous waste for transport out-of-state, produce completed copy of this copy and send to DTSC within 30 days.)

DTSC 8022A (1/99)
EPA 8700—22

REPUBLIC SERVICES, INC.

West Contra Costa County Landfill

NON-HAZARDOUS WASTE MANIFEST

GENERATOR INFORMATION

Generator Name: Pulte Homes
Address: 7031 Koll Center Parkway
City: Pleasanton County: Alameda
State: CA Zip: 94566
Site Location: 1249 67th St., Oakland

CUSTOMER/BILLING INFORMATION

Billing Name: R&B Equipment
Address: 2215 Dunn Rd.
City: Hayward County: Alameda
State: CA Zip: 94545

Republic Services Approval Number	Description of Waste	Volume or Weight	Expiration Date	Container Type
1002468	Soil / Cover	350 Ton(s)	5/24/2004	

Disposal Instructions

Use as cover ONLY. No free liquids or debris. Moisture content MUST be < 50%.

The above Disposal Instructions are a requirement of Republic Services, Inc., for management of the profiled material. The approval is based upon a review of information provided by the generator and is contingent upon the receipt at the disposal facility of a waste material essentially equivalent in chemical and physical characteristics and properties to that profiled.

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR 261 or any applicable state law. Further, that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Mike Kim — Signature for Mike Kim — 3-3-04

Generator/Authorized Agent Name — Signature — Date Shipped

TRANSPORTER INFORMATION

Transporter Name:
Address:
DOT Number:
Truck Number:
Phone Number:

I certify no hazardous waste or other regulated substance was knowingly introduced to the waste while in my custody. The waste transported in this vehicle is the waste identified above, to the best of my knowledge.

Name of Authorized Agent — Signature — Date Delivered

DISPOSAL SITE INFORMATION

Site Name: WCCC LF
Address: Foot of Parr Boulevard
Richmond, CA 94801
Phone Number: (510) 231-4156
Fax Number: (510) 231-4153

I hereby acknowledge receipt of the above described materials.

Ronald P. Pronti — Signature — 2-27-04

Name (Print or Type) — Signature — Date Received

GEOMATRIX

APPENDIX C

Lithologic and CPT Logs

GEOMATRIX

1249 67th Street Emeryville, CA	**Log of Boring No. S-1**
BORING LOCATION: ~ 10 feet South west of excavation	**DATE STARTED:** 3/11/2004 **DATE FINISHED:** 3/12/2004
DRILLING CONTRACTOR: Resonant Sonic International	**ELEVATION AND DATUM (FMSL)** Ground Surface
DRILLING METHOD: Direct Push **SIZE:**	**BORING TOTAL DEPTH:** 16 feet **FINAL STATUS:** Borehole Destroyed
DRILLING EQUIPMENT: Geoprobe 5400 **BIT TYPE:**	**DEPTH TO WATER** **FIRST** **COMPL.** 7.3 **24 HR.**
SAMPLING METHOD: Continuous Core	**LOGGED BY:** T Kinglsey
SAMPLER TYPE: Geoprobe Macro-Core Sampler (4' x 1.5")	**RESPONSIBLE PROFESSIONAL:** J. Patterson **REG. NO.:** C59161

DEPTH (feet)	Sample	Sample No.	Blows/ foot	OVM (ppm)	USCS	DESCRIPTION NAME: color, moisture, % by weight, plasticity, consistency, structure, cementation, reaction w/HCl, geologic interpretation	REMARKS
0					CL	LEAN CLAY with SAND: black (2.5Y 2.5/1), moist, ~85% fines, ~15% fine sand, medium plasticity, firm.	OVM = Thermo Environmental Instruments 580B PID calibrated with 100 ppm isobutylene standard.
1							
2					CL	LEAN CLAY: dark olive gray (5Y 3/2), moist, ~90% fines, ~10% fine sand, medium plasticity, soft.	
3						black (2.5Y 2.5/1).	
4				0.0		black (2.5Y 2.5/1), ~85% fines, ~15% angular fine to coarse sand.	
5							
6							
7					SC	CLAYEY SAND: very dark gray (10YR 3/1), moist, ~85% fine to coarse sand, ~15% low plasticity fines.	
8				0.0		increase coarse sand fraction.	
9						dark greenish gray (GLEY1 10Y 3/1), moist, ~75% angular fine to coarse sand, ~20% low plasticity fines, ~5% angular gravel.	
10							
11						brownish yellow (10YR 6/8), moist, ~75% angular fine to coarse sand, ~20% low plasticity fines, ~5% angular gravel.	Grab groundwater sample S-1 collected through 5 feet of 3/4-inch OD Sch. 40 PVC screen (0.020-inch slot size) placed in the borehole from 2 to 7 ft bgs. Enviro-core drive casing retracted from bottom of the boring to 3 ft bgs to maintain surface seal.
12				0.0	CL	LEAN CLAY with SAND: yellowish brown (10YR 5/6), moist, ~85% fines, ~15% angular fine to coarse sand, contains fine gravel, medium plasticity, firm.	
13							
14							
15							
16				0.0		Bottom of Boring @ 16 feet.	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
17							
18							
19							

GEOMATRIX

1249 67th Street Emeryville, CA	**Log of Boring No. S-2**
BORING LOCATION: ~ 20 feet South west of excavation	**DATE STARTED:** 3/11/2004 **DATE FINISHED:** 3/12/2004
DRILLING CONTRACTOR: Resonant Sonic International	**ELEVATION AND DATUM (FMSL)** Ground Surface
DRILLING METHOD: Direct Push **SIZE:**	**BORING TOTAL DEPTH:** 18 feet **FINAL STATUS:** Borehole Destroyed
DRILLING EQUIPMENT: Geoprobe 5400 **BIT TYPE:**	**DEPTH TO WATER** FIRST 10.5 COMPL. 9.36 24 HR.
SAMPLING METHOD: Continuous Core	**LOGGED BY:** T Kinglsey
SAMPLER TYPE: Geoprobe Macro-Core Sampler (4' x 1.5")	**RESPONSIBLE PROFESSIONAL:** J. Patterson **REG. NO.:** C59161

DEPTH (feet)	Sample	Sample No.	Blows/ foot	OVM (ppm)	USCS	DESCRIPTION NAME: color, moisture, % by weight, plasticity, consistency, structure, cementation, reaction w/HCl, geologic interpretation	REMARKS
0–1					SC	CLAYEY SAND: dark yellowish brown (10YR 4/6), moist, ~75% fine to medium sand, ~25% low plasticity fines.	OVM = Thermo Environmental Instruments 580B PID calibrated with 100 ppm isobutylene standard.
1–3	X				CL	LEAN CLAY with SAND: light olive brown (2.5Y 5/4), moist, ~80% fines, ~20% fine sand, trace coarse sand, low plasticity, soft, high dry strength.	
3–4				0.0			
4–7					SC	CLAYEY SAND: dark olive brown (2.5Y 3/3), moist, ~80% fine to coarse sand, 20% low plasticity fines, trace angular fine gravels.	
7–8	X						
8–9				0.0		greenish black (GLEY1 5GY 2.5/1), moist, ~60% fine to coarse sand, ~40% low plasticity fines, trace angular fine gravels.	
9–11							
11–12	X					light olive brown (2.5Y 5/4), wet, ~70% fine to coarse sand, ~30% low plasticity fines, trace angular fine gravels, iron oxide mottling.	
12–13				0.0			
13–16						light olive brown (2.5Y 5/4), moist, ~75% fine sand, ~25% low plasticity fines, trace angular fine gravel.	Grab groundwater sample S-2 collected through 5 feet of 3/4-inch OD Sch. 40 PVC screen (0.020-inch slot size) placed in the borehole from 2 to 7 ft bgs. Enviro-core drive casing retracted from bottom of the boring to 3 ft bgs to maintain surface seal.
16–17				0.0			
17–18							Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
18				0.0		Bottom of Boring @ 18 feet.	
18–19							

GEOMATRIX

1249 67th Street Emeryville, CA	**Log of Boring No. S-3**
BORING LOCATION: ~ 15 feet South west of excavation	**DATE STARTED:** 3/11/2004 **DATE FINISHED:** 3/12/2004
DRILLING CONTRACTOR: Resonant Sonic International	**ELEVATION AND DATUM (FMSL)** Ground Surface
DRILLING METHOD: Direct Push **SIZE:**	**BORING TOTAL DEPTH:** 18 feet **FINAL STATUS:** Borehole Destroyed
DRILLING EQUIPMENT: Geoprobe 5400 **BIT TYPE:**	**DEPTH TO WATER** FIRST 8.25 COMPL. 15.95 24 HR.
SAMPLING METHOD: Continuous Core	**LOGGED BY:** T Kinglsey
SAMPLER TYPE: Geoprobe Macro-Core Sampler (4' x 1.5")	**RESPONSIBLE PROFESSIONAL:** J. Patterson **REG. NO.:** C59161

DEPTH (feet)	Sample	Sample No.	Blows/ foot	OVM (ppm)	USCS	DESCRIPTION NAME: color, moisture, % by weight, plasticity, consistency, structure, cementation, reaction w/HCl, geologic interpretation	REMARKS
0					CL	LEAN CLAY with SAND: black (2.5Y 2.5/1), moist, ~80% fines, ~20% fine sand, trace angular gravel, medium plasticity, firm.	OVM = Thermo Environmental Instruments 580B PID calibrated with 100 ppm isobutylene standard.
1							
2							
3						dark olive gray (5Y 3/2), moist, ~90% fines, ~10% fine to coarse sand, trace gravel, medium plasticity, soft, high dry strength.	
4				0.0			
5							
6							
7							
8				0.0	SC	CLAYEY SAND: brown (10YR 4/3), wet, ~80% fine to coarse sand, ~20% low plasticity fines, trace gravel, iron oxide mottling.	
9							
10						olive (5Y 5/4), moist, ~80% fine sand, ~20% medium plasticity fines, trace medium to coarse sand.	
11							
12				0.0	SP-SC	POORLY GRADED SAND with CLAY: light olive brown (2.5Y 5/4), wet, ~90% fine to coarse sand, ~10% medium plasticity fines, trace angular fine gravels, iron oxide mottling.	
13							Grab groundwater sample S-3 collected through 5 feet of 3/4-inch OD Sch. 40 PVC screen (0.020-inch slot size) placed in the borehole from 2 to 7 ft bgs. Enviro-core drive casing retracted from bottom of the boring to 3 ft bgs to maintain surface seal.
14						increase coarse sand fraction.	
15							
16				0.0		light olive brown (2.5Y 5/4), wet, ~75% fine to coarse sand, ~15% fine angular gravel,~10% low plasticity fines, iron oxide mottling.	
17					SC	CLAYEY SAND: brown (10YR 4/3), wet, ~60% fine sand, ~ 40% medium plasticity fines, trace gravels.	
18				0.0		Bottom of Boring @ 18 feet.	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
19							

GEOMATRIX

1249 67th Street Emeryville, CA	**Log of Boring No. S-4**
BORING LOCATION: ~ 40 feet South west of excavation	**DATE STARTED:** 3/11/2004 **DATE FINISHED:** 3/12/2004
DRILLING CONTRACTOR: Resonant Sonic International	**ELEVATION AND DATUM (FMSL)** Ground Surface
DRILLING METHOD: Direct Push **SIZE:**	**BORING TOTAL DEPTH:** 16 feet **FINAL STATUS:** Borehole Destroyed
DRILLING EQUIPMENT: Geoprobe 5400 **BIT TYPE:**	**DEPTH TO WATER** **FIRST** 8.0 **COMPL.** 7.26 **24 HR.**
SAMPLING METHOD: Continuous Core	**LOGGED BY:** T Kinglsey
SAMPLER TYPE: Geoprobe Macro-Core Sampler (4' x 1.5")	**RESPONSIBLE PROFESSIONAL:** J. Patterson **REG. NO.:** C59161

DEPTH (feet)	Sample	Sample No.	Blows/ foot	OVM (ppm)	USCS	DESCRIPTION NAME: color, moisture, % by weight, plasticity, consistency, structure, cementation, reaction w/HCl, geologic interpretation	REMARKS
0					CL	LEAN CLAY with SAND: black (2.5Y 2.5/1), moist, ~80% fines, ~20% fine sand, trace angular gravel, medium plasticity, firm.	OVM = Thermo Environmental Instruments 580B PID calibrated with 100 ppm isobutylene standard.
4				0.0		black (2.5Y 2.5/1), moist, ~75% fines, ~25% fine sand, low plasticity, soft.	
7					SC	CLAYEY SAND: very dark grayish brown (2.5Y 3/2), moist, ~60% fine with trace coarse sand, ~40% low plasticity fines, trace angular fine gravel.	
8				0.0		very dark grayish brown (2.5Y 3/2), wet	
10						black (2.5Y 2.5/1), moist	
11						dark yellowish brown (10YR 4/6), ~70% fine to coarse sand, ~30% low plasticity fines, trace angular fine gravel, iron oxide mottling.	Grab groundwater sample S-4 collected through 5 feet of 3/4-inch OD Sch. 40 PVC screen (0.020-inch slot size) placed in the borehole from 2 to 7 ft bgs. Enviro-core drive casing retracted from bottom of the boring to 3 feet bgs to maintain surface seal.
12				0.0		yellowish brown (10YR 5/6), ~80% sand, ~20% low plasticity fines, trace angular fine gravels.	
15						dark yellowish brown (10YR 4/4), ~80% fine with trace coarse sand, ~20% low plasticity fines, trace angular fine gravel.	
16				0.0		Bottom of Boring @ 16 feet.	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.

GREGG DRILLING AND TESTING, INC.
GREGG IN SITU, INC.
ENVIRONMENTAL AND GEOTECHNICAL INVESTIGATION SERVICES

April 1, 2004

Geomatrix
Attn: Sarah Mearon
2101 Webster Street, 12th Floor
Oakland, California

Subject: CPT Site Investigation
Fabco
Oakland, California
GREGG Project Number: 04-084ma

Dear Ms. Mearon:

The following report presents the results of GREGG IN SITU's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	X
2	Pore Pressure Dissipation Tests	(PPD)	X
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	Resistivity Cone Penetration Tests	(RCPTU)	☐
5	UVIF Cone Penetration Tests	(UVIFCPTU)	☐
6	Groundwater Sampling	(GWS)	X
7	Soil Sampling	(SS)	☐
8	Vapor Sampling	(VS)	☐
9	Vane Shear Testing	(VST)	☐
10	SPT Energy Calibration	(SPTE)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (562) 427-6899.

Sincerely,
GREGG IN SITU, Inc.

Mary Walden
Operations Manager

Bibliography

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Robertson, P.K., T. Lunne and J.J.M. Powell, "Geo-Environmental Application of Penetration Testing", Geotechnical Site Characterization, Robertson & Mayne (editors), 1998 Balkema, Rotterdam, ISBN 90 5410 939 4 pp 35-47.

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Woeller, D.J., P.K. Robertson, T.J. Boyd and Dave Thomas, "Detection of Polyaromatic Hydrocarbon Contaminants Using the UVIF-CPT", 53rd Canadian Geotechnical Conference Montreal, QC October pp. 733-739, 2000.

Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

Copies of ASTM Standards are available through www.astm.org

APPENDIX CPT

Cone Penetration Testing Procedure (CPT)

Gregg In Situ, Inc. carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*. The soundings were conducted using a 20 ton capacity cone with a tip area of 15 cm^2 and a friction sleeve area of 225 cm^2. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cone takes measurements of cone bearing (q_c), sleeve friction (f_s) and dynamic pore water pressure (u_2) at 5-cm intervals during penetration to provide a nearly continuous hydrogeologic log. CPT data reduction and interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored on disk for further analysis and reference. All CPT soundings are performed in accordance with revised (2002) ASTM standards (D 5778-95).

The cone also contains a porous filter element located directly behind the cone tip (u_2), *Figure CPT*. It consists of porous plastic and is 5.0mm thick. The filter element is used to obtain dynamic pore pressure as the cone is advanced as well as Pore Pressure Dissipation Tests (PPDT's) during appropriate pauses in penetration. It should be noted that prior to penetration, the element is fully saturated with silicon oil under vacuum pressure to ensure accurate and fast dissipation.

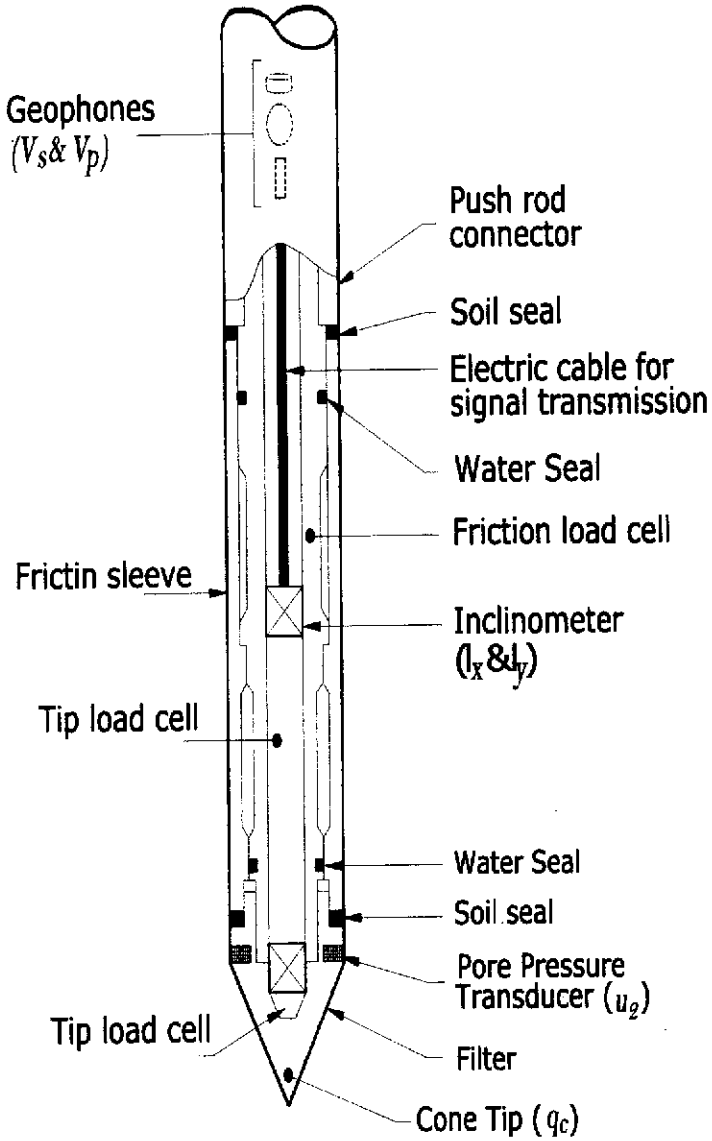


Figure CPT

When the soundings are complete, the test holes are grouted using a Gregg In Situ support rig. The grouting procedure consists of pushing a hollow CPT rod with a "knock out" plug to the termination depth of the test hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

Cone Penetration Test Data & Interpretation

Soil behavior type and stratigraphic interpretation is based on relationships between cone bearing (q_c), sleeve friction (f_s), and pore water pressure (u_2). The friction ratio (R_f) is a calculated parameter defined by $100 f_s/q_c$ and is used to infer soil behavior type. Generally:

Cohesive soils (clays)

- High friction ratio (R_f) due to small cone bearing (q_c)
- Generate large excess pore water pressures (u_2)

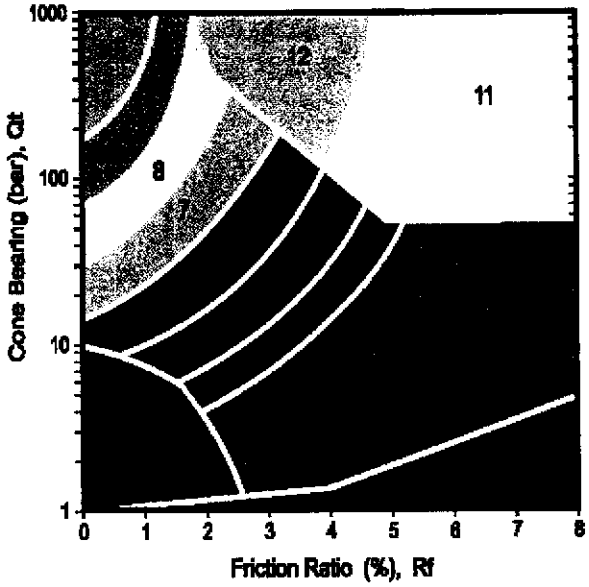
Cohesionless soils (sands)

- Low friction ratio (R_f) due to large cone bearing (q_c)
- Generate very little excess pore water pressures (u_2)

A complete set of baseline readings are taken prior to and at the completion of each sounding to determine temperature shifts and any zero load offsets. Corrections for temperature shifts and zero load offsets can be extremely important, especially when the recorded loads are relatively small. In sandy soils, however, these corrections are generally negligible.

The cone penetration test data collected from your site is presented in graphical form in Appendix CPT. The data includes CPT logs of measured soil parameters, computer calculations of interpreted soil behavior types (SBT), and additional geotechnical parameters. A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Soil interpretation for this project was conducted using recent correlations developed by Robertson et al, 1990, *Figure SBT*. Note that it is not always possible to clearly identify a soil type based solely on q_c, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type.



ZONE	Qt/N	SBT
1	2	Sensitive, fine greained
2	1	Organic materials
3	1	Clay
4	1.5	Silty clay to clay
5	2	Clayey silt to silty clay
6	2.5	Sandy silt to clayey silt
7	3	Silty sand to sandy silt
8	4	Sand to silty sand
9	5	Sand
10	6	Gravely sand to sand
11	1	Very stiff fine grained*
12	2	Sand to clayey sand*

*over consolidated or cemented

Figure SBT

GREGG DRILLING AND TESTING, INC.
GREGG IN SITU, INC.
ENVIRONMENTAL AND GEOTECHNICAL INVESTIGATION SERVICES

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (Feet)	Number of Groundwater Samples	Number of Soil Samples	Depth of Pore Pressure Dissipation Tests
CPT-01	3/25/04	50	1	NA	41
CPT-02	3/25/04	47	1 (No Recovery)	NA	47
CPT-03	3/25/04	50	1	NA	NA

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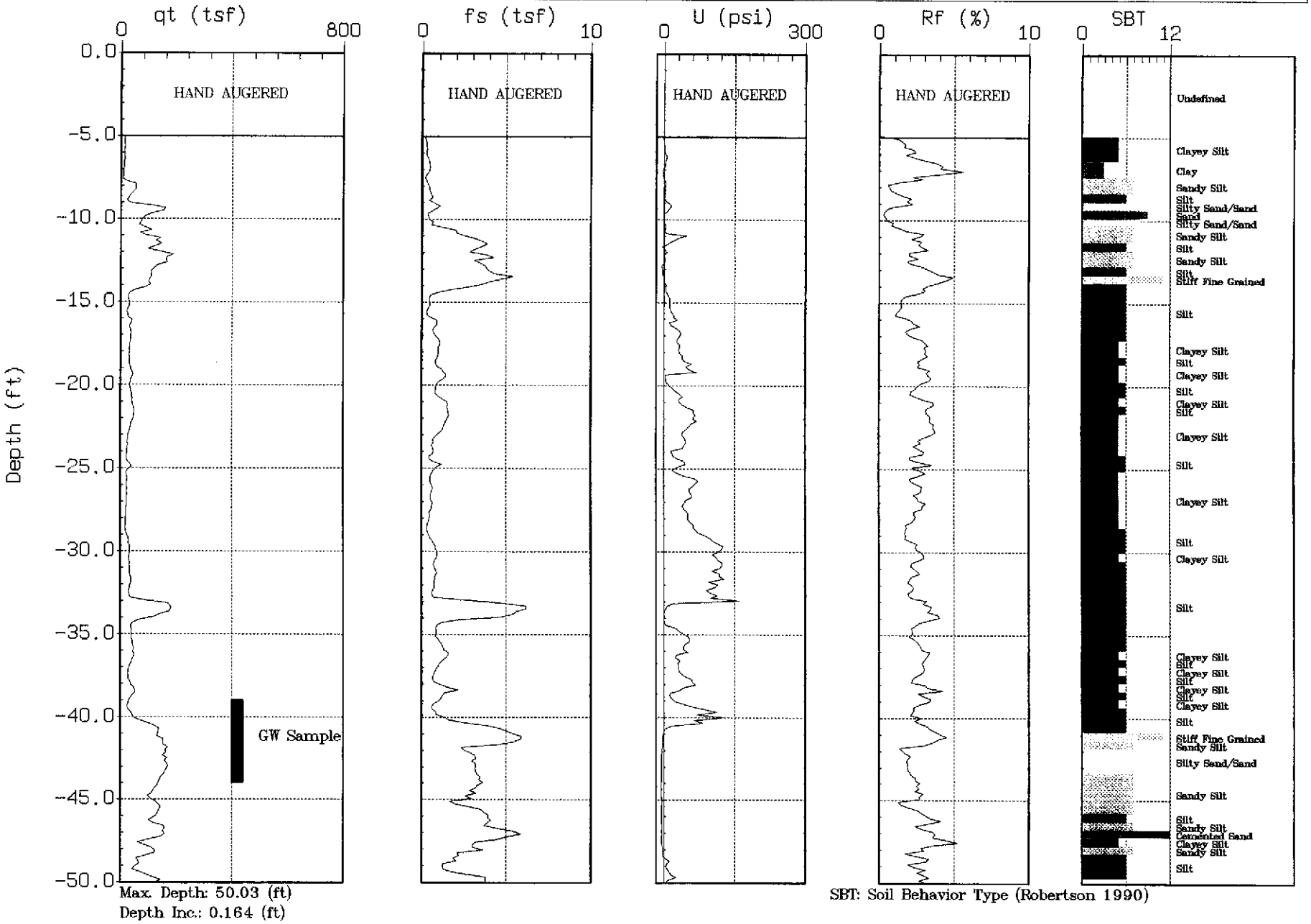
GREGG

GEOMATRIX

Site: FABCO
Location: CPT-01

Geologist: S. MEARON
Date: 03:25:04 08:46



Max. Depth: 50.03 (ft)
Depth Inc.: 0.164 (ft)

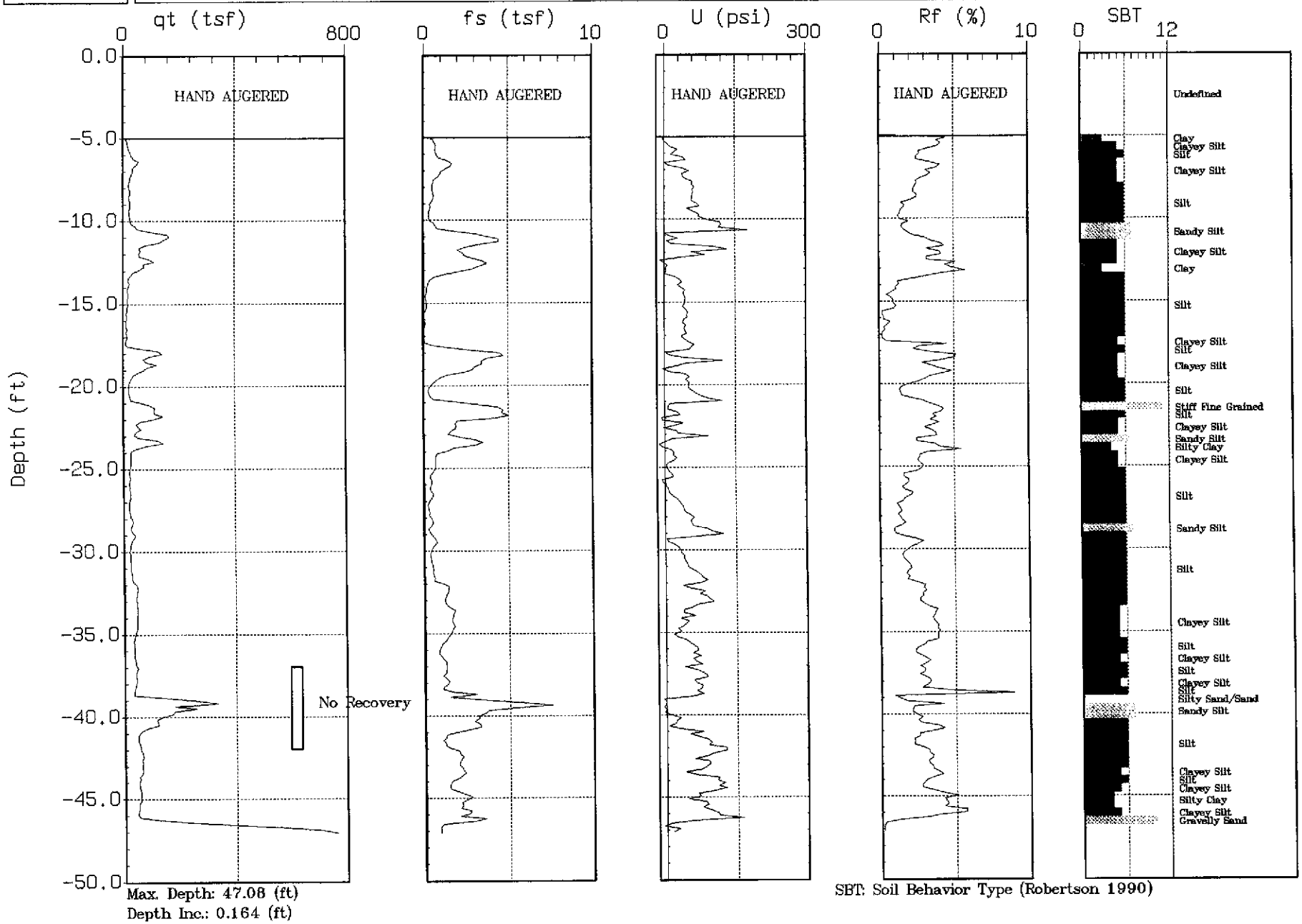
SBT: Soil Behavior Type (Robertson 1990)

GREGG

GEOMATRIX

Site: FABCO
Location: CPT-02

Geologist: S. MEARON
Date: 03:25:04 10:22



Max. Depth: 47.08 (ft)
Depth Inc.: 0.164 (ft)

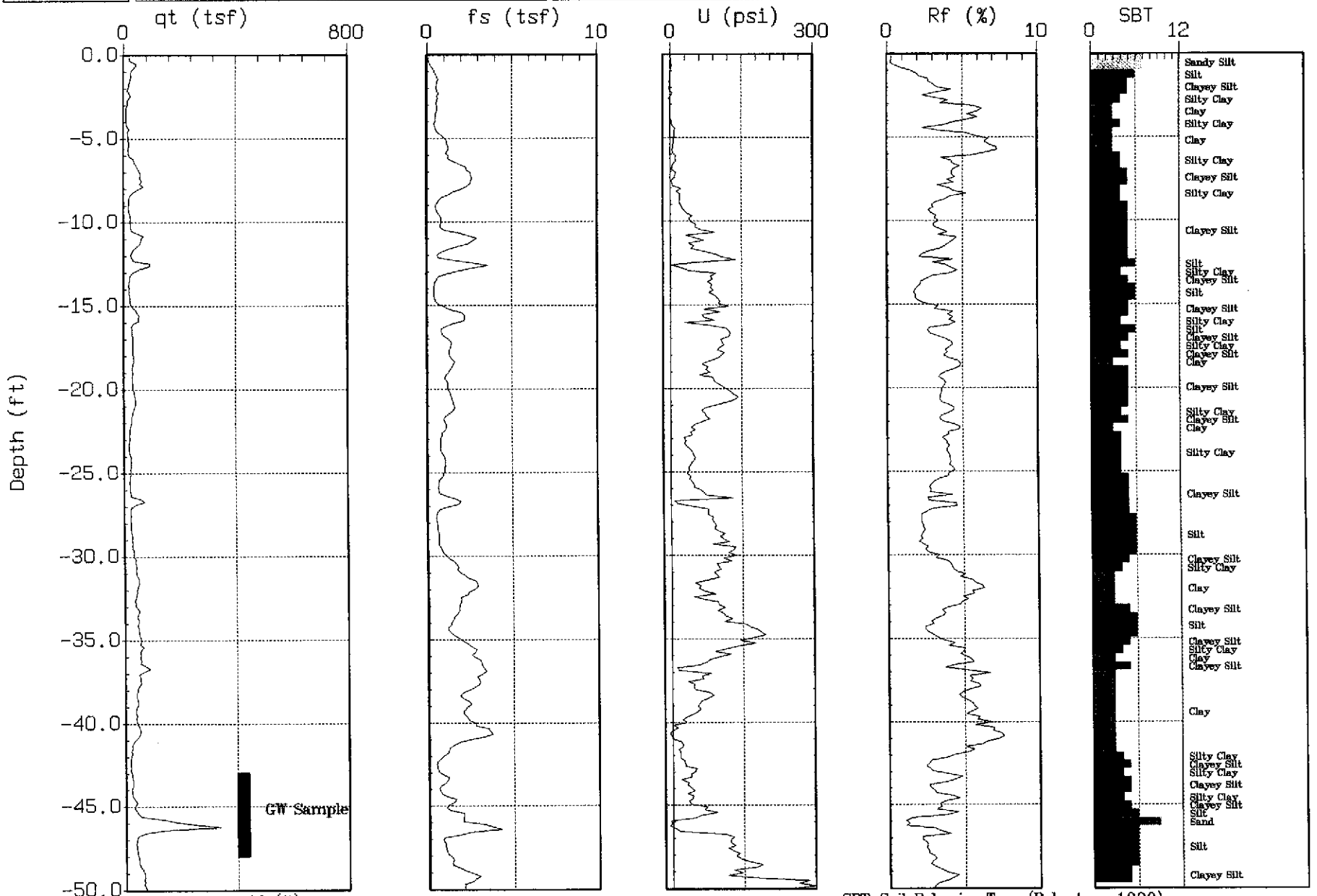
SBT: Soil Behavior Type (Robertson 1990)

GREGG

GEOMATRIX

Site: FABCO
Location: CPT-03

Geologist: S. MEARON
Date: 03:25:04 12:04



Max. Depth: 50.03 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

APPENDIX PPDT

Pore Pressure Dissipation Tests (PPDT)

Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals measured hydrostatic water pressures and determined the approximate depth of the ground water table. A PPDT is conducted when the cone is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (u) with time is measured behind the tip of the cone and recorded by a computer system.

Pore pressure dissipation data can be interpreted to provide estimates of:

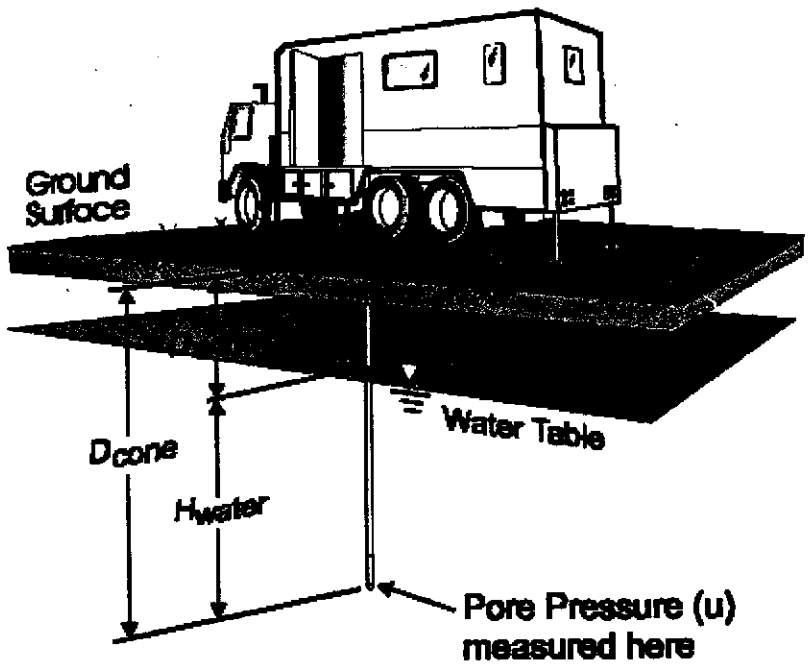
- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (c_h)
- In situ horizontal coefficient of permability (k_h)

In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until such time as there is no variation in pore pressure with time (refer to Figure PPD). This time is commonly referred to as t_{100}, the point at which 100% of the excess pore pressure has dissipated.

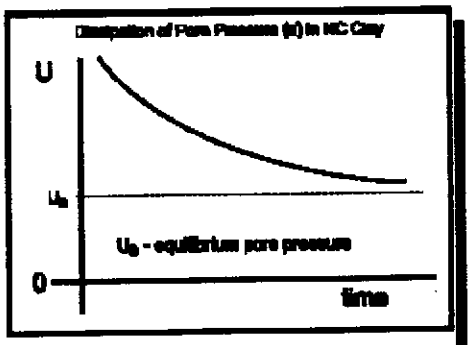
Interpretation of either c_h and k_h from dissipation results can be most easily achieved using either of two analytical approaches: cavity-expansion theory or the strain-path approach. Comparisons of the available solutions and results from field studies suggest that the cavity-expansion method of Torstensson (1977) and the strain-path approaches of Levadous (1980) and Teh (1987) all provide similar predications of consolidation parameters from CPTU dissipation data (Gillespie 1981; Kabir and Lutenegger 1990; Robertson et al. (1991). Robertson et al. (1991) have shown that these methods, although developed for normally consolidated soils, can be equally applied to overconsolidated soils. Furthermore, comparisons of field and laboratory data indicate that the trends in the measured (laboratory) and predicated (CPTU) data are consistent provided the micro fabric and nature of the soils being tested are taken into consideration. (Danziger 1990; Robertson et al. 1991).

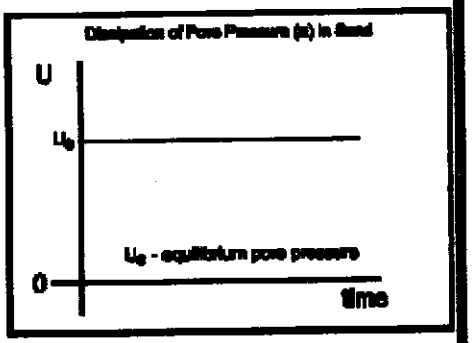
A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1991.

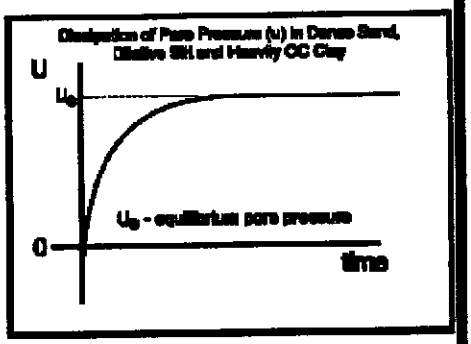
A summary of the pore pressure dissipation tests is summarized in Table 1.
Pore pressure dissipation data is presented in graphical form in Appendix PPDT.



D_{cone} - Depth of Cone
D_{water} - Depth to Water Table
H_{water} - Head of Water







Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

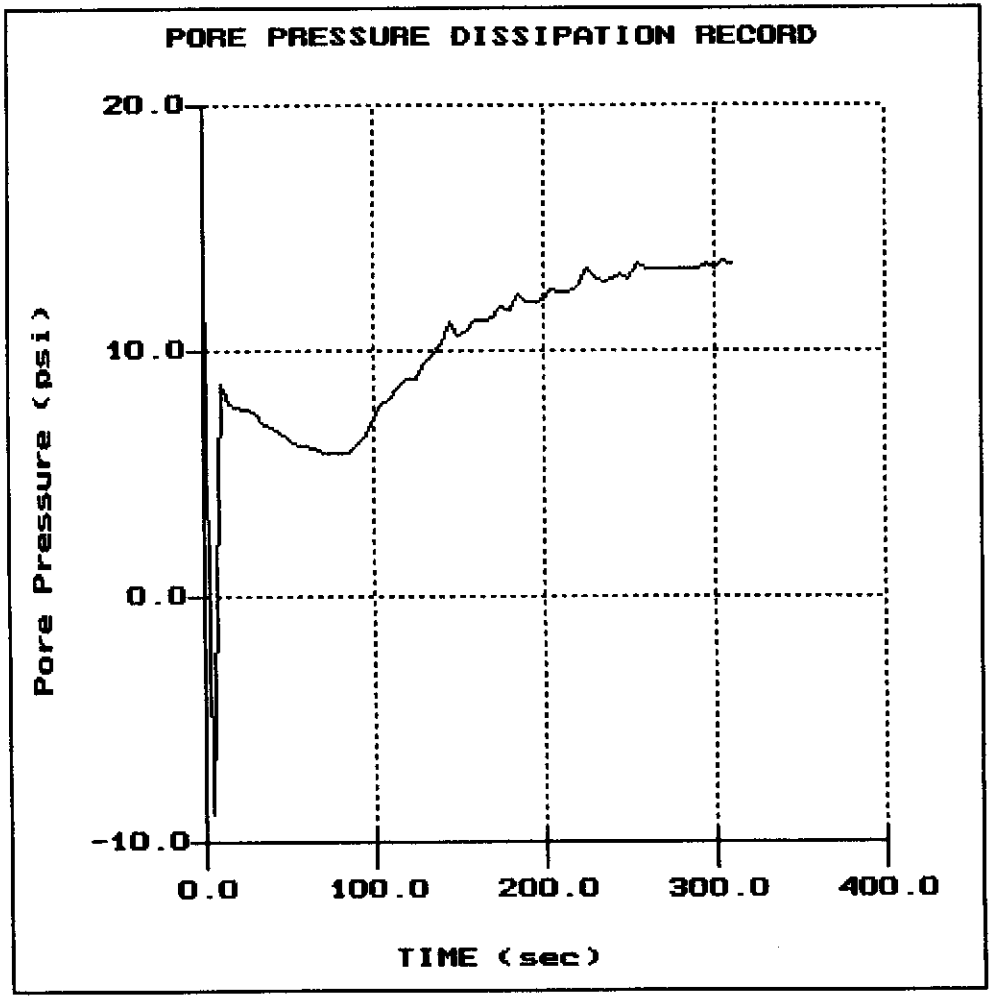
Useful Conversion Factors: 1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

Figure PPD

GEOMATRIX

Site:FABCO
Location:CPT-02

Geologist:S. MEARON
Date:03:25:04 10:22



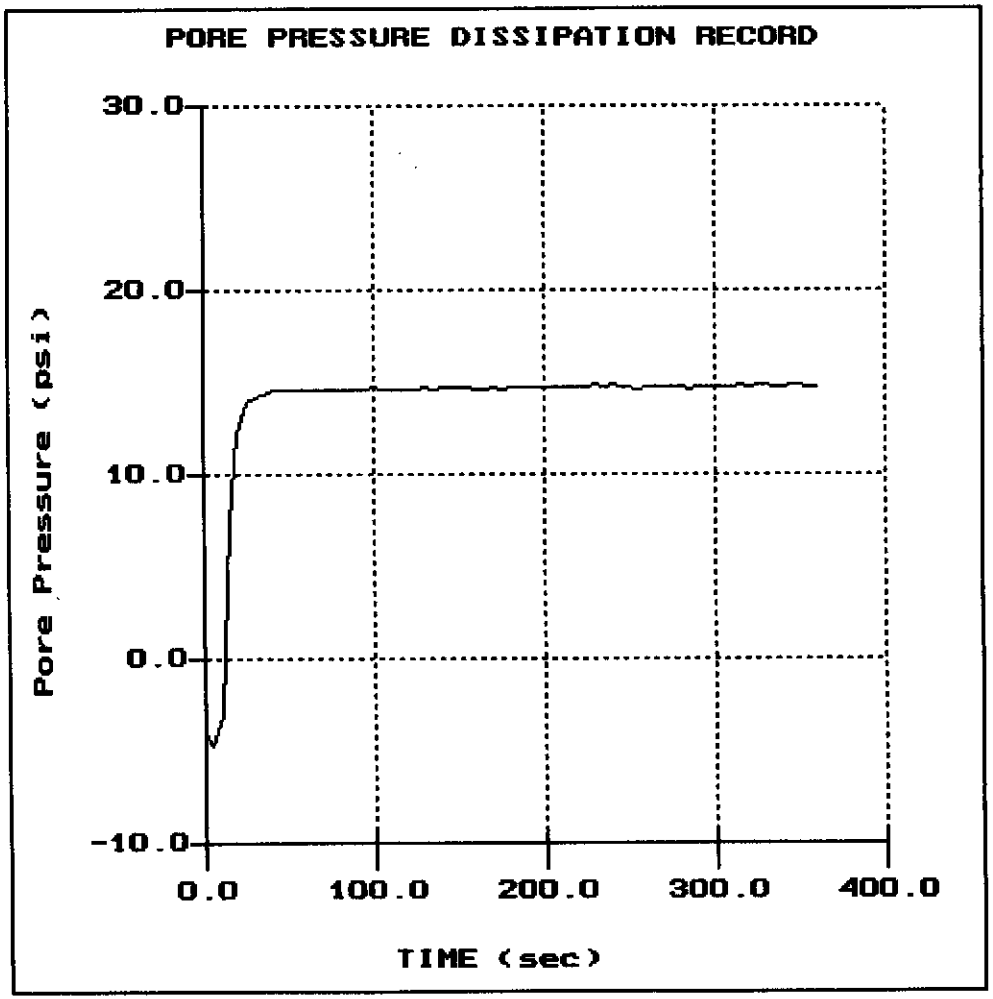
File: 084C02.PPC
Depth (m): 14.35
(ft): 47.08
Duration : 310.0s
U-min: -8.89 5.0s
U-max: 15.18 0.0s

GEOMATRIX

Site:FABCO
Location:CPT-01

Geologist:S. MEARON
Date:03:25:04 08:46

File: 084C01.PPC
Depth (m): 12.80
(ft): 41.99
Duration : 360.0s
U-min: -4.72 5.0s
U-max: 14.89 230.0s



Groundwater Sampling (GWS)

Gregg In Situ, Inc. conducts groundwater sampling using a Hydropunch® type groundwater sampler, *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the drill rig to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 1 ¾ inch hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

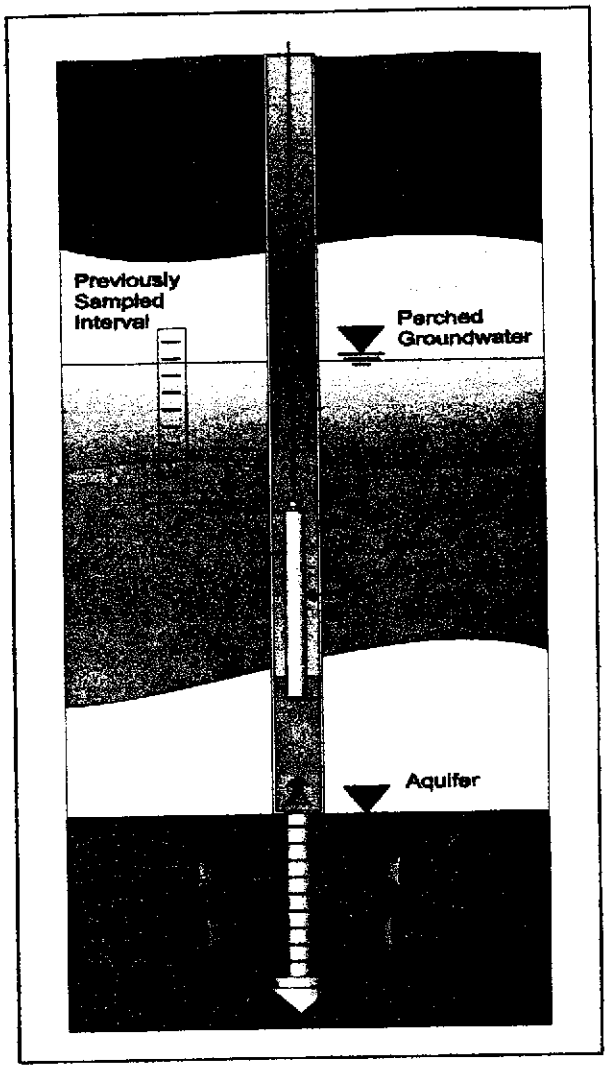


Figure GWS

A summary of the groundwater samples collected, including the sampling date, depth and location identification, is presented in Table 1 and the corresponding CPT plot .

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

Gregg In Situ CPT Interpretations as of January 7, 1999 (Release 1.00.19)

Gregg In Situ's interpretation routine should be considered a calculator of current published CPT correlations and is subject to change to reflect the current state of practice. The interpreted values are not considered valid for all soil types. The interpretations are presented only as a guide for geotechnical use and should be carefully scrutinized for consideration in any geotechnical design. Reference to current literature is strongly recommended.

The CPT interpretations are based on values of tip, sleeve friction and pore pressure averaged over a user specified interval (typically 0.25m). Note that Qt is the recorded tip value, Qc, corrected for pore pressure effects. Since all Gregg In Situ cones have equal end area friction sleeves, pore pressure corrections to sleeve friction, Fs, are not required.

The tip correction is: $Qt = Qc + (1-a) \bullet Ud$

where: *Qt* is the corrected tip load
Qc is the recorded tip load
Ud is the recorded dynamic pore pressure
a is the Net Area Ratio for the cone (typically 0.85 for Gregg In Situ cones)

Effective vertical overburden stresses are calculated based on a hydrostatic distribution of equilibrium pore pressures below the water table or from a user defined equilibrium pore pressure profile (this can be obtained from CPT dissipation tests). The stress calculations use unit weights assigned to the Soil Behavior Type zones or from a user defined unit weight profile.

Details regarding the interpretation methods for all of the interpreted parameters is given in table 1. The appropriate references referred to in table 1 are listed in table 2.

The estimated Soil Behavior Type is based on the charts developed by Robertson and Campanella shown in figure 1.

Table 1 CPT Interpretation Methods

Interpreted Parameter	Description	Equation	Ref
Depth	mid layer depth		
AvgQt	Averaged corrected tip (Qt)	$AvgQt = \frac{1}{n}\sum_{i=1}^{n} Qt_i$	
AvgFs	Averaged sleeve friction (Fs)	$AvgFs = \frac{1}{n}\sum_{i=1}^{n} Fs_i$	
AvgRf	Averaged friction ratio (Rf)	$AvgRf = 100\% \bullet \frac{AvgFs}{AvgQt}$	
AvgUd	Averaged dynamic pore pressure (Ud)	$AvgUd = \frac{1}{n}\sum_{i=1}^{n} Ud_i$	
SBT	Soil Behavior Type as defined by Robertson and Campanella		1

U.Wt.	Unit Weight of soil determined from: 1) uniform value or 2) value assigned to each SBT zone 3) user supplied unit weight profile		
TStress	Total vertical overburden stress at mid layer depth	$TStress = \sum_{i=1}^{n} \gamma_i h_i$ where γ is layer unit weight h_i is layer thickness	
EStress	Effective vertical overburden stress at mid layer depth	$EStress = TStress - Ueq$	
Ueq	Equilibrium pore pressure determined from: 1) hydrostatic from water table depth 2) user supplied profile		
Cn	SPT N_{60} overburden correction factor	$Cn=(\sigma_v')^{-0.5}$ where σ_v' is in tsf $0.5 < C_n < 2.0$	3
N_{60}	SPT N value at 60% energy calculated from Qt/N ratios assigned to each SBT zone		3
$(N1)_{60}$	SPT N_{60} value corrected for overburden pressure	$N1_{60} = Cn \bullet N_{60}$	7
$\Delta(N1)_{60}$	Equivalent Clean Sand Correction to $(N1)_{60}$	$\Delta(N1)_{60} = \frac{K_{SPT}}{1 - K_{SPT}} \bullet (N1)_{60}$ Where: K_{SPT} is defined as: 0.0 for FC < 5% 0.0167 • (FC - 5) for 5% < FC < 35% 0.5 for FC > 35% FC - Fines Content in %	
$(N1)_{60cs}$	Equivalent Clean Sand $(N1)_{60}$	$(N1)_{60cs} = (N1)_{60} + \Delta(N1)_{60}$	7
Su	Undrained shear strength - Nkt is use selectable	$Su = \frac{Qt - \sigma_v}{N_{kt}}$	2
k	Coefficient of permeability (assigned to each SBT zone)		6
Bq	Pore pressure parameter	$Bq = \frac{\Delta u}{Qt - \sigma_v}$	2
Qtn	Normalized Qt for Soil Behavior Type classification as defined by Robertson, 1990	$Qtn = \frac{Qt - \sigma_v}{\sigma'_v}$	4
Rfn	Normalized Rf for Soil Behavior Type classification as defined by Robertson, 1990	$Rfn = 100\% \bullet \frac{f_s}{Qt - \sigma_v}$	4
SBTn	Normalized Soil Behavior Type (slightly modified from that published by Robertson, 1990. This version includes all the soil zones of the original non-normalized SBT chart - see figure 1)		4
Qc1	Normalized Qt for seismic analysis	$qc1 = qc \bullet (Pa/\sigma_v')^{0.5}$ where: Pa = atm. pressure	5
Qc1N	Dimensionless Normalized Qt1	qc1N = qc1 / Pa where: Pa = atm. pressure	

ΔQc1N1	Equivalent clean sand correction	$\Delta qc1N = \frac{K_{CPT}}{1 - K_{CPT}} \bullet qc1N$ Where: K_{CPT} is defined as: 0.0 for FC < 5% 0.0267 • (FC - 5) for 5% < FC < 35% 0.5 for FC > 35% FC - Fines Content in %	5
Qc1Ncs	Clean Sand equivalent Qc1N	$qc1Ncs = qc1N + \Delta qc1N$	5
Ic	Soil index for estimating grain characteristics	$Ic = [(3.47 - logQ)^2 + (log\ F + 1.22)^2\ ]^{0.5}$	5
FC	Fines content (%)	$FC=1.75(Ic^{3.25}) - 3.7$ $FC=100$ for $Ic > 3.5$ $FC=0$ for $Ic < 1.26$ $FC = 5\%$ if $1.64 < Ic < 2.6$ AND $Rfn<0.5$	8
PHI	Friction Angle	Campanella and Robertson Durunoglu and Mitchel Janbu	1
Dr	Relative Density	Ticino Sand Hokksund Sand Schmertmann 1976 Jamiolkowski - All Sands	1
OCR	Over Consolidation Ratio		1
State Parameter			9
CRR	Cyclic Resistance Ratio		7

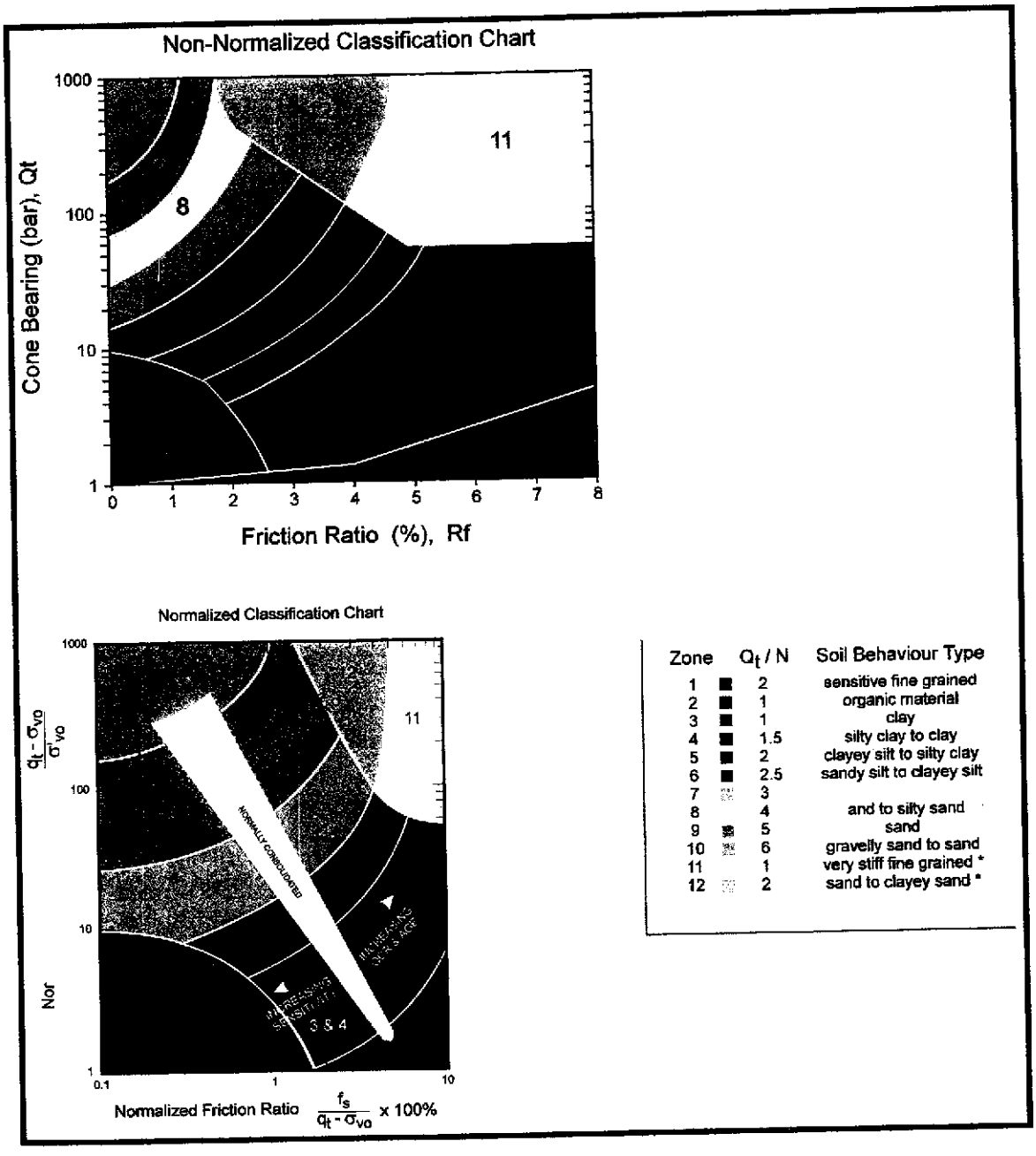


Figure 1 Non-Normalized and Normalized Soil Behavior Type Classification Charts

Table 2 References

No.	Reference
1	Robertson, P.K. and Campanella, R.G., 1986, "Guidelines for Use, Interpretation and Application of the CPT and CPTU", UBC, Soil Mechanics Series No. 105, Civil Eng. Dept., Vancouver, B.C., Canada
2	Robertson, P.K., Campanella, R.G., Gillespie, D. and Greig, J., 1986, "Use of Piezometer Cone Data", Proceedings of InSitu 86, ASCE Specialty Conference, Blacksburg, Virginia.
3	Robertson, P.K. and Campanella, R.G., 1989, "Guidelines for Geotechnical Design Using CPT and CPTU", UBC, Soil Mechanics Series No. 120, Civil Eng. Dept., Vancouver, B.C., Canada
4	Robertson, P.K., 1990, "Soil Classification Using the Cone Penetration Test", Canadian Geotechnical Journal, Volume 27.
5	Robertson, P.K. and Fear, C.E., 1995, "Liquefaction of Sands and its Evaluation", Keynote Lecture, First International Conference on Earthquake Geotechnical Engineering, Tokyo, Japan.
6	Gregg In Situ Internal Report
7	Robertson, P.K. and Wride, C.E., 1997, "Cyclic Liquefaction and its Evaluation Based on SPT and CPT", NCEER Workshop Paper, January 22, 1997
8	Wride, C.E. and Robertson, P.K., 1997, "Phase II Data Review Report (Massey and Kidd Sites, Fraser River Delta)", Volume 1 - Data Report (June 1997), University of Alberta.
9	Plewes, H.D., Davies, M.P. and Jefferies, M.G., 1992, "CPT Based Screening Procedure for Evaluating Liquefaction Susceptibility", 45th Canadian Geotechnical Conference, Toronto, Ontario, October 1992.

GEOMATRIX

APPENDIX D

Analytical Laboratory Reports and Chain-of-Custody Records

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Geomatrix Consultants
2101 Webster Street
12th Floor
Oakland, CA 94612

Date: 26-FEB-04
Lab Job Number: 170536
Project ID: 8367.001
Location:

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

Laboratory Number: **170536**
Client: **Geomatrix Consultants**
Project Name: **8367.001**

Order Date: **02/11/04**

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for two soil samples received from the above referenced project. The samples were received ambient and intact.

Total Volatile Hydrocarbons: No analytical problems were encountered.

Total Extractable Hydrocarbons: No analytical problems were encountered.

Volatile Organic Compounds: The matrix spike recoveries of sample SS-5.0-21104 (170536-001) was outside acceptance limits for trichloroethene. The associated laboratory control sample (LCS) recoveries were acceptable for all target compounds. No other analytical problems were encountered.

Semi-Volatile Organic Compounds: No analytical problems were encountered.

Polyaromatic Hydrocarbons: The matrix spike duplicate recoveries for acenaphthene and pyrene were outside acceptance limits. The associated LCS recoveries were acceptable for all target compounds and the spiked sample was not from this site. No other analytical problems were encountered.

PCBs: No analytical problems were encountered.

Metals: The matrix spike recoveries for copper and zinc were not meaningful. The concentration of analyte in the spike sample rendered the spike amount insignificant. The matrix duplicate relative percent difference (RPD) for mercury was outside acceptance limits. The associated blank spike recoveries and blank spike duplicate RPDs were acceptable for all target elements. No other analytical problems were encountered.

LUST 2Q

Chain-of Custody Record

2/11/04

Project No.: 8367.001

Samplers (Signature:)

Sarah Mearon

	Date	Time	Sample Number
1	2/11/04	1500	SS-5.0-21104
2	2/11/04	1550	IDW-21104

ANALYSES

Sample	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	Lead	STLC (Lead)	CAM 17 Metals	PCBs	LUST 5 metals
1				X		X	X	X	X					X	X
2			X	X	X		X	X	X		X	X	X	X	

REMARKS

Sample	Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers
1	S				1
2	S				4
					5

Additional Comments

RUSH!

2"x6" sleeve

Composite IDW prior to analysis

*Straight from field - no ice

Received: Cold / Ambient / On Ice / Intact

No cooler in login.
JAW 2-11-04

Laboratory: Curtis & Tompkins

Turnaround Time: 24-hour

Results to: Jennifer Patterson

Total No. of Containers: 5

Relinquished by (Signature): Sarah Mearon	Date: 2/11/04	Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:
Printed Name: Sarah Mearun	Time: 1601	Printed Name:	Time:	Printed Name:	Time:
Company: Geomatrix		Company:		Company:	
Received by:	Date: 2/11/04	Received by:	Date:	Received by:	Date:
Printed Name:	Time: 4:00	Printed Name:	Time:	Printed Name:	Time:
Company: C-T		Company:		Company:	

Method of Shipment: drop-off

Laboratory Comments and Log No.:

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

CURTIS & TOMPKINS, LTD. BERKELEY LOGIN CHANGE FORM

Reason for change: X Client Request: By: Jean Patterson Date/Time: 2/11 1625 Initials: JP
X Login Review _____ Data Review

Current Lab ID	Previous Lab ID	Client ID	Matrix	Add/Cancel	Analysis	Duedate
170536-1	—		S	+	5GCU	same
-2	—		S	+	↓	

Curtis & Tompkins, Ltd.

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	170536	Project#:	8367.001
Client:	Geomatrix Consultants	Prep:	EPA 5030B
Field ID:	IDW-21104	Batch#:	88375
Matrix:	Soil	Sampled:	02/11/04
Basis:	as received	Received:	02/11/04
Diln Fac:	1.000		

Type: SAMPLE Analyzed: 02/12/04
Lab ID: 170536-002

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg	EPA 8015B
Benzene	ND	5.0	ug/Kg	EPA 8021B
Toluene	ND	5.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.0	ug/Kg	EPA 8021B
o-Xylene	ND	5.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	89	71-138	EPA 8015B
Bromofluorobenzene (FID)	109	73-143	EPA 8015B
Trifluorotoluene (PID)	90	55-135	EPA 8021B
Bromofluorobenzene (PID)	107	58-135	EPA 8021B

Type: BLANK Analyzed: 02/11/04
Lab ID: QC240589

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg	EPA 8015B
Benzene	ND	5.0	ug/Kg	EPA 8021B
Toluene	ND	5.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.0	ug/Kg	EPA 8021B
o-Xylene	ND	5.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	91	71-138	EPA 8015B
Bromofluorobenzene (FID)	106	73-143	EPA 8015B
Trifluorotoluene (PID)	89	55-135	EPA 8021B
Bromofluorobenzene (PID)	105	58-135	EPA 8021B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8021B
Project#:	8367.001		
Type:	LCS	Basis:	as received
Lab ID:	QC240590	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88375
Units:	ug/Kg	Analyzed:	02/11/04

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12		NA		
Benzene	100.0	102.4	102	80-120
Toluene	100.0	99.01	99	80-120
Ethylbenzene	100.0	99.25	99	79-120
m,p-Xylenes	200.0	180.0	90	80-120
o-Xylene	100.0	98.70	99	80-120

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		87	55-135
Bromofluorobenzene (PID)		103	58-135

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Type:	LCS	Basis:	as received
Lab ID:	QC240591	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88375
Units:	mg/Kg	Analyzed:	02/11/04

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	10.44	104	80-120
Benzene		NA		
Toluene		NA		
Ethylbenzene		NA		
m,p-Xylenes		NA		
o-Xylene		NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		109	71-138
Bromofluorobenzene (FID)		112	73-143
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	170514-009	Batch#:	88375
Matrix:	Soil	Sampled:	02/10/04
Units:	mg/Kg	Received:	02/10/04
Basis:	as received	Analyzed:	02/11/04

Type: MS Lab ID: QC240592

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.06900	10.75	5.151	48	47-120
Benzene			NA		
Toluene			NA		
Ethylbenzene			NA		
m,p-Xylenes			NA		
o-Xylene			NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		109	71-138
Bromofluorobenzene (FID)		102	73-143
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

Type: MSD Lab ID: QC240593

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.87	5.313	49	47-120	2	23
Benzene		NA				
Toluene		NA				
Ethylbenzene		NA				
m,p-Xylenes		NA				
o-Xylene		NA				

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		117	71-138
Bromofluorobenzene (FID)		111	73-143
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	170536	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Soil	Sampled:	02/11/04
Units:	mg/Kg	Received:	02/11/04
Basis:	as received	Prepared:	02/11/04
Diln Fac:	1.000	Analyzed:	02/12/04
Batch#:	88400		

Field ID: SS-5.0-21104 Lab ID: 170536-001
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	38 H Y	1.0
Motor Oil C24-C36	190	5.0

Surrogate	%REC	Limits
Hexacosane	99	52-131

Field ID: IDW-21104 Lab ID: 170536-002
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	75 H Y	1.0
Motor Oil C24-C36	190	5.0

Surrogate	%REC	Limits
Hexacosane	103	52-131

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC240690

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	82	52-131

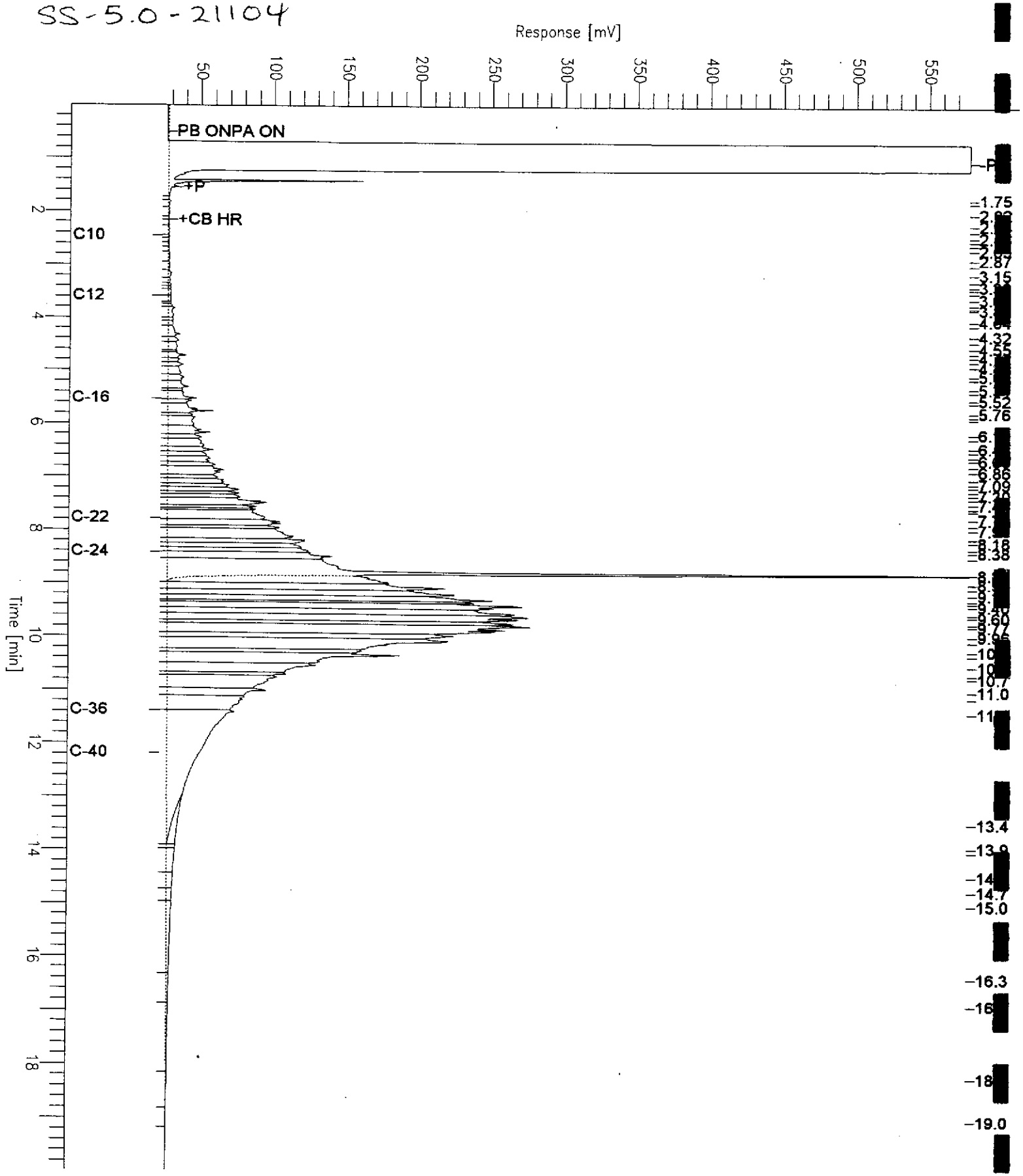
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 170536-001sg,88400
FileName : G:\GC15\CHB\043B007.RAW
Method : BTEH020S.MTH
Start Time : 0.01 min End Time : 19.99 min
Scale Factor: 0.0 Plot Offset: 23 mV

Sample #: 88400 Page 1 of 1
Date : 2/12/04 01:20 PM
Time of Injection: 2/12/04 12:47 PM
Low Point : 23.15 mV High Point : 578.34 mV
Plot Scale: 555.2 mV

SS-5.0-21104

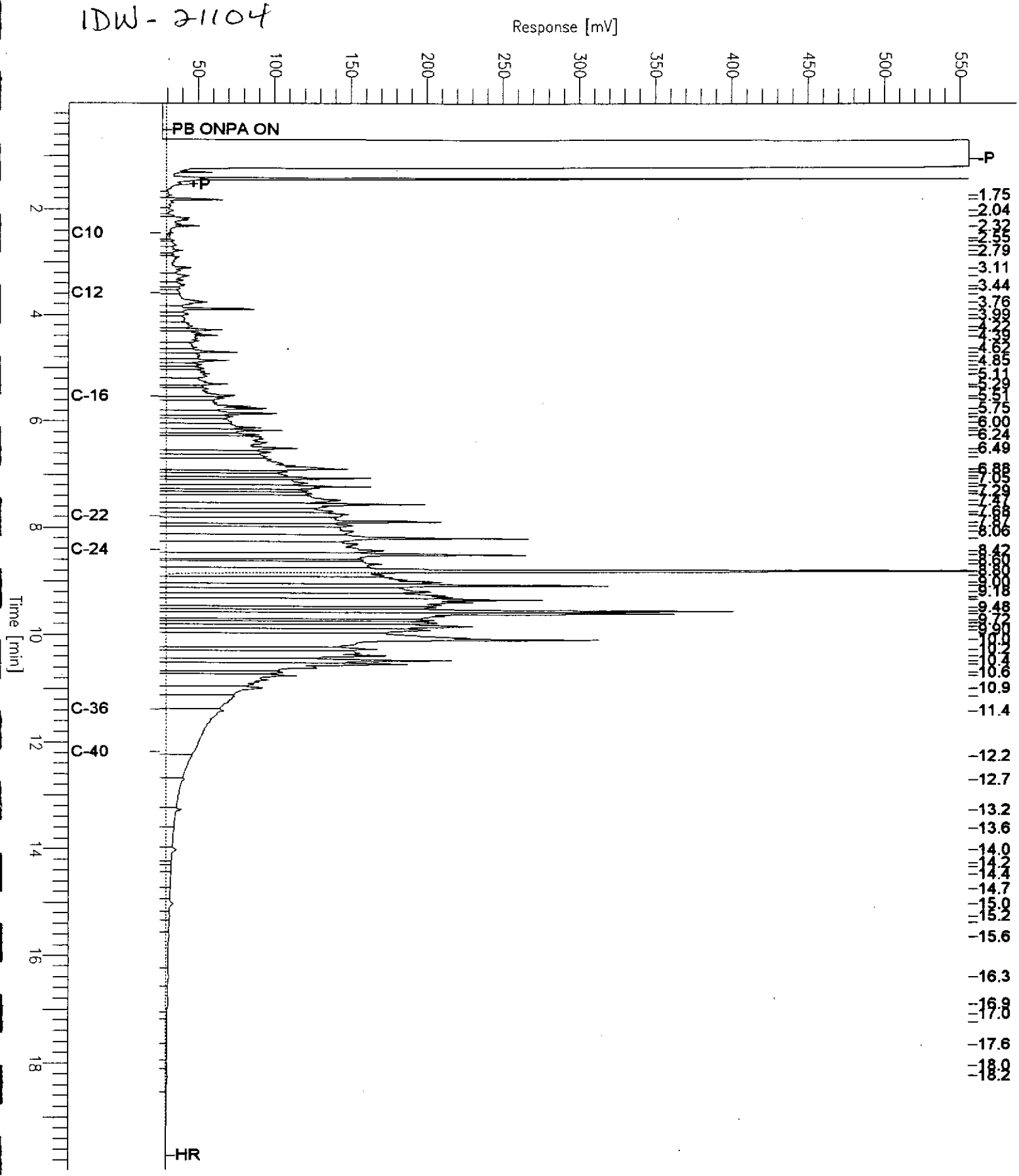


Chromatogram

Sample Name : 170536-002sg,88400
FileName : G:\GC15\CHB\043B008.RAW
Method : BTEH020S.MTH
Start Time : 0.01 min End Time : 19.99 min
Scale Factor: 0.0 Plot Offset: 25 mV

Sample #: 88400 Page 1 of 1
Date : 2/12/04 02:00 PM
Time of Injection: 2/12/04 01:15 PM
Low Point : 25.18 mV High Point : 555.65 mV
Plot Scale: 530.5 mV

IDW - 21104

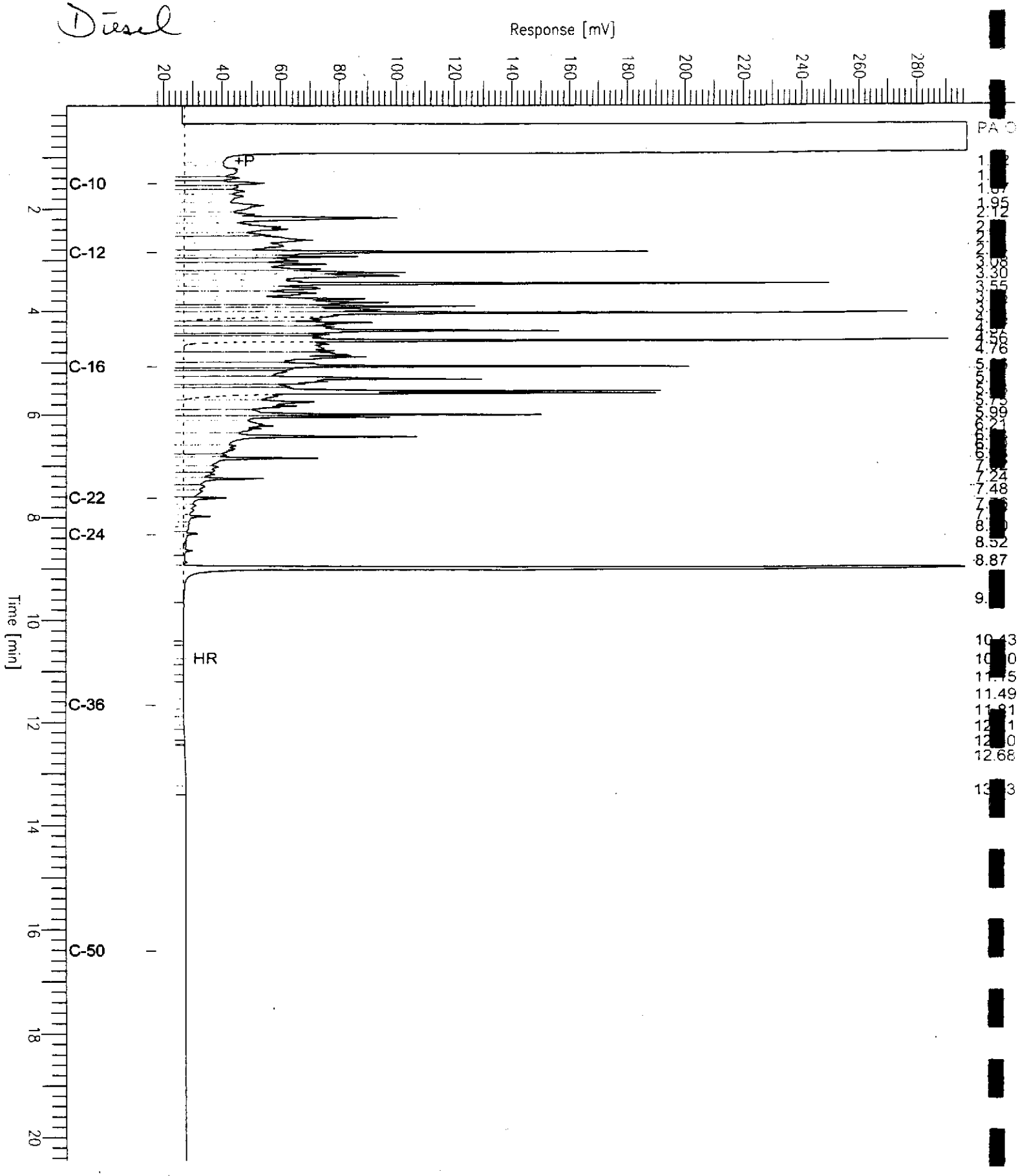


Chromatogram

Sample Name : ccv,03ws2078,dsl
FileName : G:\GC11\CHA\043A002.RAW
Method : ATEH040S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 500mg/L Page 1 of 1
Date : 2/12/04 04:02 PM
Time of Injection: 2/12/04 02:54 PM
Low Point : 17.77 mV High Point : 297.32 mV
Plot Scale: 279.5 mV

Diesel

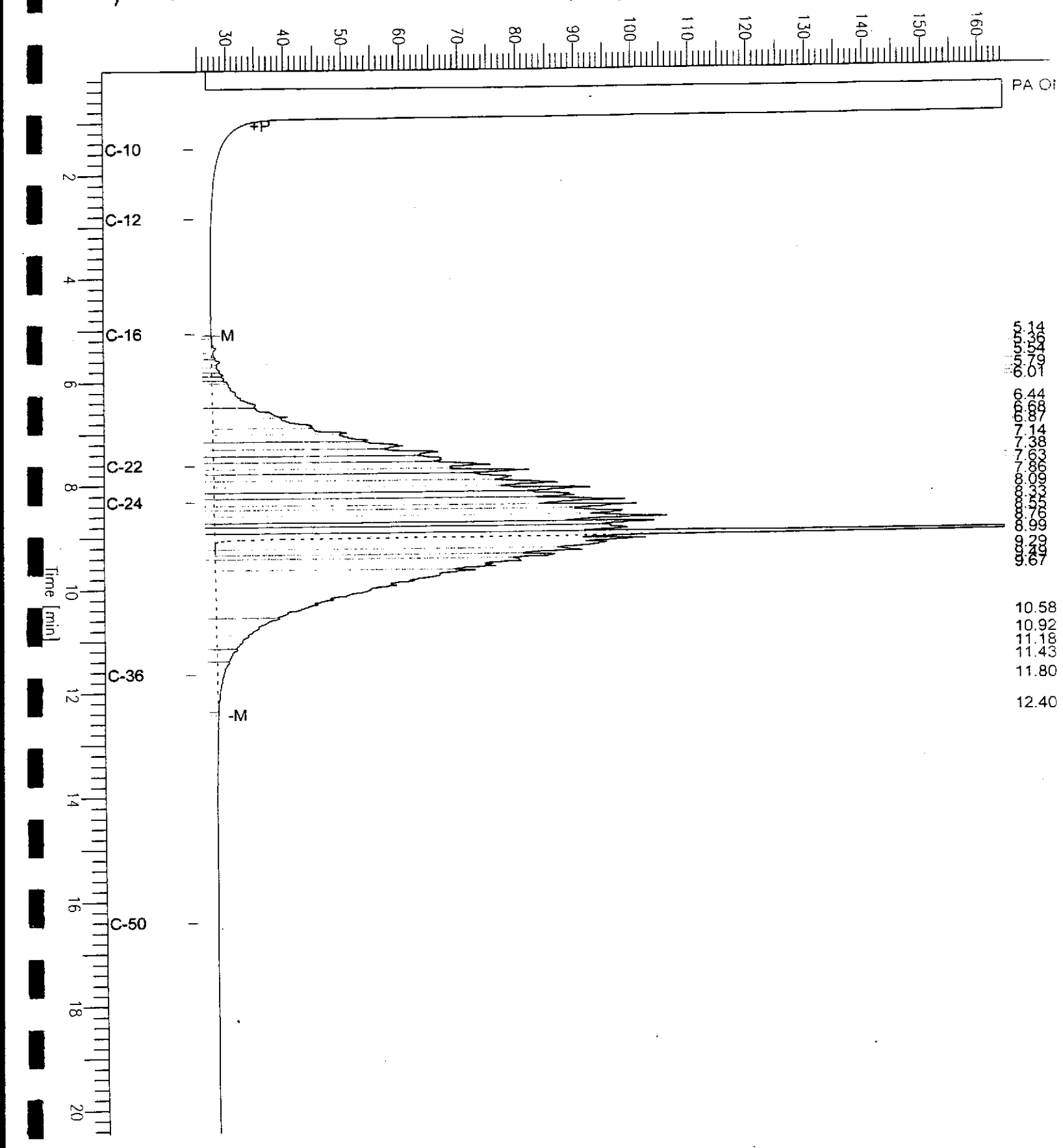


Chromatogram

Sample Name : ccv,04ws0244,mo
FileName : G:\GC11\CHA\043A003.RAW
Method : ATEH040S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 24 mV

Sample #: 500mg/L
Date : 2/12/04 04:03 PM
Time of Injection: 2/12/04 03:30 PM
Low Point : 24.40 mV High Point : 164.40 mV
Plot Scale: 140.0 mV

Motor Oil



Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	170536	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC240691	Batch#:	88400
Matrix:	Soil	Prepared:	02/11/04
Units:	mg/Kg	Analyzed:	02/12/04
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.42	57.03	113	56-129

Surrogate	%REC	Limits
Hexacosane	105	52-131

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	170536	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	88400
MSS Lab ID:	170514-001	Sampled:	02/10/04
Matrix:	Soil	Received:	02/10/04
Units:	mg/Kg	Prepared:	02/11/04
Basis:	as received	Analyzed:	02/13/04
Diln Fac:	1.000		

Type: MS Lab ID: QC240692

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	19.21	50.35	64.23	89	27-146

Surrogate	%REC	Limits
Hexacosane	95	52-131

Type: MSD Lab ID: QC240693

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.98	64.16	90	27-146	0	50

Surrogate	%REC	Limits
Hexacosane	96	52-131

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SS-5.0-21104	Diln Fac:	0.9615
Lab ID:	170536-001	Batch#:	88414
Matrix:	Soil	Sampled:	02/11/04
Units:	ug/Kg	Received:	02/11/04
Basis:	as received	Analyzed:	02/12/04

Analyte	Result	RL
Freon 12	ND	9.6
Chloromethane	ND	9.6
Vinyl Chloride	ND	9.6
Bromomethane	ND	9.6
Chloroethane	ND	9.6
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.6
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.6
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.6
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SS-5.0-21104	Diln Fac:	0.9615
Lab ID:	170536-001	Batch#:	88414
Matrix:	Soil	Sampled:	02/11/04
Units:	ug/Kg	Received:	02/11/04
Basis:	as received	Analyzed:	02/12/04

Analyte	Result	RL
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-120
1,2-Dichloroethane-d4	111	80-120
Toluene-d8	107	80-120
Bromofluorobenzene	102	80-123

ND= Not Detected
RL= Reporting Limit

5.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	IDW-21104	Diln Fac:	0.9091
Lab ID:	170536-002	Batch#:	88414
Matrix:	Soil	Sampled:	02/11/04
Units:	ug/Kg	Received:	02/11/04
Basis:	as received	Analyzed:	02/12/04

Analyte	Result	RL
Freon 12	ND	9.1
Chloromethane	ND	9.1
Vinyl Chloride	ND	9.1
Bromomethane	ND	9.1
Chloroethane	ND	9.1
Trichlorofluoromethane	ND	4.5
Acetone	ND	18
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.5
MTBE	ND	4.5
trans-1,2-Dichloroethene	ND	4.5
Vinyl Acetate	ND	45
1,1-Dichloroethane	ND	4.5
2-Butanone	ND	9.1
cis-1,2-Dichloroethene	ND	4.5
2,2-Dichloropropane	ND	4.5
Chloroform	ND	4.5
Bromochloromethane	ND	4.5
1,1,1-Trichloroethane	ND	4.5
1,1-Dichloropropene	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
Dibromomethane	ND	4.5
4-Methyl-2-Pentanone	ND	9.1
cis-1,3-Dichloropropene	ND	4.5
Toluene	ND	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
2-Hexanone	ND	9.1
1,3-Dichloropropane	ND	4.5
Tetrachloroethene	ND	4.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	IDW-21104	Diln Fac:	0.9091
Lab ID:	170536-002	Batch#:	88414
Matrix:	Soil	Sampled:	02/11/04
Units:	ug/Kg	Received:	02/11/04
Basis:	as received	Analyzed:	02/12/04

Analyte	Result	RL
Dibromochloromethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Chlorobenzene	ND	4.5
1,1,1,2-Tetrachloroethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Styrene	ND	4.5
Bromoform	ND	4.5
Isopropylbenzene	ND	4.5
1,1,2,2-Tetrachloroethane	ND	4.5
1,2,3-Trichloropropane	ND	4.5
Propylbenzene	ND	4.5
Bromobenzene	ND	4.5
1,3,5-Trimethylbenzene	ND	4.5
2-Chlorotoluene	ND	4.5
4-Chlorotoluene	ND	4.5
tert-Butylbenzene	ND	4.5
1,2,4-Trimethylbenzene	ND	4.5
sec-Butylbenzene	ND	4.5
para-Isopropyl Toluene	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
n-Butylbenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5
1,2-Dibromo-3-Chloropropane	ND	4.5
1,2,4-Trichlorobenzene	ND	4.5
Hexachlorobutadiene	ND	4.5
Naphthalene	ND	4.5
1,2,3-Trichlorobenzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-120
1,2-Dichloroethane-d4	112	80-120
Toluene-d8	106	80-120
Bromofluorobenzene	99	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Basis:	as received
Lab ID:	QC240746	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88414
Units:	ug/Kg	Analyzed:	02/12/04

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

ND= Not Detected
RL= Reporting Limit

7.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Basis:	as received
Lab ID:	QC240746	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88414
Units:	ug/Kg	Analyzed:	02/12/04

Analyte	Result	RL
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-120
1,2-Dichloroethane-d4	116	80-120
Toluene-d8	106	80-120
Bromofluorobenzene	100	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	LCS	Basis:	as received
Lab ID:	QC240745	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88414
Units:	ug/Kg	Analyzed:	02/12/04

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	49.41	99	78-120
Benzene	50.00	45.64	91	80-120
Trichloroethene	50.00	46.94	94	80-120
Toluene	50.00	47.66	95	80-120
Chlorobenzene	50.00	46.25	92	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-120
1,2-Dichloroethane-d4	111	80-120
Toluene-d8	103	80-120
Bromofluorobenzene	95	80-123

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170536	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SS-5.0-21104	Diln Fac:	0.9615
MSS Lab ID:	170536-001	Batch#:	88414
Matrix:	Soil	Sampled:	02/11/04
Units:	ug/Kg	Received:	02/11/04
Basis:	as received	Analyzed:	02/12/04

Type: MS Lab ID: QC240776

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1400	48.08	45.78	95	69-120
Benzene	<0.05500	48.08	39.47	82	67-120
Trichloroethene	<0.1000	48.08	65.72	137 *	62-131
Toluene	<0.1800	48.08	40.51	84	61-120
Chlorobenzene	<0.07500	48.08	34.95	73	58-120

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-120
1,2-Dichloroethane-d4	110	80-120
Toluene-d8	107	80-120
Bromofluorobenzene	99	80-123

Type: MSD Lab ID: QC240777

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.08	46.08	96	69-120	1	20
Benzene	48.08	39.41	82	67-120	0	20
Trichloroethene	48.08	64.57	134 *	62-131	2	20
Toluene	48.08	38.84	81	61-120	4	20
Chlorobenzene	48.08	34.75	72	58-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-120
1,2-Dichloroethane-d4	109	80-120
Toluene-d8	104	80-120
Bromofluorobenzene	96	80-123

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Field ID:	IDW-21104	Batch#:	88378
Lab ID:	170536-002	Sampled:	02/11/04
Matrix:	Soil	Received:	02/11/04
Units:	ug/Kg	Prepared:	02/11/04
Basis:	as received	Analyzed:	02/12/04
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	67
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	1,700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	670
Dimethylphthalate	ND	330
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	1,700
4-Nitrophenol	ND	670
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	1,700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	330
Fluoranthene	74	67

ND= Not Detected
RL= Reporting Limit

30.0

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Field ID:	IDW-21104	Batch#:	88378
Lab ID:	170536-002	Sampled:	02/11/04
Matrix:	Soil	Received:	02/11/04
Units:	ug/Kg	Prepared:	02/11/04
Basis:	as received	Analyzed:	02/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Pyrene	100	67
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	92	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	88	41-120
Phenol-d5	84	39-120
2,4,6-Tribromophenol	67	33-120
Nitrobenzene-d5	68	44-120
2-Fluorobiphenyl	74	48-120
Terphenyl-d14	81	37-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC240600	Batch#:	88378
Matrix:	Soil	Prepared:	02/11/04
Units:	ug/Kg	Analyzed:	02/11/04
Basis:	as received		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	67
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	1,700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	670
Dimethylphthalate	ND	330
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	1,700
4-Nitrophenol	ND	670
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	1,700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	330
Fluoranthene	ND	67
Pyrene	ND	67

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC240600	Batch#:	88378
Matrix:	Soil	Prepared:	02/11/04
Units:	ug/Kg	Analyzed:	02/11/04
Basis:	as received		

Analyte	Result	RL
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	80	41-120
Phenol-d5	77	39-120
2,4,6-Tribromophenol	72	33-120
Nitrobenzene-d5	70	44-120
2-Fluorobiphenyl	72	48-120
Terphenyl-d14	67	37-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC240601	Batch#:	88378
Matrix:	Soil	Prepared:	02/11/04
Units:	ug/Kg	Analyzed:	02/16/04
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Phenol	3,360	2,360	70	48-120
2-Chlorophenol	3,360	2,482	74	52-120
1,4-Dichlorobenzene	1,680	1,122	67	50-120
N-Nitroso-di-n-propylamine	1,680	1,089	65	48-120
1,2,4-Trichlorobenzene	1,680	1,146	68	51-120
4-Chloro-3-methylphenol	3,360	2,403	72	53-120
Acenaphthene	1,680	1,171	70	50-120
4-Nitrophenol	3,360	2,199	65	40-128
2,4-Dinitrotoluene	1,680	1,174	70	49-120
Pentachlorophenol	3,360	2,329	69	38-120
Pyrene	1,680	1,157	69	46-120

Surrogate	%REC	Limits
2-Fluorophenol	80	41-120
Phenol-d5	72	39-120
2,4,6-Tribromophenol	75	33-120
Nitrobenzene-d5	66	44-120
2-Fluorobiphenyl	68	48-120
Terphenyl-d14	63	37-120

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	88378
MSS Lab ID:	170510-022	Sampled:	02/10/04
Matrix:	Soil	Received:	02/10/04
Units:	ug/Kg	Prepared:	02/11/04
Basis:	as received	Analyzed:	02/16/04
Diln Fac:	1.000		

Type: MS Lab ID: QC240602

Analyte	MSS Result	Spiked	Result	%REC	Limits
Phenol	<34.00	3,358	2,124	63	43-120
2-Chlorophenol	<34.00	3,358	2,181	65	45-120
1,4-Dichlorobenzene	<30.00	1,679	1,064	63	44-120
N-Nitroso-di-n-propylamine	<25.00	1,679	1,011	60	43-120
1,2,4-Trichlorobenzene	<36.00	1,679	1,052	63	43-120
4-Chloro-3-methylphenol	<41.00	3,358	2,114	63	45-120
Acenaphthene	<28.00	1,679	1,021	61	45-120
4-Nitrophenol	<46.00	3,358	1,998	60	37-120
2,4-Dinitrotoluene	<42.00	1,679	904.9	54	40-120
Pentachlorophenol	<44.00	3,358	2,162	64	25-120
Pyrene	<29.00	1,679	1,102	66	35-120

Surrogate	%REC	Limits
2-Fluorophenol	70	41-120
Phenol-d5	65	39-120
2,4,6-Tribromophenol	61	33-120
Nitrobenzene-d5	63	44-120
2-Fluorobiphenyl	63	48-120
Terphenyl-d14	58	37-120

Type: MSD Lab ID: QC240603

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	3,352	2,394	71	43-120	12	41
2-Chlorophenol	3,352	2,446	73	45-120	12	38
1,4-Dichlorobenzene	1,676	1,152	69	44-120	8	42
N-Nitroso-di-n-propylamine	1,676	1,160	69	43-120	14	42
1,2,4-Trichlorobenzene	1,676	1,172	70	43-120	11	42
4-Chloro-3-methylphenol	3,352	2,377	71	45-120	12	40
Acenaphthene	1,676	1,138	68	45-120	11	39
4-Nitrophenol	3,352	2,169	65	37-120	8	43
2,4-Dinitrotoluene	1,676	1,090	65	40-120	19	39
Pentachlorophenol	3,352	2,430	72	25-120	12	48
Pyrene	1,676	1,348	80	35-120	20	45

Surrogate	%REC	Limits
2-Fluorophenol	79	41-120
Phenol-d5	73	39-120
2,4,6-Tribromophenol	69	33-120
Nitrobenzene-d5	72	44-120
2-Fluorobiphenyl	71	48-120
Terphenyl-d14	69	37-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Field ID:	SS-5.0-21104	Batch#:	88422
Lab ID:	170536-001	Sampled:	02/11/04
Matrix:	Soil	Received:	02/11/04
Units:	ug/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Naphthalene	8.6	5.0
Acenaphthylene	ND	5.0
Acenaphthene	ND	5.0
Fluorene	ND	5.0
Phenanthrene	17	5.0
Anthracene	ND	5.0
Fluoranthene	17	5.0
Pyrene	18	5.0
Benzo(a)anthracene	5.6	5.0
Chrysene	7.2	5.0
Benzo(b)fluoranthene	5.7	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	7.5	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenz(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	5.4	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	109	34-139
2-Fluorobiphenyl	91	34-125
Terphenyl-d14	87	37-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC240762	Batch#:	88422
Matrix:	Soil	Prepared:	02/12/04
Units:	ug/Kg	Analyzed:	02/12/04
Basis:	as received		

Analyte	Result	RL
Naphthalene	ND	5.0
Acenaphthylene	ND	5.0
Acenaphthene	ND	5.0
Fluorene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenz(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	118	34-139
2-Fluorobiphenyl	114	34-125
Terphenyl-d14	130	37-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC240763	Batch#:	88422
Matrix:	Soil	Prepared:	02/12/04
Units:	ug/Kg	Analyzed:	02/12/04
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.51	35.95	107	46-120
Pyrene	33.51	32.35	97	37-120

Surrogate	%REC	Limits
Nitrobenzene-d5	103	34-139
2-Fluorobiphenyl	84	34-125
Terphenyl-d14	80	37-131

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	88422
MSS Lab ID:	170532-016	Sampled:	02/10/04
Matrix:	Soil	Received:	02/11/04
Units:	ug/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04
Diln Fac:	1.000		

Type: MS Lab ID: QC240764

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	<1.500	33.41	43.23	129	38-130
Pyrene	28.91	33.41	71.72	128	8-164

Surrogate	%REC	Limits
Nitrobenzene-d5	116	34-139
2-Fluorobiphenyl	95	34-125
Terphenyl-d14	107	37-131

Type: MSD Lab ID: QC240765

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	33.09	46.68	141 *	38-130	9	55
Pyrene	33.09	92.79	193 *	8-164	26	77

Surrogate	%REC	Limits
Nitrobenzene-d5	120	34-139
2-Fluorobiphenyl	94	34-125
Terphenyl-d14	122	37-131

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Matrix:	Soil	Sampled:	02/11/04
Units:	ug/Kg	Received:	02/11/04
Basis:	as received	Prepared:	02/12/04
Diln Fac:	1.000	Analyzed:	02/13/04
Batch#:	88428		

Field ID: SS-5.0-21104 Lab ID: 170536-001
Type: SAMPLE Cleanup Method: EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	119	63-140
Decachlorobiphenyl	122	46-151

Field ID: IDW-21104 Lab ID: 170536-002
Type: SAMPLE Cleanup Method: EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	107	63-140
Decachlorobiphenyl	112	46-151

Type: BLANK Cleanup Method: EPA 3665A
Lab ID: QC240784

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	115	63-140
Decachlorobiphenyl	135	46-151

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC240785	Batch#:	88428
Matrix:	Soil	Prepared:	02/12/04
Units:	ug/Kg	Analyzed:	02/13/04
Basis:	as received		

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits
Aroclor-1242	166.4	225.1	135	77-155

Surrogate	%REC	Limits
TCMX	130	63-140
Decachlorobiphenyl	131	46-151

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	170536	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	88428
MSS Lab ID:	170510-018	Sampled:	02/10/04
Matrix:	Soil	Received:	02/10/04
Units:	ug/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/17/04
Diln Fac:	1.000		

Type: MS
Lab ID: QC240786

Cleanup Method: EPA 3665A

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1242	<2.200	168.6	171.1	101	71-148

Surrogate	%REC	Limits
TCMX	110	63-140
Decachlorobiphenyl	106	46-151

Type: MSD
Lab ID: QC240787

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1242	166.4	162.8	98	71-148	4	31

Surrogate	%REC	Limits
TCMX	111	63-140
Decachlorobiphenyl	106	46-151

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California LUFT Metals

Lab #:	170536	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Field ID:	SS-5.0-21104	Batch#:	88403
Matrix:	Soil	Sampled:	02/11/04
Units:	mg/Kg	Received:	02/11/04
Basis:	as received	Prepared:	02/12/04
Diln Fac:	1.000	Analyzed:	02/12/04

Type: SAMPLE Lab ID: 170536-001

Analyte	Result	RL
Cadmium	ND	0.24
Chromium	28	0.48
Lead	29	14
Nickel	22	0.95
Zinc	50	0.95

Type: BLANK Lab ID: QC240701

Analyte	Result	RL
Cadmium	ND	0.25
Chromium	ND	0.50
Lead	ND	15
Nickel	ND	1.0
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California LUFT Metals

Lab #:	170536	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Matrix:	Soil	Batch#:	88403
Units:	mg/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04
Diln Fac:	1.000		

Type: BS Lab ID: QC240702

Analyte	Spiked	Result	%REC	Limits
Cadmium	10.00	10.23	102	79-120
Chromium	100.0	105.6	106	80-120
Lead	100.0	102.3	102	78-120
Nickel	25.00	27.30	109	79-120
Zinc	25.00	26.56	106	76-120

Type: BSD Lab ID: QC240703

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	10.00	10.49	105	79-120	3	20
Chromium	100.0	106.4	106	80-120	1	20
Lead	100.0	105.8	106	78-120	3	20
Nickel	25.00	26.69	107	79-120	2	20
Zinc	25.00	26.43	106	76-120	0	20

RPD= Relative Percent Difference

12.0

Curtis & Tompkins, Ltd.

California LUFT Metals

Lab #:	170536	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	88403
MSS Lab ID:	170532-001	Sampled:	02/10/04
Matrix:	Soil	Received:	02/11/04
Units:	mg/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04
Diln Fac:	1.000		

Type: MS Lab ID: QC240704

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	1.957	8.621	10.41	98	57-120
Chromium	50.96	86.21	127.1	88	55-120
Lead	35.70	86.21	99.05	73	42-125
Nickel	57.59	21.55	76.16	86	36-138
Zinc	356.9	21.55	597.0	1114 NM	34-139

Type: MSD Lab ID: QC240705

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	6.711	7.728	86	57-120	10	20
Chromium	67.11	110.7	89	55-120	1	20
Lead	67.11	79.60	65	42-125	5	30
Nickel	16.78	68.36	64	36-138	5	24
Zinc	16.78	367.8	65 NM	34-139	46 *	24

*= Value outside of QC limits; see narrative
NM= Not Meaningful
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170536	Project#:	8367.001
Client:	Geomatrix Consultants		
Field ID:	IDW-21104	Diln Fac:	1.000
Lab ID:	170536-002	Sampled:	02/11/04
Matrix:	Soil	Received:	02/11/04
Units:	mg/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04

Analyte	Result	RL	Batch#	Prep	Analysis
Antimony	ND	2.5	88403	EPA 3050	EPA 6010B
Arsenic	3.9	0.21	88403	EPA 3050	EPA 6010B
Barium	420	0.42	88403	EPA 3050	EPA 6010B
Beryllium	0.38	0.085	88403	EPA 3050	EPA 6010B
Cadmium	0.85	0.21	88403	EPA 3050	EPA 6010B
Chromium	22	0.42	88403	EPA 3050	EPA 6010B
Cobalt	66	0.85	88403	EPA 3050	EPA 6010B
Copper	32	0.42	88403	EPA 3050	EPA 6010B
Lead	80	13	88403	EPA 3050	EPA 6010B
Mercury	0.21	0.019	88404	METHOD	EPA 7471
Molybdenum	1.1	0.85	88403	EPA 3050	EPA 6010B
Nickel	40	0.85	88403	EPA 3050	EPA 6010B
Selenium	1.1	0.21	88403	EPA 3050	EPA 6010B
Silver	ND	0.21	88403	EPA 3050	EPA 6010B
Thallium	1.4	0.21	88403	EPA 3050	EPA 6010B
Vanadium	23	0.42	88403	EPA 3050	EPA 6010B
Zinc	120	0.85	88403	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170536	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC240701	Batch#:	88403
Matrix:	Soil	Prepared:	02/12/04
Units:	mg/Kg	Analyzed:	02/12/04
Basis:	as received		

Analyte	Result	RL
Antimony	ND	3.0
Arsenic	ND	0.25
Barium	ND	0.50
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.50
Cobalt	ND	1.0
Copper	ND	0.50
Lead	ND	15
Molybdenum	ND	1.0
Nickel	ND	1.0
Selenium	ND	0.25
Silver	ND	0.25
Thallium	ND	0.25
Vanadium	ND	0.50
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

15.0

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170536	Prep:	METHOD
Client:	Geomatrix Consultants	Analysis:	EPA 7471
Project#:	8367.001		
Analyte:	Mercury	Basis:	as received
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC240707	Batch#:	88404
Matrix:	Soil	Prepared:	02/12/04
Units:	mg/Kg	Analyzed:	02/12/04

Result	RL
ND	0.020

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170536	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Matrix:	Soil	Batch#:	88403
Units:	mg/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04
Diln Fac:	1.000		

Type: BS Lab ID: QC240702

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	100.7	101	79-128
Arsenic	50.00	52.10	104	79-120
Barium	100.0	104.7	105	80-120
Beryllium	2.500	2.612	104	80-120
Cadmium	10.00	10.23	102	79-120
Chromium	100.0	105.6	106	80-120
Cobalt	25.00	26.42	106	77-120
Copper	12.50	13.03	104	80-120
Lead	100.0	102.3	102	78-120
Molybdenum	20.00	20.90	104	80-120
Nickel	25.00	27.30	109	79-120
Selenium	50.00	49.48	99	71-120
Silver	10.00	10.32	103	78-120
Thallium	50.00	49.87	100	73-120
Vanadium	25.00	26.11	104	80-120
Zinc	25.00	26.56	106	76-120

Type: BSD Lab ID: QC240703

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	102.4	102	79-128	2	20
Arsenic	50.00	53.90	108	79-120	3	20
Barium	100.0	104.7	105	80-120	0	20
Beryllium	2.500	2.633	105	80-120	1	20
Cadmium	10.00	10.49	105	79-120	3	20
Chromium	100.0	106.4	106	80-120	1	20
Cobalt	25.00	26.81	107	77-120	1	20
Copper	12.50	12.92	103	80-120	1	20
Lead	100.0	105.8	106	78-120	3	20
Molybdenum	20.00	21.21	106	80-120	1	20
Nickel	25.00	26.69	107	79-120	2	20
Selenium	50.00	51.05	102	71-120	3	20
Silver	10.00	10.16	102	78-120	2	20
Thallium	50.00	50.50	101	73-120	1	20
Vanadium	25.00	26.07	104	80-120	0	20
Zinc	25.00	26.43	106	76-120	0	20

RPD= Relative Percent Difference

17.0

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170536	Prep:	METHOD
Client:	Geomatrix Consultants	Analysis:	EPA 7471
Project#:	8367.001		
Analyte:	Mercury	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88404
Units:	mg/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC240708	0.5000	0.4450	89	80-120		
BSD	QC240709	0.5000	0.4740	95	80-120	6	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170536	Prep:	METHOD
Client:	Geomatrix Consultants	Analysis:	EPA 7471
Project#:	8367.001		
Analyte:	Mercury	Basis:	as received
Field ID:	ZZZZZZZZZZ	Diln Fac:	10.00
Type:	SDUP	Batch#:	88404
MSS Lab ID:	170251-001	Sampled:	01/29/04
Lab ID:	QC240712	Received:	01/29/04
Matrix:	Soil	Prepared:	02/12/04
Units:	mg/Kg	Analyzed:	02/12/04

MSS Result	Result	RL	RPD	Lim
1.990	1.557	0.19	24 *	22

*= Value outside of QC limits; see narrative
RL= Reporting Limit
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170536	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	88403
MSS Lab ID:	170532-001	Sampled:	02/10/04
Matrix:	Soil	Received:	02/11/04
Units:	mg/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04
Diln Fac:	1.000		

Type: MS Lab ID: QC240704

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	3.796	86.21	32.22	33	1-120
Arsenic	13.67	43.10	55.30	97	57-120
Barium	42.43	86.21	123.7	94	52-134
Beryllium	0.4588	2.155	2.477	94	65-120
Cadmium	1.957	8.621	10.41	98	57-120
Chromium	50.96	86.21	127.1	88	55-120
Cobalt	9.193	21.55	30.57	99	52-120
Copper	61.71	10.78	77.67	148 NM	47-143
Lead	35.70	86.21	99.05	73	42-125
Molybdenum	0.7452	17.24	14.73	81	45-120
Nickel	57.59	21.55	76.16	86	36-138
Selenium	1.346	43.10	38.75	87	42-120
Silver	<0.2100	8.621	7.797	90	66-120
Thallium	<6.500	43.10	31.78	74	48-120
Vanadium	55.00	21.55	74.70	91	45-136
Zinc	356.9	21.55	597.0	1114 NM	34-139

Type: MSD Lab ID: QC240705

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	67.11	24.42	31	1-120	4	44
Arsenic	33.56	35.94	66	57-120	25	28
Barium	67.11	103.9	92	52-134	1	20
Beryllium	1.678	2.047	95	65-120	1	20
Cadmium	6.711	7.728	86	57-120	10	20
Chromium	67.11	110.7	89	55-120	1	20
Cobalt	16.78	23.77	87	52-120	8	20
Copper	8.389	64.40	32 NM	47-143	15	21
Lead	67.11	79.60	65	42-125	5	30
Molybdenum	13.42	10.24	71	45-120	13	20
Nickel	16.78	68.36	64	36-138	5	24
Selenium	33.56	28.86	82	42-120	5	23
Silver	6.711	6.023	90	66-120	1	20
Thallium	33.56	24.35	73	48-120	2	25
Vanadium	16.78	69.43	86	45-136	1	20
Zinc	16.78	367.8	65 NM	34-139	46 *	24

*= Value outside of QC limits; see narrative
NM= Not Meaningful
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170536	Prep:	METHOD
Client:	Geomatrix Consultants	Analysis:	EPA 7471
Project#:	8367.001		
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	88404
MSS Lab ID:	170504-001	Sampled:	01/21/04
Matrix:	Soil	Received:	01/21/04
Units:	mg/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC240710	0.1423	0.5000	0.6790	107	74-131		
MSD	QC240711		0.4902	0.6745	109	74-131	1	22

RPD= Relative Percent Difference

20.0

Curtis & Tompkins, Ltd.

Lead

Lab #:	170536	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	88403
MSS Lab ID:	170532-001	Sampled:	02/10/04
Matrix:	Soil	Received:	02/11/04
Units:	mg/Kg	Prepared:	02/12/04
Basis:	as received	Analyzed:	02/12/04

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC240704	35.70	86.21	99.05	73	42-125		
MSD	QC240705		67.11	79.60	65	42-125	5	30

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Lead

Lab #:	170536	Prep:	WET
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Batch#:	88470
Field ID:	IDW-21104	Sampled:	02/11/04
Matrix:	WET Leachate	Received:	02/11/04
Units:	ug/L	Prepared:	02/13/04
Diln Fac:	1.000	Analyzed:	02/13/04

Type	Lab ID	Result	RL
SAMPLE	170536-002	2,300	1,500
BLANK	QC240940	ND	1,500

ND= Not Detected
RL= Reporting Limit

34.0

Lead

Lab #:	170536	Prep:	WET
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead		
Field ID:	IDW-21104	Batch#:	88470
MSS Lab ID:	170536-002	Sampled:	02/11/04
Matrix:	WET Leachate	Received:	02/11/04
Units:	ug/L	Prepared:	02/13/04
Diln Fac:	1.000	Analyzed:	02/13/04

Type	Lab ID	MSS Result	Spiked	Result	RL	%REC	Limits	RPD	Lim
BS	QC240941		2,000	2,003		100	61-131		
BSD	QC240942		2,000	2,101		105	61-131	5	29
SDUP	QC240943	2,259		1,892	1,500			18	34
SSPIKE	QC240944	2,259	10,000	12,220		100	40-143		

RL= Reporting Limit
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd., Analytical Laboratories. Since 1878
2323 Fifth Street. Berkeley. CA 94710. Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Geomatrix Consultants
2101 Webster Street
12th Floor
Oakland, CA 94612

Date: 22-MAR-04
Lab Job Number: 170945
Project ID: 8367.001
Location:

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

Laboratory Number: **170945**
Client: **Geomatrix Consultants**
Project Name: **8367.001**

Order Date: **03/03/04**

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for one water and four soil samples received from the above referenced project. The samples were received ambient and intact.

Total Volatile Hydrocarbons: The water matrix spike trifluorotoluene surrogate recoveries were above acceptance limits due to coelution of the surrogate peak with hydrocarbon peaks. The associated bromofluorobenzene surrogate recoveries were acceptable, therefore, there is no affect on the quality of the sample results. No other analytical problems were encountered.

Total Extractable Hydrocarbons: No analytical problems were encountered.

Volatile Organic Compounds: The bromofluorobenzene surrogate recoveries for sample SW-N-30304 (170945-005) and method blank QC242965 were above acceptance limits. No target compounds were detected in the associated samples, therefore, there is no affect on the quality of the sample results. No other analytical problems were encountered.

Semi-Volatile Organic Compounds: No analytical problems were encountered.

Polyaromatic Hydrocarbons: No analytical problems were encountered.

PCBs: No analytical problems were encountered.

Metals: The soil matrix spike recoveries for nickel were not meaningful. The concentration of analyte in the spiked sample rendered the spike amount insignificant. The matrix spike recoveries for lead and mercury were outside acceptance limits, as were the matrix spike duplicate relative percent differences (RPDs). The associated blank spike recoveries and blank spike duplicate RPDs were acceptable and the spiked samples were not from this site.

Chain-of Custody Record

Date: 3/03/04 | Page 1 of 1

Project No.: 9367.001

Samplers (Signature:)

Sarah Mearon

	Date	Time	Sample Number
1	3/03/04	1105	UST-5-3.0
2		1118	UST-B-6.0
3		1200	SP-30304
4		1245	PITWATER-30304
5	↓	1400	SW-N-30304

ANALYSES

	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan) SVOCs	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	HOLD	Oil & Grease	Cd, Cr, Pb, Ni, Zn CAM 17 Metals	STLC Lead	PCBs (8082)
1											X				
2				X			X	X		X		X			
3				X	X		X	X	X	X		9%	X	X	X
4				X			X	X	X	X					
5				X	9%	X	5%	X	X	X			9%	9%	X

REMARKS

	Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers	Additional Comments
1	S				1	6"x2" brass sleeve
2	S				1	↓
3	S				4	• COMPOSITE PRIOR TO ANALYSIS
4	W				8	6 VOAs, 2 1L ambers
5	S				1	6"x2" brass sleeve PCBs-yes.

STRAIGHT FROM FIELD :: NOTICE

Laboratory: Curtis & Tompkins

Turnaround Time: 24-hour

Results to: Jennifer Patterson

Total No. of Containers: (15)

Relinquished by (Signature): Sarah Mearon	Date: 3/3/04	Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:	Method of Shipment: drop-off		
Printed Name: Sarah Mearon	Time: 1515	Printed Name:	Time:	Printed Name:	Time:	Laboratory Comments and Log No.: 170945		
Company: Geomatrix		Company:		Company:				
Received by: Elnora Fleming	Date: 3/3/04	Received by:	Date:	Received by:	Date:			
Printed Name: Elnora Flemings	Time: 1515	Printed Name:	Time:	Printed Name:	Time:			
Company: C & T		Company:		Company:				

Received ☐ On Ice ☐ Cold ☐ Ambient ☐ Intact

Preservation Correct? ☐ Yes ☐ No ☐ N/A

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 • Fax: 510-663-4141

SOP Volume: Client Services
Section: 1.1.2
Page: 1 of 1
Effective Date: 10-May-99
Revision: 1 Number 3 of 3
Filename: F:\QC\Forms\QC\Cooler.wpd

Curtis & Tompkins, Ltd.

COOLER RECEIPT CHECKLIST

Login#: 170945 Date Received: 3/3/04 Number of Coolers: 1
Client: GeoStrix Project: 8367.001

A. Preliminary Examination Phase
Date Opened: 3/3/04 By (print): Peter P. (sign)

1. Did cooler come with a shipping slip (airbill, etc.)? YES (NO)
If YES, enter carrier name and airbill number:
2. Were custody seals on outside of cooler? YES (NO)
How many and where? Seal date: Seal name:
3. Were custody seals unbroken and intact at the date and time of arrival? YES NO N/A
4. Were custody papers dry and intact when received? (YES) NO
5. Were custody papers filled out properly (ink, signed, etc.)? (YES) NO
6. Did you sign the custody papers in the appropriate place? (YES) NO
7. Was project identifiable from custody papers? (YES) NO
If YES, enter project name at the top of this form.
8. If required, was sufficient ice used? Samples should be 2-6 degrees C. YES NO
Type of ice: none Temperature: Straight from field/Ambient

B. Login Phase
Date Logged In: 3/3/04 By (print): Peter P. (sign)

1. Describe type of packing in cooler: none
2. Did all bottles arrive unbroken? (YES) NO
3. Were labels in good condition and complete (ID, date, time, signature, etc.)? (YES) NO
4. Did bottle labels agree with custody papers? (YES) NO
5. Were appropriate containers used for the tests indicated? (YES) NO
6. Were correct preservatives added to samples? (YES) NO
7. Was sufficient amount of sample sent for tests indicated? (YES) NO
8. Were bubbles absent in VOA samples? If NO, list sample Ids below. YES NO
9. Was the client contacted concerning this sample delivery? YES NO
If YES, give details below.
Who was called? By whom? Date:

Additional Comments:

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	PITWATER-30304	Batch#:	88986
Matrix:	Water	Sampled:	03/03/04
Units:	ug/L	Received:	03/03/04
Diln Fac:	1.000	Analyzed:	03/03/04

Type: SAMPLE Lab ID: 170945-004

Analyte	Result	RL
Gasoline C7-C12	560 H Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	101	74-142
Bromofluorobenzene (FID)	117	80-139

Type: BLANK Lab ID: QC242939

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	102	74-142
Bromofluorobenzene (FID)	106	80-139

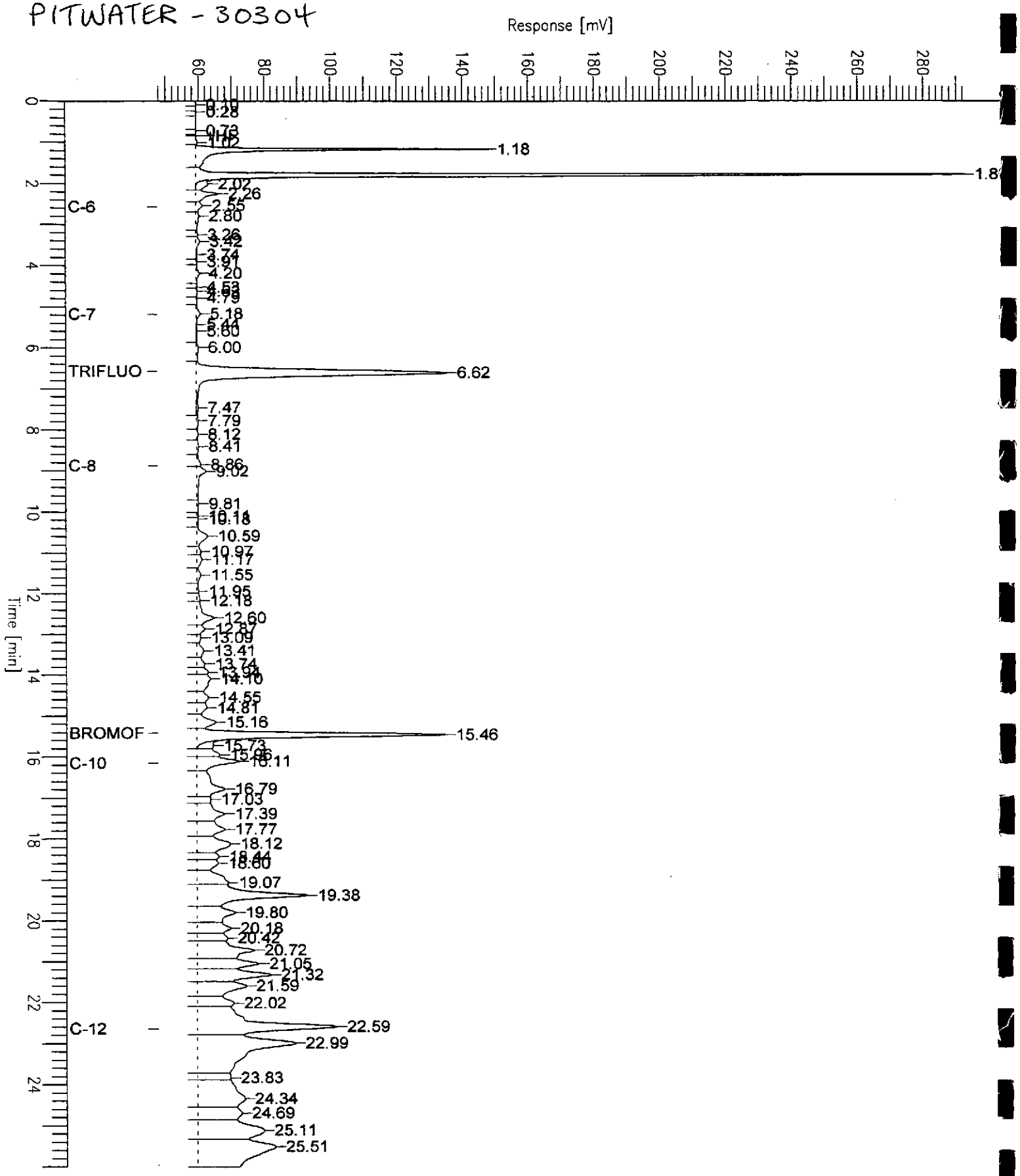
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

GC04 TVH 'J' Data File FID

Sample Name : 170945-004,88986,tvh
FileName : G:\GC04\DATA\063J012.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 48 mV

Sample #: a7 Page 1 of 1
Date : 3/4/04 08:56 AM
Time of Injection: 3/3/04 05:04 PM
Low Point : 47.53 mV High Point : 292.69 mV
Plot Scale: 245.2 mV

PITWATER - 30304

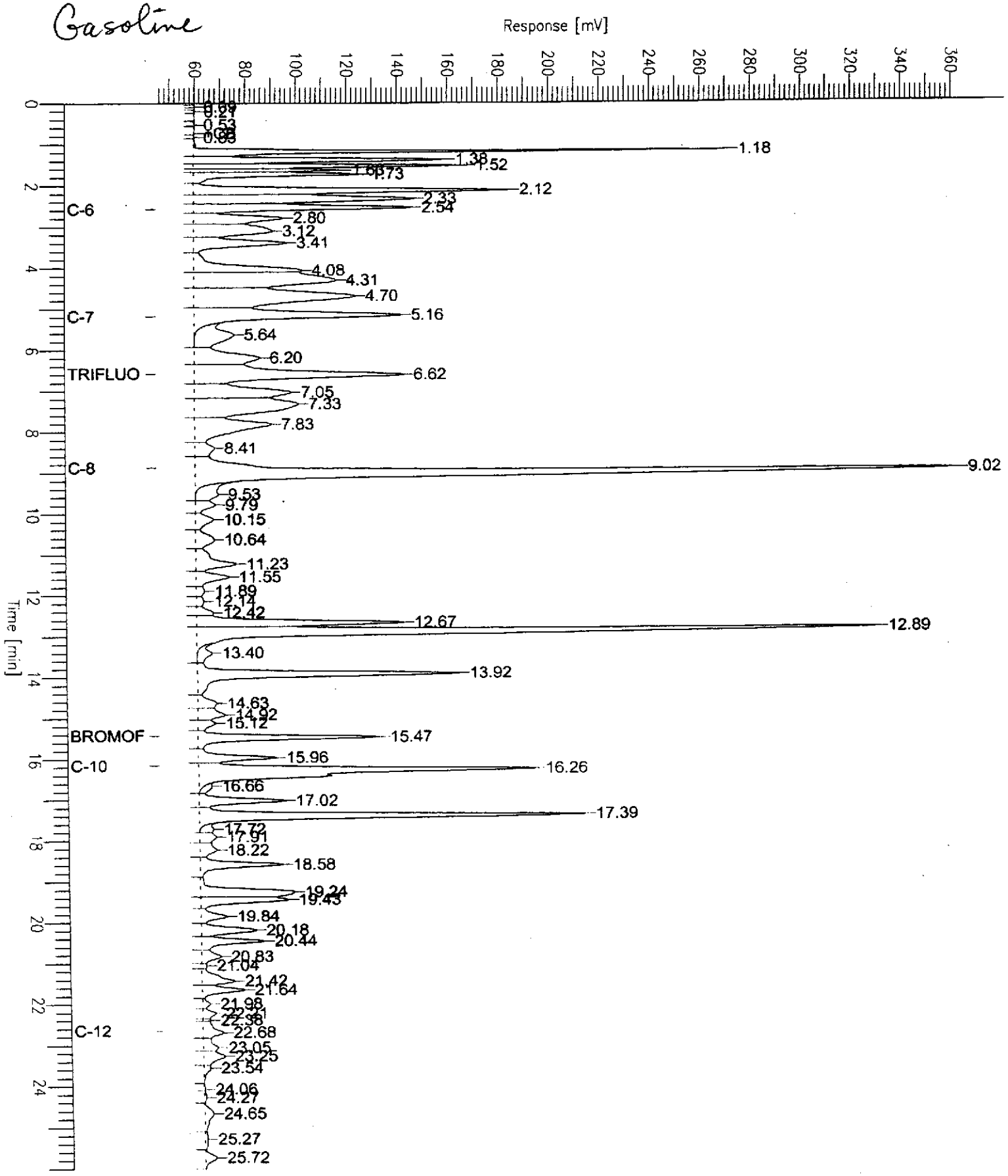


GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs,qc242941,88986,04ws0372,5/5000
FileName : G:\GC04\DATA\063J003.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 45 mV

Sample #: Page 1 of 1
Date : 3/3/04 12:00 PM
Time of Injection: 3/3/04 11:34 AM
Low Point : 44.78 mV High Point : 361.96 mV
Plot Scale: 317.2 mV

Gasoline



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC242941	Batch#:	88986
Matrix:	Water	Analyzed:	03/03/04
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,932	97	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	140	74-142
Bromofluorobenzene (FID)	112	80-139

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	88986
MSS Lab ID:	170924-001	Sampled:	03/02/04
Matrix:	Water	Received:	03/02/04
Units:	ug/L	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: MS Lab ID: QC242952

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	19.64	2,000	2,044	101	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	150 *	74-142
Bromofluorobenzene (FID)	119	80-139

Type: MSD Lab ID: QC242953

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,011	100	80-120	2	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	153 *	74-142
Bromofluorobenzene (FID)	119	80-139

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Soil	Batch#:	88989
Units:	mg/Kg	Sampled:	03/03/04
Basis:	as received	Received:	03/03/04
Diln Fac:	1.000		

Field ID: UST-B-6.0 Lab ID: 170945-002
Type: SAMPLE Analyzed: 03/03/04

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	87	71-138
Bromofluorobenzene (FID)	99	73-143

Field ID: SP-30304 Lab ID: 170945-003
Type: SAMPLE Analyzed: 03/04/04

Analyte	Result	RL
Gasoline C7-C12	4.9 H Y	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	85	71-138
Bromofluorobenzene (FID)	108	73-143

Type: BLANK Analyzed: 03/03/04
Lab ID: QC242950

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	83	71-138
Bromofluorobenzene (FID)	90	73-143

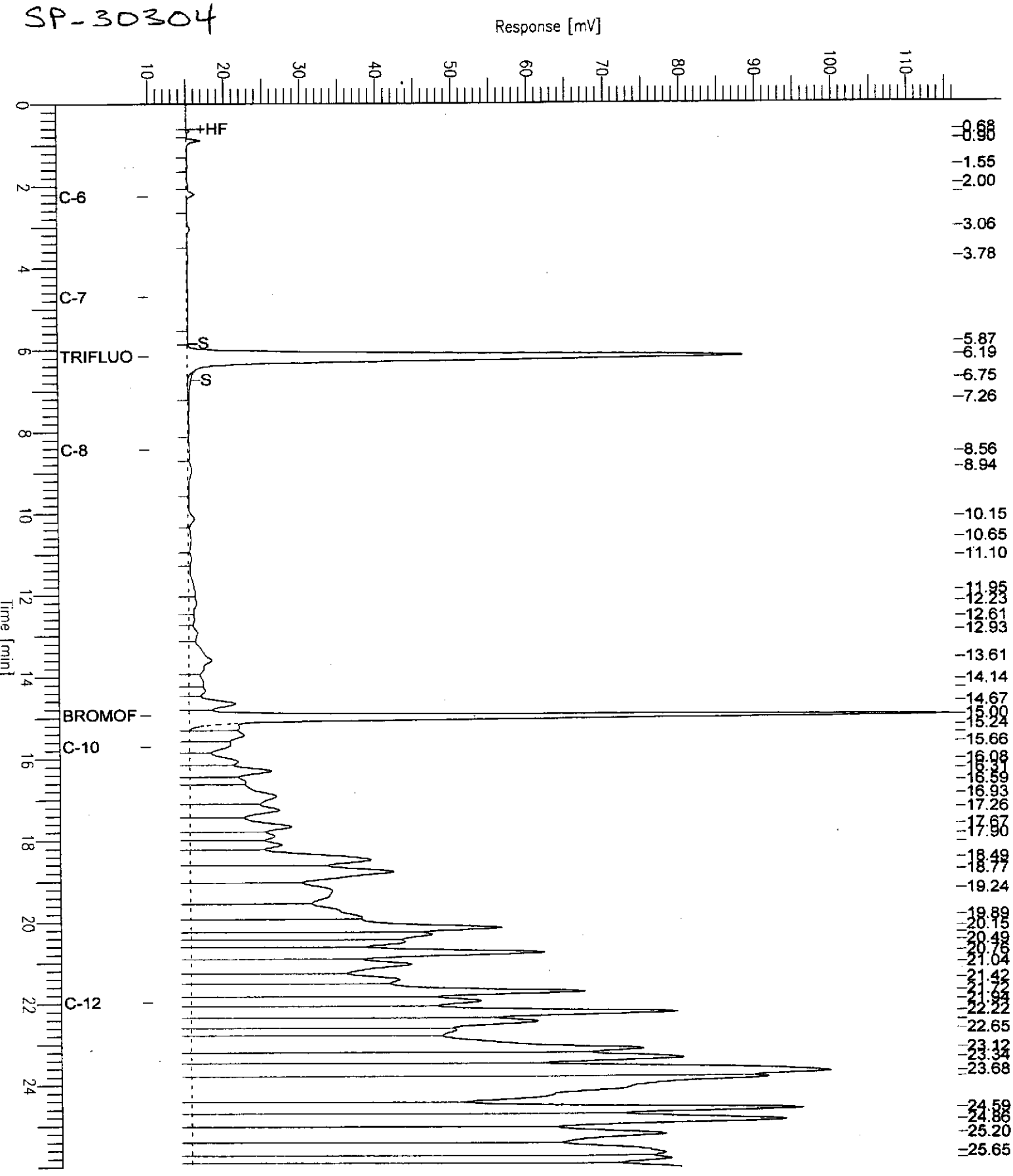
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

GC07 TVH 'A' Data File RTX 502

Sample Name : 170945-003,88989,tvh
FileName : G:\GC07\DATA\063A023.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 10 mV

Sample #: comp
Date : 3/4/04 07:12 AM
Time of Injection: 3/4/04 12:32 AM
Low Point : 10.00 mV High Point : 116.14 mV
Plot Scale: 106.1 mV

SP-30304

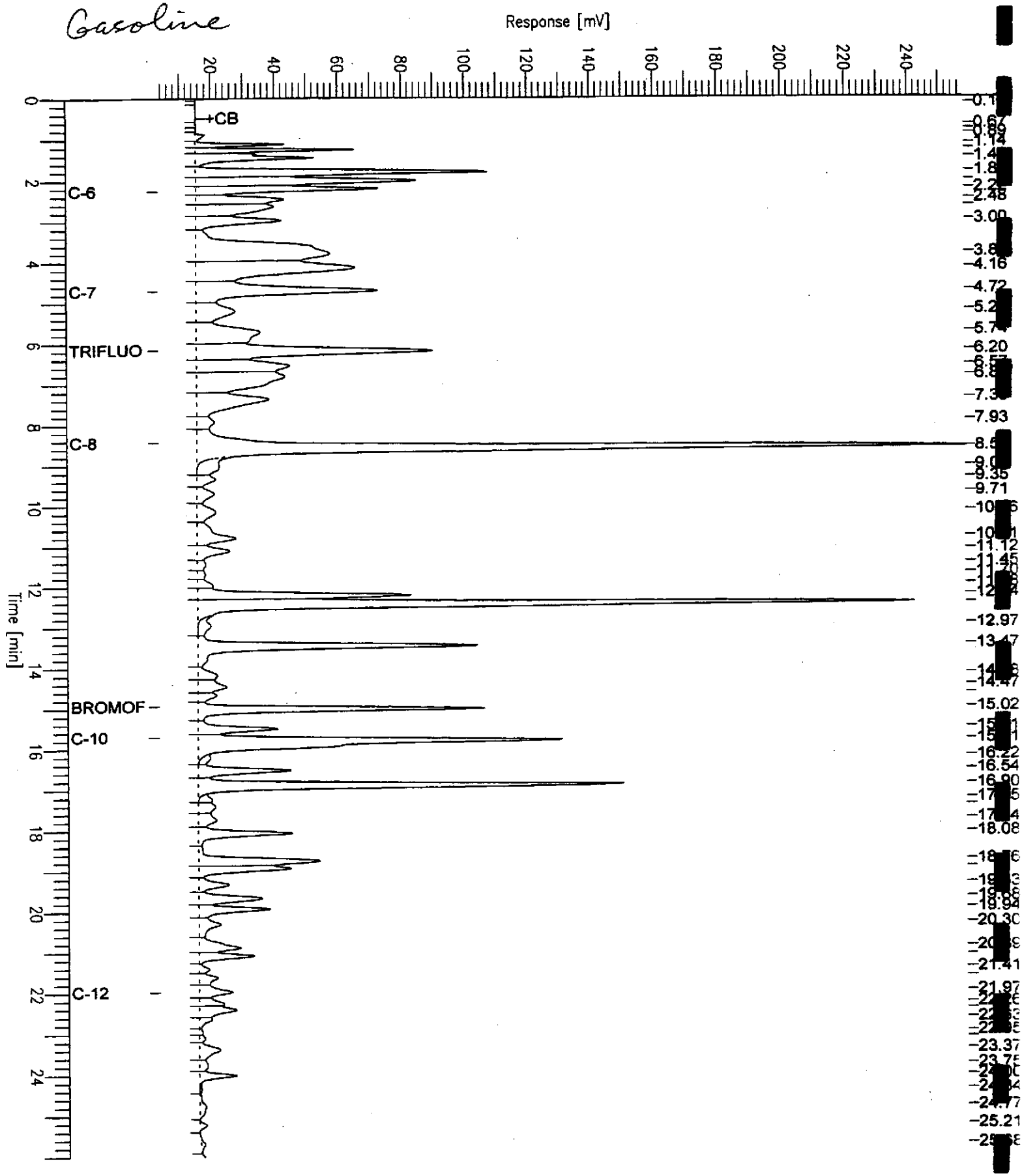


GC07 TVH 'A' Data File RTX 502

Sample Name : ccv/lcs,qc242951,88989,04ws0372,5/5000
FileName : G:\GC07\DATA\063A001.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 3 mV

Sample #: Page 1 of 1
Date : 3/3/04 11:46 AM
Time of Injection: 3/3/04 11:20 AM
Low Point : 3.09 mV High Point : 257.99 mV
Plot Scale: 254.9 mV

Gasoline



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Type:	LCS	Basis:	as received
Lab ID:	QC242951	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88989
Units:	mg/Kg	Analyzed:	03/03/04

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	8.920	89	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	71-138
Bromofluorobenzene (FID)	97	73-143

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	170926-042	Batch#:	88989
Matrix:	Soil	Sampled:	03/02/04
Units:	mg/Kg	Received:	03/02/04
Basis:	as received	Analyzed:	03/03/04

Type: MS Lab ID: QC242961

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.03832	10.99	9.036	82	47-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	71-138
Bromofluorobenzene (FID)	102	73-143

Type: MSD Lab ID: QC242962

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.259	7.241	78	47-120	5	23

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	71-138
Bromofluorobenzene (FID)	101	73-143

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	170945	Prep:	EPA 3520C
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	PITWATER-30304	Batch#:	89014
Matrix:	Water	Sampled:	03/03/04
Units:	ug/L	Received:	03/03/04
Diln Fac:	1.000	Prepared:	03/03/04

Type:	SAMPLE	Analyzed:	03/05/04
Lab ID:	170945-004	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	12,000 H	50
Motor Oil C24-C36	16,000 L	300

Surrogate	%REC	Limits
Hexacosane	72	53-142

Type:	BLANK	Analyzed:	03/04/04
Lab ID:	QC243038	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	107	53-142

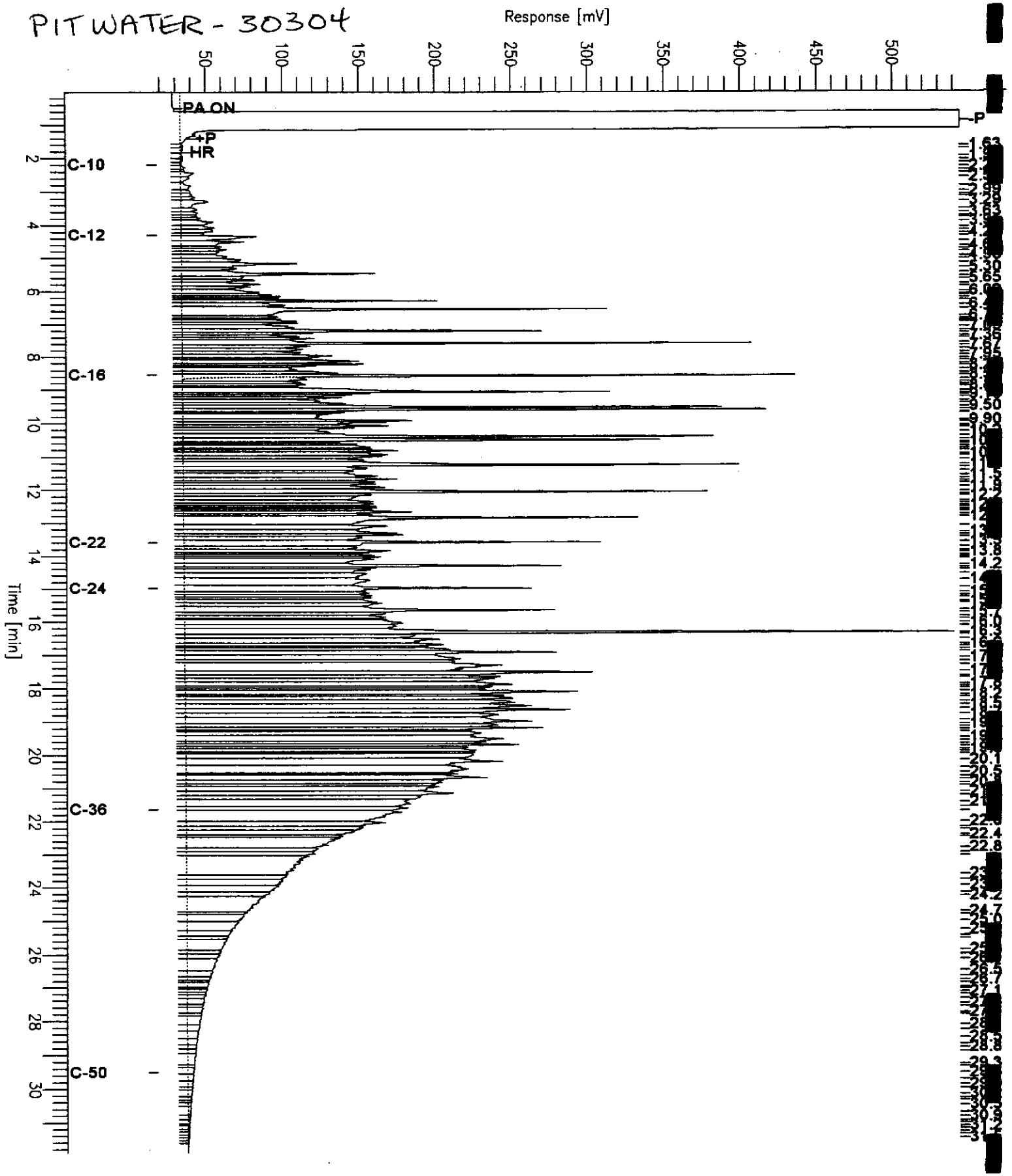
H= Heavier hydrocarbons contributed to the quantitation
L= Lighter hydrocarbons contributed to the quantitation
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 170945-004sg,89014
FileName : G:\GC17\CHA\060A150.RAW
Method : ATEH064.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 89014 Page 1 of 1
Date : 3/5/04 10:31 AM
Time of Injection: 3/5/04 08:39 AM
Low Point : 17.68 mV High Point : 544.51 mV
Plot Scale: 526.8 mV

PIT WATER - 30304

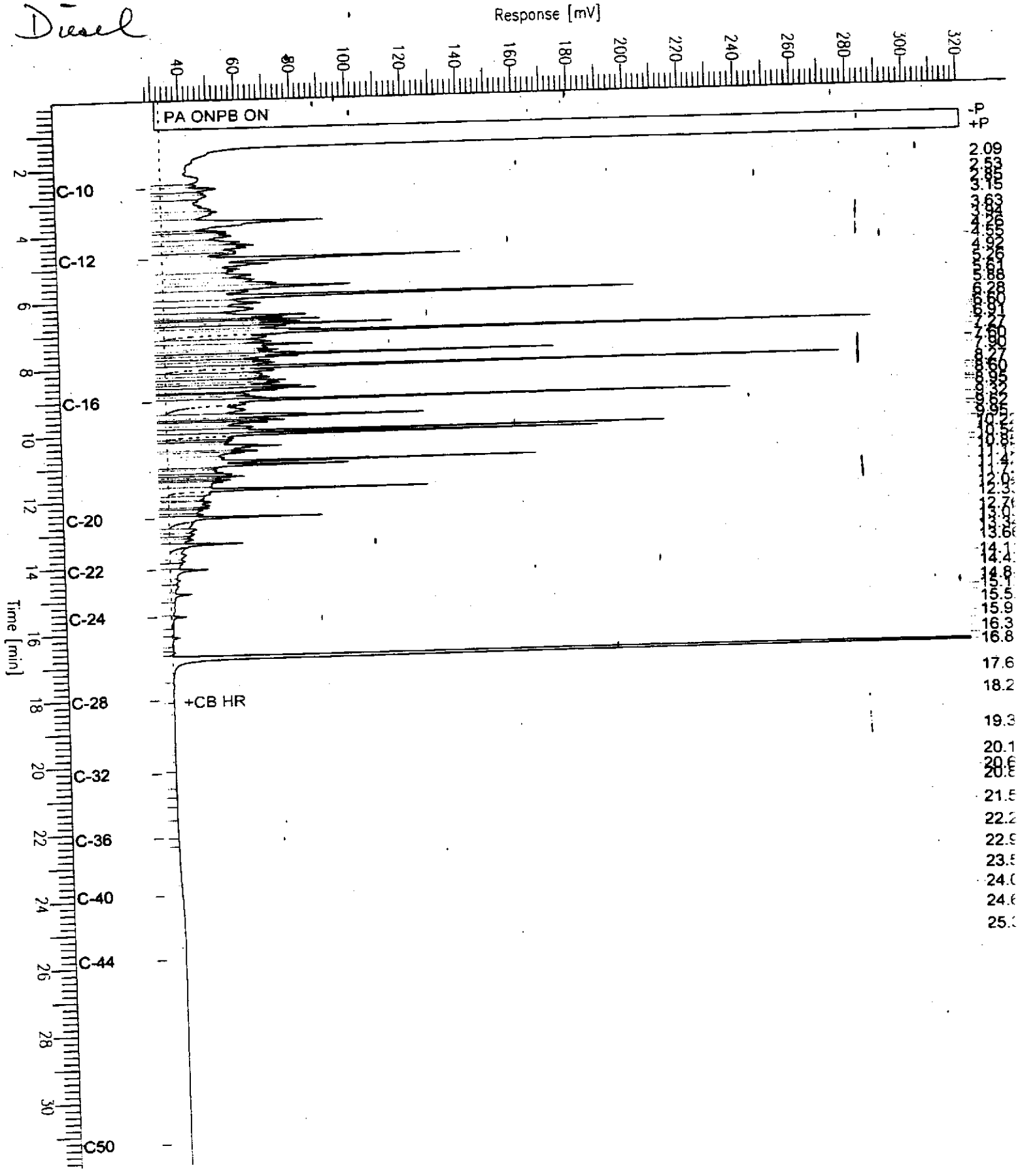


Chromatogram

Sample Name : ccv,03ws2078,dsl
FileName : G:\GC13\CHB\064B004.RAW
Method : BTEH065.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 28 mV

Sample #: 500mg/L
Date : 3/5/04 10:48 AM
Time of Injection: 3/4/04 04:40 PM
Low Point : 27.77 mV High Point : 320.99 mV
Plot Scale: 293.2 mV

Diesel



Chromatogram

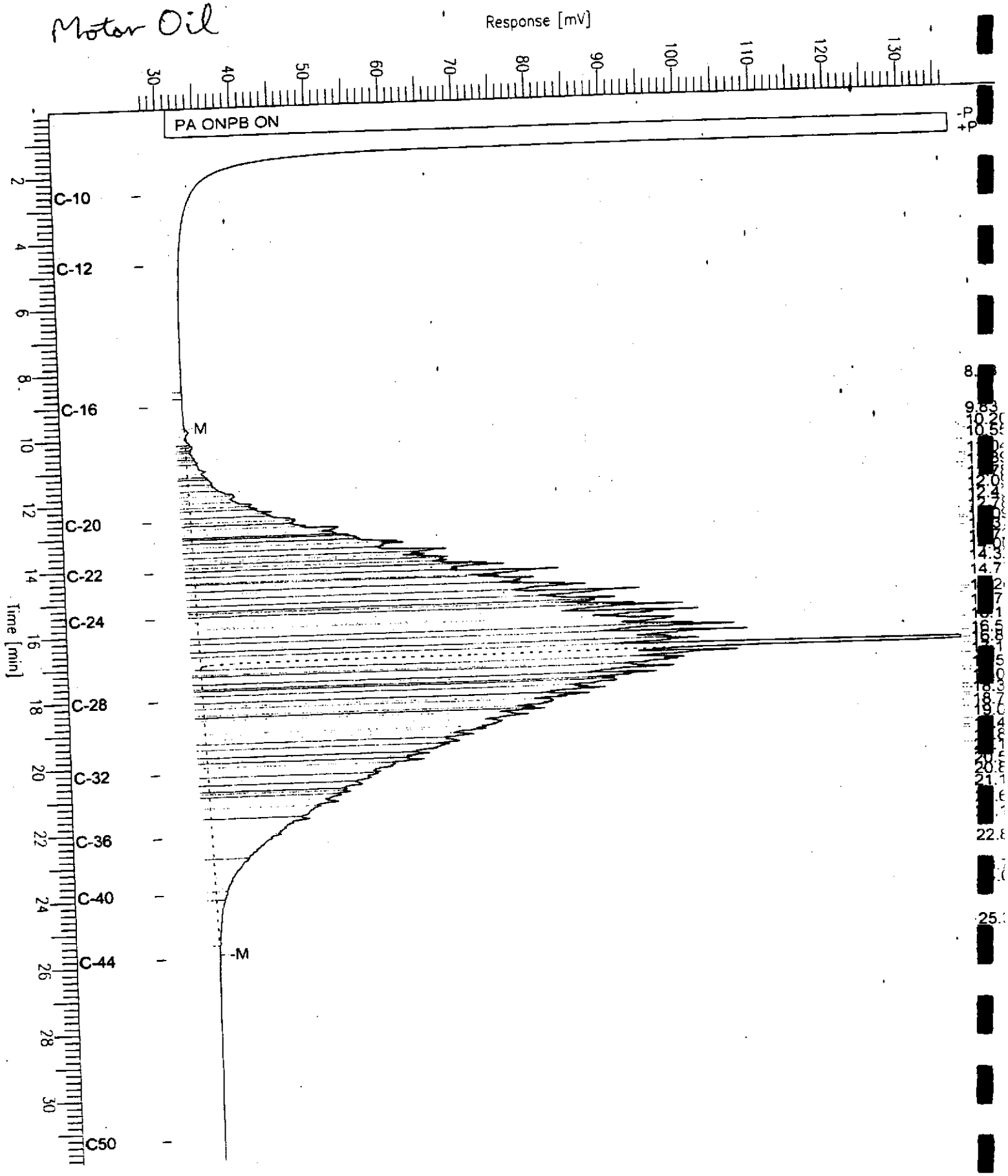
Sample Name : ccv,04ws0244,mo
FileName : G:\GC13\CHB\064B005.RAW
Method : BTEH065.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: 28 mV

Sample #: 500mg/L
Date : 3/5/04 10:48 AM
Time of Injection: 3/4/04 05:19 PM
Low Point : 27.84 mV
Plot Scale: 109.1 mV

High Point : 136.89 mV

Motor Oil



Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	170945	Prep:	EPA 3520C
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Water	Batch#:	89014
Units:	ug/L	Prepared:	03/03/04
Diln Fac:	1.000		

Type: BS
Lab ID: QC243039

Analyzed: 03/04/04
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,820	73	57-128

Surrogate	%REC	Limits
Hexacosane	81	53-142

Type: BSD
Lab ID: QC243040

Analyzed: 03/05/04
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,898	76	57-128	4	38

Surrogate	%REC	Limits
Hexacosane	79	53-142

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	170945	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Soil	Sampled:	03/03/04
Units:	mg/Kg	Received:	03/03/04
Basis:	as received	Prepared:	03/03/04
Batch#:	89016	Analyzed:	03/04/04

Field ID: UST-B-6.0
Type: SAMPLE
Lab ID: 170945-002
Diln Fac: 1.000
Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	2.6 H Y	1.0
Motor Oil C24-C36	47	5.0

Surrogate	%REC	Limits
Hexacosane	76	52-131

Field ID: SP-30304
Type: SAMPLE
Lab ID: 170945-003
Diln Fac: 5.000
Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	1,700	5.0
Motor Oil C24-C36	170 L Y	25

Surrogate	%REC	Limits
Hexacosane	108	52-131

Field ID: SW-N-30304
Type: SAMPLE
Lab ID: 170945-005
Diln Fac: 1.000
Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	30 H Y	1.0
Motor Oil C24-C36	110	5.0

Surrogate	%REC	Limits
Hexacosane	72	52-131

Type: BLANK
Lab ID: QC243048
Diln Fac: 1.000
Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	93	52-131

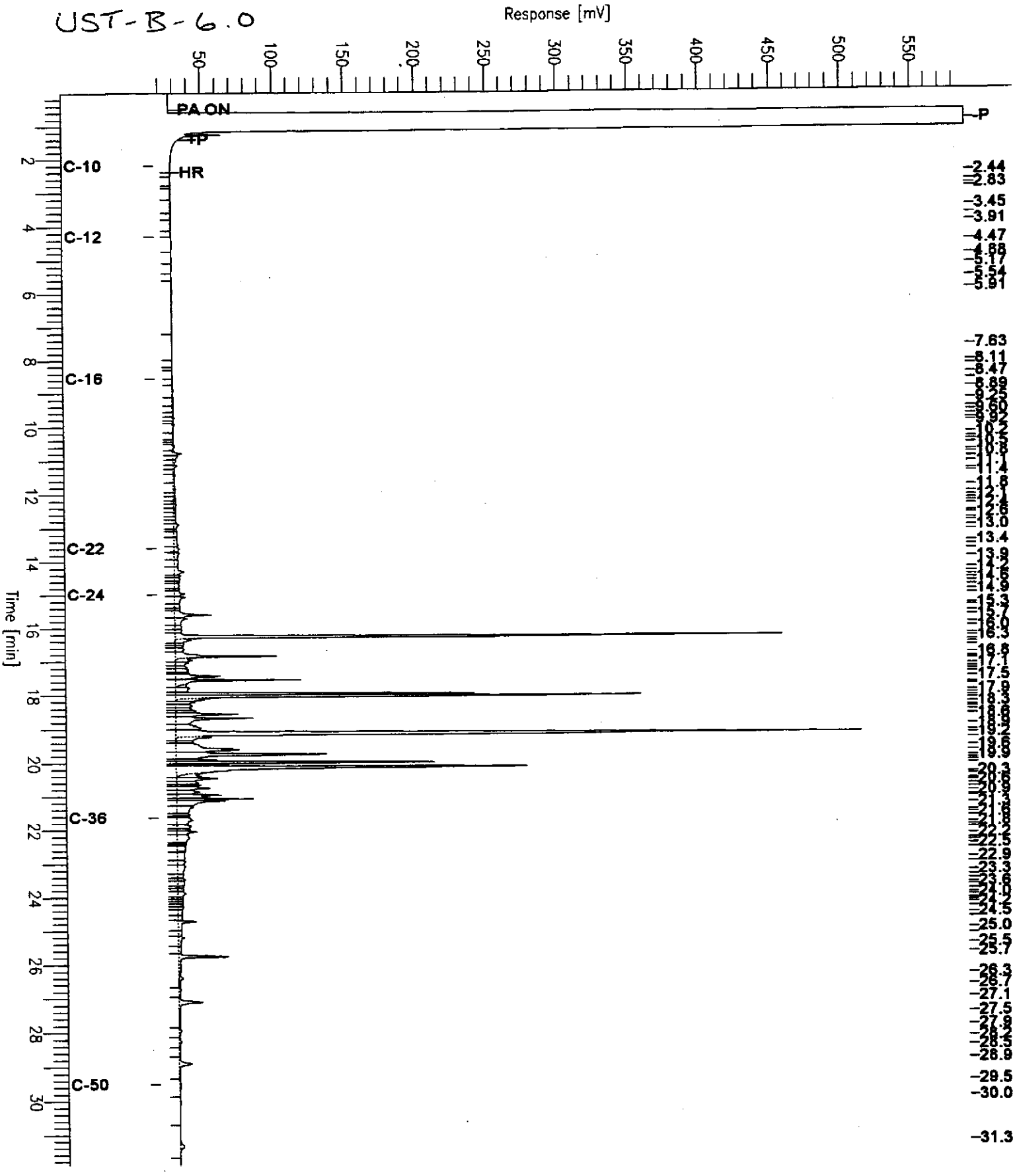
H= Heavier hydrocarbons contributed to the quantitation
L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 170945-002,89016 g SV. 03/04/04
FileName : G:\GC17\CHA\060A125.RAW
Method : ATEH064.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 17 mV

Sample #: 89016 Page 1 of 1
Date : 3/4/04 01:07 PM
Time of Injection: 3/4/04 12:31 PM
Low Point : 16.81 mV High Point : 588.73 mV
Plot Scale: 571.9 mV

UST-B-6.0

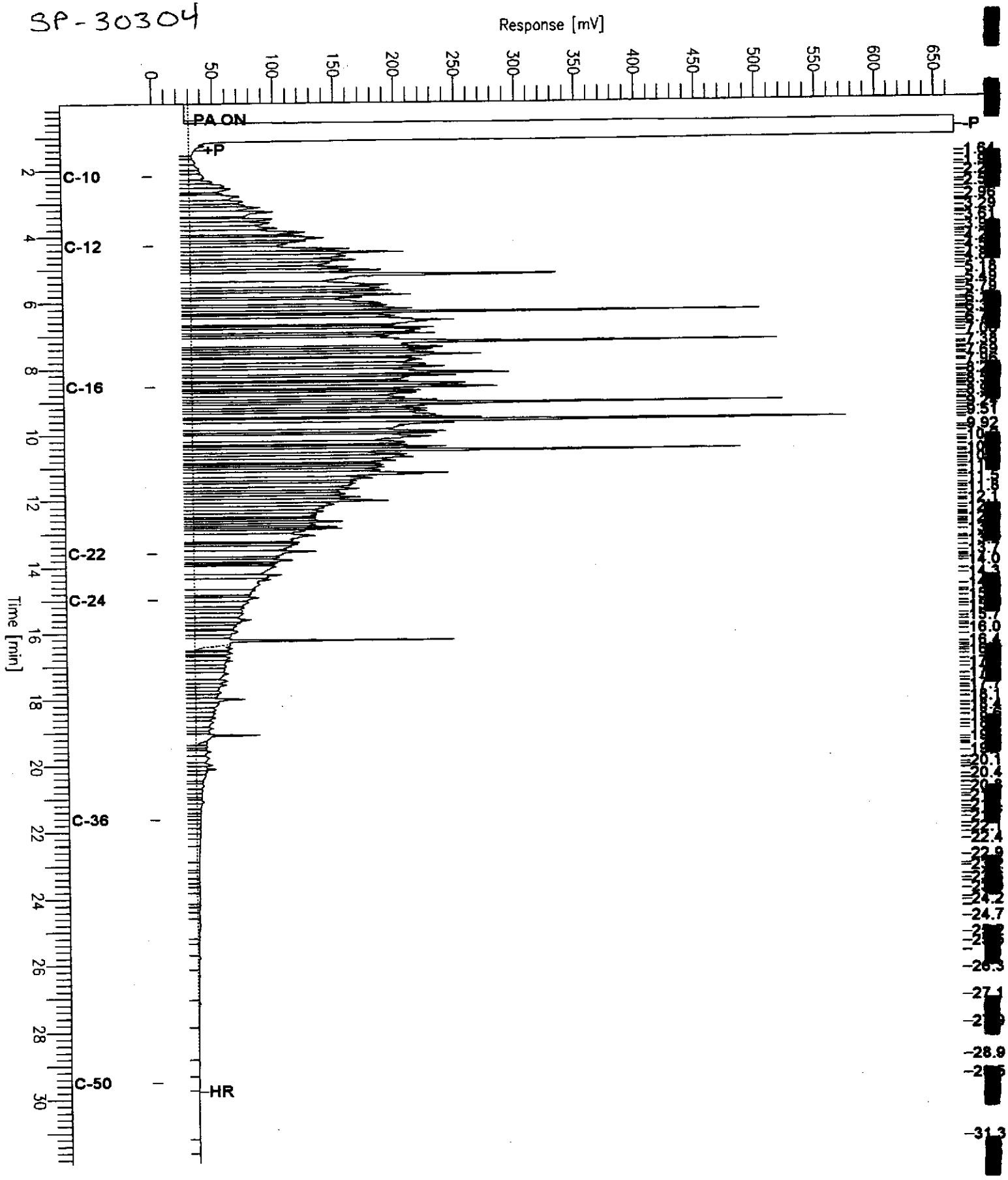


Chromatogram

Sample Name : 170945-003sg,89016
FileName : G:\GC17\CHA\060A128.RAW
Method : ATEH064.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -0 mV

Sample #: 89016
Date : 3/4/04 03:26 PM
Time of Injection: 3/4/04 02:52 PM
Low Point : -0.22 mV High Point : 666.81 mV
Plot Scale: 667.0 mV

SP-30304

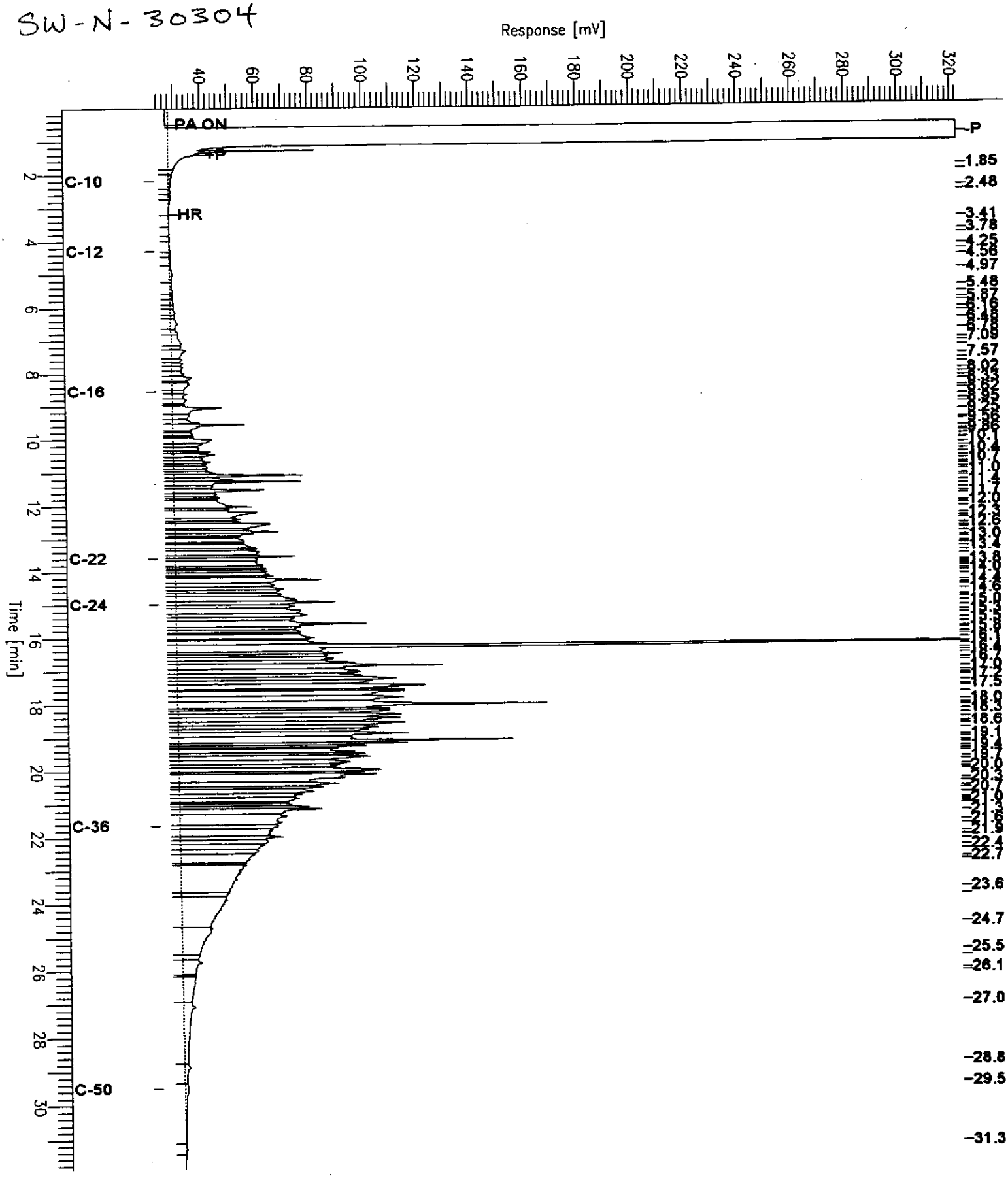


Chromatogram

Sample Name : 170945-005,89016 SG SV 03/04/04
FileName : G:\GC17\CHA\060A127.RAW
Method : ATEH064.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 23 mV

Sample #: 89016
Date : 3/4/04 02:47 PM
Time of Injection: 3/4/04 01:51 PM
Low Point : 23.04 mV High Point : 322.38 mV
Plot Scale: 299.3 mV

SW-N-30304



Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	170945	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC243049	Batch#:	89016
Matrix:	Soil	Prepared:	03/03/04
Units:	mg/Kg	Analyzed:	03/04/04
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.68	36.32	73	56-129

Surrogate	%REC	Limits
Hexacosane	83	52-131

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	170945	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	89016
MSS Lab ID:	170942-006	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	mg/Kg	Prepared:	03/03/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: MS Lab ID: QC243050

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.1584	50.44	46.73	92	27-146

Surrogate	%REC	Limits
Hexacosane	93	52-131

Type: MSD Lab ID: QC243051

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.95	47.60	95	27-146	3	50

Surrogate	%REC	Limits
Hexacosane	97	52-131

RPD= Relative Percent Difference

32.2

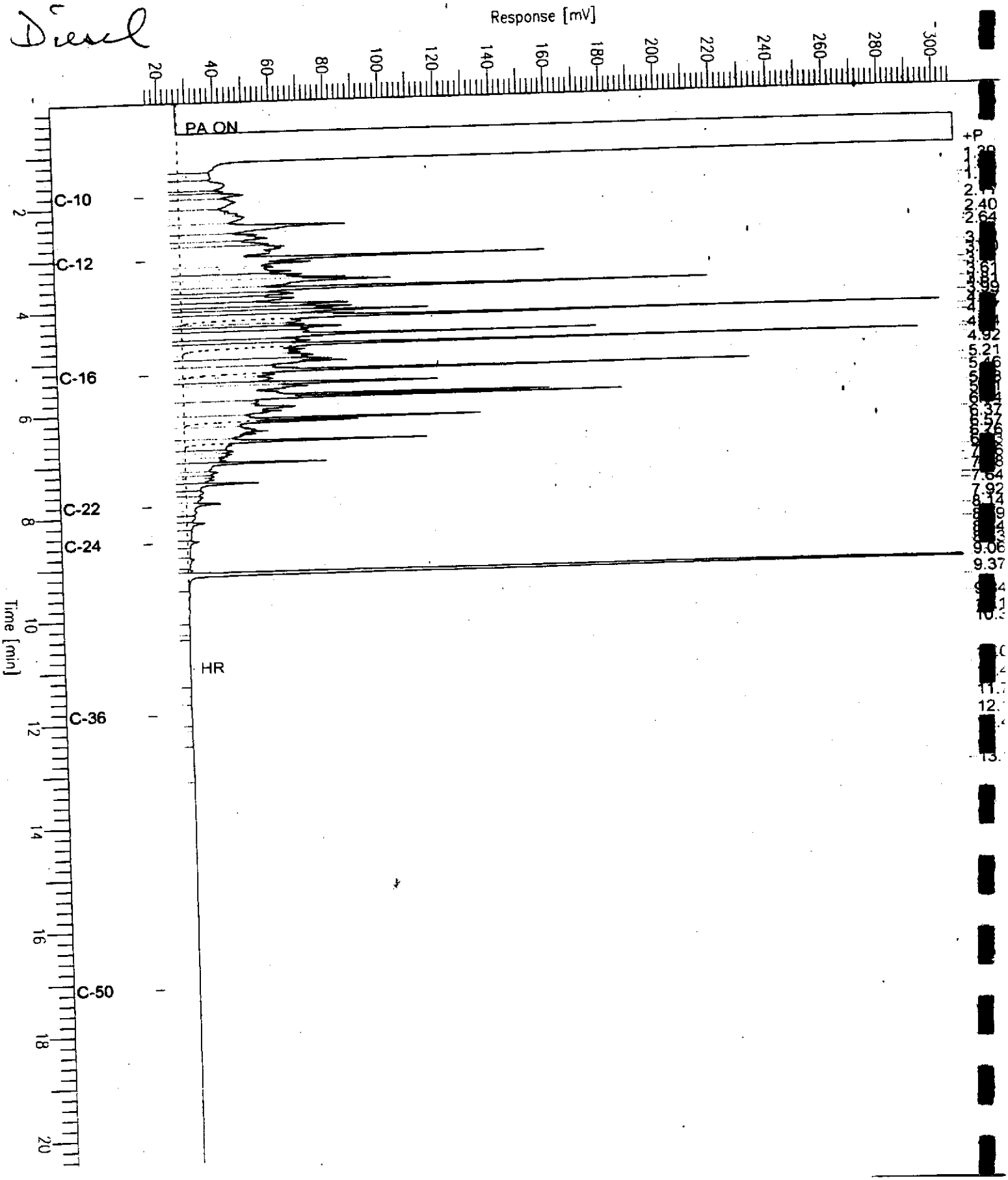
Chromatogram

Sample Name : ccv,03ws2078,dsl
FileName : G:\GC11\CHA\063A002.RAW
Method : ATEH057S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 20.45 min
Plot Offset: 15 mV

Sample #: 500mg/L
Date : 3/3/04 01:55 PM
Time of Injection: 3/3/04 12:29 PM
Low Point : 14.72 mV
High Point : 307.42 mV
Plot Scale: 292.7 mV

Diesel



Chromatogram

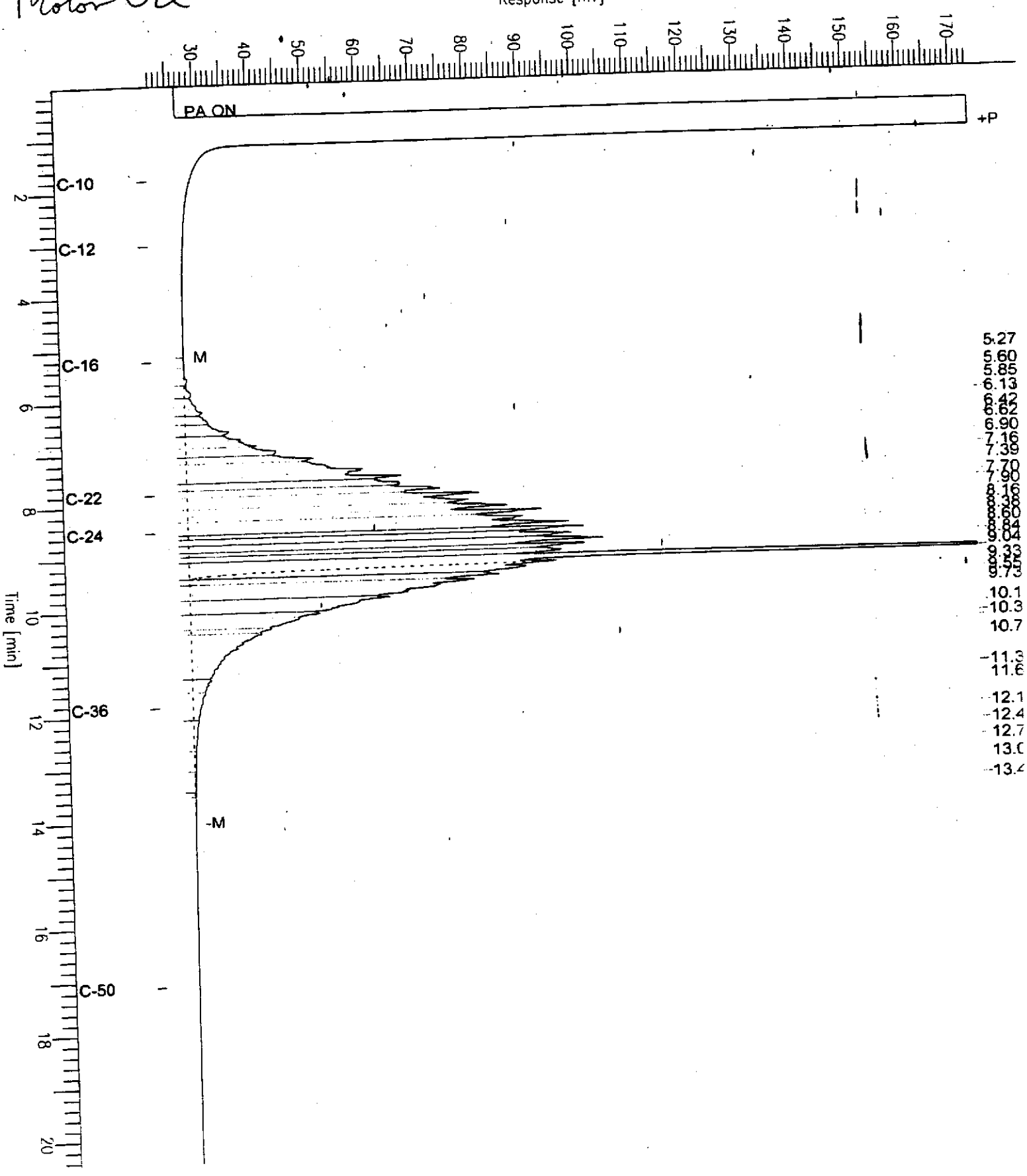
Sample Name : ccv,04ws0244,mo
FileName : G:\GC11\CHA\063A003.RAW
Method : ATEH057S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 20.45 min
Plot Offset: 22 mV

Sample #: 500mg/L
Date : 3/3/04 01:56 PM
Time of Injection: 3/3/04 12:58 PM
Low Point : 21.54 mV
Plot Scale: 151.8 mV

High Point : 173.36 mV

Motor Oil



Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	PITWATER-30304	Batch#:	89029
Lab ID:	170945-004	Sampled:	03/03/04
Matrix:	Water	Received:	03/03/04
Units:	ug/L	Analyzed:	03/04/04
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	48	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	12	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	PITWATER-30304	Batch#:	89029
Lab ID:	170945-004	Sampled:	03/03/04
Matrix:	Water	Received:	03/03/04
Units:	ug/L	Analyzed:	03/04/04
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	0.7	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	0.7	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	100	80-124
Toluene-d8	97	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243106	Batch#:	89029
Matrix:	Water	Analyzed:	03/04/04
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243106	Batch#:	89029
Matrix:	Water	Analyzed:	03/04/04
Units:	ug/L		

Analyte	Result		RL
1,2-Dibromoethane	ND		0.5
Chlorobenzene	ND		0.5
1,1,1,2-Tetrachloroethane	ND		0.5
Ethylbenzene	ND		0.5
m,p-Xylenes	ND		0.5
o-Xylene	ND		0.5
Styrene	ND		0.5
Bromoform	ND		1.0
Isopropylbenzene	ND		0.5
1,1,2,2-Tetrachloroethane	ND		0.5
1,2,3-Trichloropropane	ND		0.5
Propylbenzene	ND		0.5
Bromobenzene	ND		0.5
1,3,5-Trimethylbenzene	ND		0.5
2-Chlorotoluene	ND		0.5
4-Chlorotoluene	ND		0.5
tert-Butylbenzene	ND		0.5
1,2,4-Trimethylbenzene	ND		0.5
sec-Butylbenzene	ND		0.5
para-Isopropyl Toluene	ND		0.5
1,3-Dichlorobenzene	ND		0.5
1,4-Dichlorobenzene	ND		0.5
n-Butylbenzene	ND		0.5
1,2-Dichlorobenzene	ND		0.5
1,2-Dibromo-3-Chloropropane	ND		0.5
1,2,4-Trichlorobenzene		0.5	0.5
Hexachlorobutadiene	ND		0.5
Naphthalene	ND		2.0
1,2,3-Trichlorobenzene		0.5	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-120
1,2-Dichloroethane-d4	99	80-124
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

28.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Matrix:	Water	Batch#:	89029
Units:	ug/L	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: BS Lab ID: QC243104

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	48.15	96	76-120
Benzene	50.00	47.68	95	80-120
Trichloroethene	50.00	48.37	97	80-120
Toluene	50.00	48.01	96	80-120
Chlorobenzene	50.00	49.57	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	103	80-124
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC243105

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	49.41	99	76-120	3	20
Benzene	50.00	47.70	95	80-120	0	20
Trichloroethene	50.00	49.51	99	80-120	2	20
Toluene	50.00	48.26	97	80-120	1	20
Chlorobenzene	50.00	50.46	101	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	103	80-124
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	UST-B-6.0	Diln Fac:	0.9259
Lab ID:	170945-002	Batch#:	89033
Matrix:	Soil	Sampled:	03/03/04
Units:	ug/Kg	Received:	03/03/04
Basis:	as received	Analyzed:	03/04/04

Analyte	Result	RL
Freon 12	ND	9.3
Chloromethane	ND	9.3
Vinyl Chloride	ND	9.3
Bromomethane	ND	9.3
Chloroethane	ND	9.3
Trichlorofluoromethane	ND	4.6
Acetone	140	19
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	42	19
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	35	9.3
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.3
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.3
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	UST-B-6.0	Diln Fac:	0.9259
Lab ID:	170945-002	Batch#:	89033
Matrix:	Soil	Sampled:	03/03/04
Units:	ug/Kg	Received:	03/03/04
Basis:	as received	Analyzed:	03/04/04

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	114	80-120
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SP-30304	Diln Fac:	0.9804
Lab ID:	170945-003	Batch#:	89033
Matrix:	Soil	Sampled:	03/03/04
Units:	ug/Kg	Received:	03/03/04
Basis:	as received	Analyzed:	03/04/04

Analyte	Result	RL
Freon 12	ND	9.8
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Acetone	100	20
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
Carbon Disulfide	ND	4.9
MTBE	ND	4.9
trans-1,2-Dichloroethene	ND	4.9
Vinyl Acetate	ND	49
1,1-Dichloroethane	ND	4.9
2-Butanone	17	9.8
cis-1,2-Dichloroethene	ND	4.9
2,2-Dichloropropane	ND	4.9
Chloroform	ND	4.9
Bromochloromethane	ND	4.9
1,1,1-Trichloroethane	ND	4.9
1,1-Dichloropropene	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
Dibromomethane	ND	4.9
4-Methyl-2-Pentanone	ND	9.8
cis-1,3-Dichloropropene	ND	4.9
Toluene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
2-Hexanone	ND	9.8
1,3-Dichloropropane	ND	4.9
Tetrachloroethene	ND	4.9

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SP-30304	Diln Fac:	0.9804
Lab ID:	170945-003	Batch#:	89033
Matrix:	Soil	Sampled:	03/03/04
Units:	ug/Kg	Received:	03/03/04
Basis:	as received	Analyzed:	03/04/04

Analyte	Result	RL
Dibromochloromethane	ND	4.9
1,2-Dibromoethane	ND	4.9
Chlorobenzene	ND	4.9
1,1,1,2-Tetrachloroethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9
Styrene	ND	4.9
Bromoform	ND	4.9
Isopropylbenzene	ND	4.9
1,1,2,2-Tetrachloroethane	ND	4.9
1,2,3-Trichloropropane	ND	4.9
Propylbenzene	ND	4.9
Bromobenzene	ND	4.9
1,3,5-Trimethylbenzene	ND	4.9
2-Chlorotoluene	ND	4.9
4-Chlorotoluene	ND	4.9
tert-Butylbenzene	ND	4.9
1,2,4-Trimethylbenzene	ND	4.9
sec-Butylbenzene	ND	4.9
para-Isopropyl Toluene	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
n-Butylbenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9
1,2-Dibromo-3-Chloropropane	ND	4.9
1,2,4-Trichlorobenzene	ND	4.9
Hexachlorobutadiene	ND	4.9
Naphthalene	ND	4.9
1,2,3-Trichlorobenzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-120
1,2-Dichloroethane-d4	107	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SW-N-30304	Diln Fac:	0.9259
Lab ID:	170945-005	Batch#:	88993
Matrix:	Soil	Sampled:	03/03/04
Units:	ug/Kg	Received:	03/03/04
Basis:	as received	Analyzed:	03/03/04

Analyte	Result	RL
Freon 12	ND	9.3
Chloromethane	ND	9.3
Vinyl Chloride	ND	9.3
Bromomethane	ND	9.3
Chloroethane	ND	9.3
Trichlorofluoromethane	ND	4.6
Acetone	ND	19
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.3
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.3
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.3
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SW-N-30304	Diln Fac:	0.9259
Lab ID:	170945-005	Batch#:	88993
Matrix:	Soil	Sampled:	03/03/04
Units:	ug/Kg	Received:	03/03/04
Basis:	as received	Analyzed:	03/03/04

Analyte	Result	RL
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-120
1,2-Dichloroethane-d4	89	80-120
Toluene-d8	92	80-120
Bromofluorobenzene	127 *	80-123

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Basis:	as received
Lab ID:	QC242965	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88993
Units:	ug/Kg	Analyzed:	03/03/04

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

24.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Basis:	as received
Lab ID:	QC242965	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88993
Units:	ug/Kg	Analyzed:	03/03/04

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-120
1,2-Dichloroethane-d4	85	80-120
Toluene-d8	94	80-120
Bromofluorobenzene	124 *	80-123

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

24.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Basis:	as received
Lab ID:	QC243121	Diln Fac:	1.000
Matrix:	Soil	Batch#:	89033
Units:	ug/Kg	Analyzed:	03/04/04

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Basis:	as received
Lab ID:	QC243178	Diln Fac:	1.000
Matrix:	Soil	Batch#:	89033
Units:	ug/Kg	Analyzed:	03/04/04

Analyte	Result	RL
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	99	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	LCS	Basis:	as received
Lab ID:	QC242963	Diln Fac:	1.000
Matrix:	Soil	Batch#:	88993
Units:	ug/Kg	Analyzed:	03/03/04

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	54.12	108	78-120
Benzene	50.00	50.24	100	80-120
Trichloroethene	50.00	54.11	108	80-120
Toluene	50.00	46.07	92	80-120
Chlorobenzene	50.00	51.41	103	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	93	80-120
Toluene-d8	90	80-120
Bromofluorobenzene	112	80-123

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	LCS	Basis:	as received
Lab ID:	QC243119	Diln Fac:	1.000
Matrix:	Soil	Batch#:	89033
Units:	ug/Kg	Analyzed:	03/04/04

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	51.95	104	78-120
Benzene	50.00	51.07	102	80-120
Trichloroethene	50.00	50.94	102	80-120
Toluene	50.00	53.77	108	80-120
Chlorobenzene	50.00	50.49	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-120
1,2-Dichloroethane-d4	103	80-120
Toluene-d8	105	80-120
Bromofluorobenzene	97	80-123

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Diln Fac:	0.8929
MSS Lab ID:	170874-010	Batch#:	88993
Matrix:	Soil	Sampled:	02/27/04
Units:	ug/Kg	Received:	02/27/04
Basis:	as received	Analyzed:	03/05/04

Type: MS Lab ID: QC243041

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.6400	44.64	42.89	96	69-120
Benzene	<0.3800	44.64	39.82	89	67-120
Trichloroethene	<1.000	44.64	43.15	97	62-131
Toluene	<0.5200	44.64	41.27	92	61-120
Chlorobenzene	<0.3500	44.64	38.21	86	58-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-120
1,2-Dichloroethane-d4	93	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	97	80-123

Type: MSD Lab ID: QC243042

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	44.64	40.88	92	69-120	5	20
Benzene	44.64	39.50	88	67-120	1	20
Trichloroethene	44.64	41.93	94	62-131	3	20
Toluene	44.64	40.64	91	61-120	2	20
Chlorobenzene	44.64	38.34	86	58-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-120
1,2-Dichloroethane-d4	92	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170945	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Diln Fac:	0.9804
MSS Lab ID:	170948-001	Batch#:	89033
Matrix:	Soil	Sampled:	03/03/04
Units:	ug/Kg	Received:	03/03/04
Basis:	as received		

Type: MS Analyzed: 03/04/04
Lab ID: QC243176

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4400	49.02	48.20	98	69-120
Benzene	<0.05400	49.02	43.95	90	67-120
Trichloroethene	<0.1100	49.02	45.34	92	62-131
Toluene	<0.1300	49.02	44.95	92	61-120
Chlorobenzene	<0.07500	49.02	41.61	85	58-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-120
1,2-Dichloroethane-d4	93	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	96	80-123

Type: MSD Analyzed: 03/05/04
Lab ID: QC243177

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	49.02	46.86	96	69-120	3	20
Benzene	49.02	43.28	88	67-120	2	20
Trichloroethene	49.02	44.05	90	62-131	3	20
Toluene	49.02	44.71	91	61-120	1	20
Chlorobenzene	49.02	41.26	84	58-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-120
1,2-Dichloroethane-d4	92	80-120
Toluene-d8	103	80-120
Bromofluorobenzene	98	80-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Field ID:	SP-30304	Batch#:	89043
Lab ID:	170945-003	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	ug/Kg	Prepared:	03/04/04
Basis:	as received	Analyzed:	03/05/04
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	76	66
Hexachlorocyclopentadiene	ND	1,700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	1,700
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	190	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	1,700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330
Fluoranthene	ND	66

ND= Not Detected
RL= Reporting Limit

42:1

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Field ID:	SP-30304	Batch#:	89043
Lab ID:	170945-003	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	ug/Kg	Prepared:	03/04/04
Basis:	as received	Analyzed:	03/05/04
Diln Fac:	1.000		

Analyte	Result	RL
Pyrene	ND	66
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	98	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

Surrogate	%REC	Limits
2-Fluorophenol	56	41-120
Phenol-d5	55	39-120
2,4,6-Tribromophenol	59	33-120
Nitrobenzene-d5	65	44-120
2-Fluorobiphenyl	54	48-120
Terphenyl-d14	49	37-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243154	Batch#:	89043
Matrix:	Soil	Prepared:	03/04/04
Units:	ug/Kg	Analyzed:	03/04/04
Basis:	as received		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	66
Hexachlorocyclopentadiene	ND	1,700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	1,700
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	1,700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330
Fluoranthene	ND	66
Pyrene	ND	66

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243154	Batch#:	89043
Matrix:	Soil	Prepared:	03/04/04
Units:	ug/Kg	Analyzed:	03/04/04
Basis:	as received		

Analyte	Result	RL
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

Surrogate	%REC	Limits
2-Fluorophenol	54	41-120
Phenol-d5	54	39-120
2,4,6-Tribromophenol	42	33-120
Nitrobenzene-d5	55	44-120
2-Fluorobiphenyl	56	48-120
Terphenyl-d14	47	37-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC243155	Batch#:	89043
Matrix:	Soil	Prepared:	03/04/04
Units:	ug/Kg	Analyzed:	03/05/04
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Phenol	3,324	2,618	79	48-120
2-Chlorophenol	3,324	2,659	80	52-120
1,4-Dichlorobenzene	1,662	1,409	85	50-120
N-Nitroso-di-n-propylamine	1,662	1,355	82	48-120
1,2,4-Trichlorobenzene	1,662	1,394	84	51-120
4-Chloro-3-methylphenol	3,324	2,750	83	53-120
Acenaphthene	1,662	1,364	82	50-120
4-Nitrophenol	3,324	3,153	95	40-128
2,4-Dinitrotoluene	1,662	1,348	81	49-120
Pentachlorophenol	3,324	2,658	80	38-120
Pyrene	1,662	1,351	81	46-120

Surrogate	%REC	Limits
2-Fluorophenol	79	41-120
Phenol-d5	78	39-120
2,4,6-Tribromophenol	90	33-120
Nitrobenzene-d5	84	44-120
2-Fluorobiphenyl	85	48-120
Terphenyl-d14	76	37-120

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	89043
MSS Lab ID:	170915-001	Sampled:	03/01/04
Matrix:	Soil	Received:	03/02/04
Units:	ug/Kg	Prepared:	03/04/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: MS Lab ID: QC243156

Analyte	MSS Result	Spiked	Result	%REC	Limits
Phenol	<22.00	3,289	1,996	61	43-120
2-Chlorophenol	<25.00	3,289	2,068	63	45-120
1,4-Dichlorobenzene	<20.00	1,645	1,088	66	44-120
N-Nitroso-di-n-propylamine	<21.00	1,645	1,046	64	43-120
1,2,4-Trichlorobenzene	<23.00	1,645	1,043	63	43-120
4-Chloro-3-methylphenol	<27.00	3,289	2,025	62	45-120
Acenaphthene	<9.900	1,645	973.7	59	45-120
4-Nitrophenol	<38.00	3,289	2,135	65	37-120
2,4-Dinitrotoluene	<28.00	1,645	942.9	57	40-120
Pentachlorophenol	<43.00	3,289	1,915	58	25-120
Pyrene	<9.900	1,645	982.0	60	35-120

Surrogate	%REC	Limits
2-Fluorophenol	62	41-120
Phenol-d5	61	39-120
2,4,6-Tribromophenol	65	33-120
Nitrobenzene-d5	61	44-120
2-Fluorobiphenyl	61	48-120
Terphenyl-d14	56	37-120

Type: MSD Lab ID: QC243157

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	3,366	2,515	75	43-120	21	41
2-Chlorophenol	3,366	2,562	76	45-120	19	38
1,4-Dichlorobenzene	1,683	1,293	77	44-120	15	42
N-Nitroso-di-n-propylamine	1,683	1,286	76	43-120	18	42
1,2,4-Trichlorobenzene	1,683	1,284	76	43-120	18	42
4-Chloro-3-methylphenol	3,366	2,579	77	45-120	22	40
Acenaphthene	1,683	1,215	72	45-120	20	39
4-Nitrophenol	3,366	2,827	84	37-120	26	43
2,4-Dinitrotoluene	1,683	1,203	71	40-120	22	39
Pentachlorophenol	3,366	2,616	78	25-120	29	48
Pyrene	1,683	1,224	73	35-120	20	45

Surrogate	%REC	Limits
2-Fluorophenol	74	41-120
Phenol-d5	74	39-120
2,4,6-Tribromophenol	82	33-120
Nitrobenzene-d5	75	44-120
2-Fluorobiphenyl	74	48-120
Terphenyl-d14	68	37-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Field ID:	SW-N-30304	Batch#:	89031
Lab ID:	170945-005	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	ug/Kg	Prepared:	03/04/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Analyte	Result	RL
Naphthalene	15	5.0
Acenaphthylene	21	5.0
Acenaphthene	ND	5.0
Fluorene	7.1	5.0
Phenanthrene	130	5.0
Anthracene	23	5.0
Fluoranthene	200	5.0
Pyrene	240	5.0
Benzo(a)anthracene	74	5.0
Chrysene	99	5.0
Benzo(b)fluoranthene	72	5.0
Benzo(k)fluoranthene	57	5.0
Benzo(a)pyrene	110	5.0
Indeno(1,2,3-cd)pyrene	84	5.0
Dibenz(a,h)anthracene	19	5.0
Benzo(g,h,i)perylene	110	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	120	34-139
2-Fluorobiphenyl	89	34-125
Terphenyl-d14	85	37-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243112	Batch#:	89031
Matrix:	Soil	Prepared:	03/04/04
Units:	ug/Kg	Analyzed:	03/04/04
Basis:	as received		

Analyte	Result	RL
Naphthalene	ND	5.0
Acenaphthylene	ND	5.0
Acenaphthene	ND	5.0
Fluorene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenz(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	110	34-139
2-Fluorobiphenyl	87	34-125
Terphenyl-d14	83	37-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC243113	Batch#:	89031
Matrix:	Soil	Prepared:	03/04/04
Units:	ug/Kg	Analyzed:	03/04/04
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.49	35.65	106	46-120
Pyrene	33.49	32.65	98	37-120

Surrogate	%REC	Limits
Nitrobenzene-d5	103	34-139
2-Fluorobiphenyl	82	34-125
Terphenyl-d14	76	37-131

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Field ID:	SW-N-30304	Batch#:	89031
MSS Lab ID:	170945-005	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	ug/Kg	Prepared:	03/04/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: MS Lab ID: QC243114

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	4.861	33.70	44.64	118	38-130
Pyrene	243.8	33.70	304.6	181 NM	8-164

Surrogate	%REC	Limits
Nitrobenzene-d5	121	34-139
2-Fluorobiphenyl	90	34-125
Terphenyl-d14	87	37-131

Type: MSD Lab ID: QC243115

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	33.00	43.41	117	38-130	1	55
Pyrene	33.00	265.7	66 NM	8-164	13	77

Surrogate	%REC	Limits
Nitrobenzene-d5	116	34-139
2-Fluorobiphenyl	89	34-125
Terphenyl-d14	82	37-131

NM= Not Meaningful
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Matrix:	Soil	Sampled:	03/03/04
Units:	ug/Kg	Received:	03/03/04
Basis:	as received	Prepared:	03/03/04
Diln Fac:	1.000	Analyzed:	03/04/04
Batch#:	88997		

Field ID: SP-30304 Lab ID: 170945-003
Type: SAMPLE Cleanup Method: EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	68	63-140
Decachlorobiphenyl	102	46-151

Field ID: SW-N-30304 Lab ID: 170945-005
Type: SAMPLE Cleanup Method: EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	113	63-140
Decachlorobiphenyl	85	46-151

Type: BLANK Cleanup Method: EPA 3665A
Lab ID: QC242983

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	106	63-140
Decachlorobiphenyl	111	46-151

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC242984	Batch#:	88997
Matrix:	Soil	Prepared:	03/03/04
Units:	ug/Kg	Analyzed:	03/04/04
Basis:	as received		

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits
Aroclor-1242	168.5	183.0	109	77-155

Surrogate	%REC	Limits
TCMX	102	63-140
Decachlorobiphenyl	98	46-151

18.0

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	170945	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	88997
MSS Lab ID:	170925-024	Sampled:	03/02/04
Matrix:	Soil	Received:	03/02/04
Units:	ug/Kg	Prepared:	03/03/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: MS
Lab ID: QC242985

Cleanup Method: EPA 3665A

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1242	<5.200	168.6	195.3	116	71-148

Surrogate	%REC	Limits
TCMX	99	63-140
Decachlorobiphenyl	96	46-151

Type: MSD
Lab ID: QC242986

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1242	164.0	229.3	140	71-148	19	31

Surrogate	%REC	Limits
TCMX	114	63-140
Decachlorobiphenyl	78	46-151

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170945	Project#:	8367.001
Client:	Geomatrix Consultants		
Field ID:	SP-30304	Diln Fac:	1.000
Lab ID:	170945-003	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	mg/Kg	Analyzed:	03/04/04
Basis:	as received		

Analyte	Result	RL	Batch#	Prepared	Prep	Analysis
Antimony	ND	2.5	89018	03/03/04	EPA 3050	EPA 6010B
Arsenic	3.0	0.21	89018	03/03/04	EPA 3050	EPA 6010B
Barium	130	0.42	89018	03/03/04	EPA 3050	EPA 6010B
Beryllium	0.33	0.085	89018	03/03/04	EPA 3050	EPA 6010B
Cadmium	0.50	0.21	89018	03/03/04	EPA 3050	EPA 6010B
Chromium	33	0.42	89018	03/03/04	EPA 3050	EPA 6010B
Cobalt	8.3	0.85	89018	03/03/04	EPA 3050	EPA 6010B
Copper	27	0.42	89018	03/03/04	EPA 3050	EPA 6010B
Lead	13	0.13	89018	03/03/04	EPA 3050	EPA 6010B
Mercury	0.047	0.018	89023	03/04/04	METHOD	EPA 7471
Molybdenum	ND	0.85	89018	03/03/04	EPA 3050	EPA 6010B
Nickel	29	0.85	89018	03/03/04	EPA 3050	EPA 6010B
Selenium	1.6	0.21	89018	03/03/04	EPA 3050	EPA 6010B
Silver	ND	0.21	89018	03/03/04	EPA 3050	EPA 6010B
Thallium	ND	0.21	89018	03/03/04	EPA 3050	EPA 6010B
Vanadium	32	0.42	89018	03/03/04	EPA 3050	EPA 6010B
Zinc	74	0.85	89018	03/03/04	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170945	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243055	Batch#:	89018
Matrix:	Soil	Prepared:	03/03/04
Units:	mg/Kg	Analyzed:	03/04/04
Basis:	as received		

Analyte	Result	RL
Antimony	ND	3.0
Arsenic	ND	0.25
Barium	ND	0.50
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.50
Cobalt	ND	1.0
Copper	ND	0.50
Lead	ND	0.15
Molybdenum	ND	1.0
Nickel	ND	1.0
Selenium	ND	0.25
Silver	ND	0.25
Thallium	ND	0.25
Vanadium	ND	0.50
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170945	Prep:	METHOD
Client:	Geomatrix Consultants	Analysis:	EPA 7471
Project#:	8367.001		
Analyte:	Mercury	Basis:	as received
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243083	Batch#:	89023
Matrix:	Soil	Prepared:	03/04/04
Units:	mg/Kg	Analyzed:	03/04/04

Result	RL
ND	0.020

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	170945	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Matrix:	Soil	Sampled:	03/03/04
Units:	mg/Kg	Received:	03/03/04
Basis:	as received	Prepared:	03/03/04
Batch#:	89018	Analyzed:	03/04/04

Field ID: UST-B-6.0 Lab ID: 170945-002
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL
Cadmium	0.27	0.22
Chromium	26	0.44
Lead	10	0.13
Nickel	21	0.88
Zinc	31	0.88

Field ID: SW-N-30304 Lab ID: 170945-005
Type: SAMPLE

Analyte	Result	RL	Diln Fac
Cadmium	3.6	0.24	1.000
Chromium	42	0.48	1.000
Lead	350	0.14	1.000
Nickel	41	0.95	1.000
Zinc	810	9.5	10.00

Type: BLANK Diln Fac: 1.000
Lab ID: QC243055

Analyte	Result	RL
Cadmium	ND	0.25
Chromium	ND	0.50
Lead	ND	0.15
Nickel	ND	1.0
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170945	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Matrix:	Soil	Batch#:	89018
Units:	mg/Kg	Prepared:	03/03/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: BS Lab ID: QC243056

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	100.5	101	79-128
Arsenic	50.00	52.00	104	79-120
Barium	100.0	100.5	101	80-120
Beryllium	2.500	2.545	102	80-120
Cadmium	10.00	9.750	98	79-120
Chromium	100.0	100.0	100	80-120
Cobalt	25.00	24.80	99	77-120
Copper	12.50	13.00	104	80-120
Lead	100.0	99.50	100	78-120
Molybdenum	20.00	20.35	102	80-120
Nickel	25.00	24.50	98	79-120
Selenium	50.00	49.70	99	71-120
Silver	10.00	10.20	102	78-120
Thallium	50.00	49.15	98	73-120
Vanadium	25.00	25.35	101	80-120
Zinc	25.00	24.45	98	76-120

Type: BSD Lab ID: QC243057

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	96.50	97	79-128	4	20
Arsenic	50.00	48.95	98	79-120	6	20
Barium	100.0	95.50	96	80-120	5	20
Beryllium	2.500	2.420	97	80-120	5	20
Cadmium	10.00	9.200	92	79-120	6	20
Chromium	100.0	95.00	95	80-120	5	20
Cobalt	25.00	23.50	94	77-120	5	20
Copper	12.50	12.50	100	80-120	4	20
Lead	100.0	94.00	94	78-120	6	20
Molybdenum	20.00	19.45	97	80-120	5	20
Nickel	25.00	23.15	93	79-120	6	20
Selenium	50.00	47.25	95	71-120	5	20
Silver	10.00	9.650	97	78-120	6	20
Thallium	50.00	46.10	92	73-120	6	20
Vanadium	25.00	24.00	96	80-120	5	20
Zinc	25.00	23.10	92	76-120	6	20

RPD= Relative Percent Difference

10.0

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	170945	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Matrix:	Soil	Batch#:	89018
Units:	mg/Kg	Prepared:	03/03/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: BS Lab ID: QC243056

Analyte	Spiked	Result	%REC	Limits
Cadmium	10.00	9.750	98	79-120
Chromium	100.0	100.0	100	80-120
Lead	100.0	99.50	100	78-120
Nickel	25.00	24.50	98	79-120
Zinc	25.00	24.45	98	76-120

Type: BSD Lab ID: QC243057

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	10.00	9.200	92	79-120	6	20
Chromium	100.0	95.00	95	80-120	5	20
Lead	100.0	94.00	94	78-120	6	20
Nickel	25.00	23.15	93	79-120	6	20
Zinc	25.00	23.10	92	76-120	6	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170945	Prep:	METHOD
Client:	Geomatrix Consultants	Analysis:	EPA 7471
Project#:	8367.001		
Analyte:	Mercury	Diln Fac:	1.000
Matrix:	Soil	Batch#:	89023
Units:	mg/Kg	Prepared:	03/04/04
Basis:	as received	Analyzed:	03/04/04

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC243084	0.5000	0.5250	105	80-120		
BSD	QC243085	0.5000	0.5460	109	80-120	4	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170945	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	89018
MSS Lab ID:	170935-001	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	mg/Kg	Prepared:	03/03/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: MS Lab ID: QC243058

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	2.421	93.46	34.72	35	1-120
Arsenic	1.275	46.73	48.13	100	57-120
Barium	54.17	93.46	149.1	102	52-134
Beryllium	0.02058	2.336	2.243	95	65-120
Cadmium	1.267	9.346	9.252	85	57-120
Chromium	234.6	93.46	307.9	78	55-120
Cobalt	42.92	23.36	68.22	108	52-120
Copper	14.75	11.68	57.48	366 *	47-143
Lead	4.542	93.46	90.65	92	42-125
Molybdenum	0.2146	18.69	17.01	90	45-120
Nickel	629.2	23.36	649.5	87 NM	36-138
Selenium	1.296	46.73	46.73	97	42-120
Silver	<0.02300	9.346	9.860	106	66-120
Thallium	<0.1300	46.73	39.86	85	48-120
Vanadium	31.83	23.36	60.28	122	45-136
Zinc	31.92	23.36	55.61	101	34-139

Type: MSD Lab ID: QC243059

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	92.59	31.53	31	1-120	9	44
Arsenic	46.30	45.88	96	57-120	4	28
Barium	92.59	152.3	106	52-134	3	20
Beryllium	2.315	2.167	93	65-120	3	20
Cadmium	9.259	8.611	79	57-120	6	20
Chromium	92.59	300.9	72	55-120	2	20
Cobalt	23.15	67.59	107	52-120	1	20
Copper	11.57	32.59	154 *	47-143	55 *	21
Lead	92.59	86.57	89	42-125	4	30
Molybdenum	18.52	16.81	90	45-120	0	20
Nickel	23.15	671.3	182 NM	36-138	3	24
Selenium	46.30	45.46	95	42-120	2	23
Silver	9.259	9.537	103	66-120	2	20
Thallium	46.30	38.94	84	48-120	1	25
Vanadium	23.15	55.56	102	45-136	8	20
Zinc	23.15	57.41	110	34-139	4	24

*= Value outside of QC limits; see narrative
NM= Not Meaningful
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	170945	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	89018
MSS Lab ID:	170935-001	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	mg/Kg	Prepared:	03/03/04
Basis:	as received	Analyzed:	03/04/04
Diln Fac:	1.000		

Type: MS Lab ID: QC243058

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	1.267	9.346	9.252	85	57-120
Chromium	234.6	93.46	307.9	78	55-120
Lead	4.542	93.46	90.65	92	42-125
Nickel	629.2	23.36	649.5	87 NM	36-138
Zinc	31.92	23.36	55.61	101	34-139

Type: MSD Lab ID: QC243059

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	9.259	8.611	79	57-120	6	20
Chromium	92.59	300.9	72	55-120	2	20
Lead	92.59	86.57	89	42-125	4	30
Nickel	23.15	671.3	182 NM	36-138	3	24
Zinc	23.15	57.41	110	34-139	4	24

NM= Not Meaningful
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	170945	Prep:	METHOD
Client:	Geomatrix Consultants	Analysis:	EPA 7471
Project#:	8367.001		
Analyte:	Mercury	Diln Fac:	10.00
Field ID:	ZZZZZZZZZZ	Batch#:	89023
MSS Lab ID:	170952-010	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	mg/Kg	Prepared:	03/04/04
Basis:	as received	Analyzed:	03/04/04

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC243086	0.7606	0.4630	1.343	126	74-131		
MSD	QC243087		0.4386	0.9737	49 *	74-131	30 *	22

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

13.0

Curtis & Tompkins, Ltd.

Lead

Lab #:	170945	Prep:	WET
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Batch#:	89103
Field ID:	SP-30304	Sampled:	03/03/04
Matrix:	WET Leachate	Received:	03/03/04
Units:	ug/L	Prepared:	03/08/04
Diln Fac:	1.000	Analyzed:	03/08/04

Type	Lab ID	Result	RL
SAMPLE	170945-003	ND	1,500
BLANK	QC243393	ND	1,500

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Lead

Lab #:	170945	Prep:	WET
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Batch#:	89103
Field ID:	SP-30304	Sampled:	03/03/04
MSS Lab ID:	170945-003	Received:	03/03/04
Matrix:	WET Leachate	Prepared:	03/08/04
Units:	ug/L	Analyzed:	03/08/04
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	RL	%REC	Limits	RPD	Lim
BS	QC243394		2,000	2,102		105	61-131		
BSD	QC243395		2,000	2,006		100	61-131	5	29
SDUP	QC243396	<1,500		ND	1,500			NC	34
SSPIKE	QC243397	<510.0	10,000	10,400		104	40-143		

NC= Not Calculated
ND= Not Detected
RL= Reporting Limit
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Geomatrix Consultants
2101 Webster Street
12th Floor
Oakland, CA 94612

Date: 23-MAR-04
Lab Job Number: 170969
Project ID: 8367.001
Location:

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

Laboratory Number: **170969** Order Date: **03/04/04**
Client: **Geomatrix Consultants**
Project Name: **8367.001**

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for one soil sample received from the above referenced project. The sample was received cold and intact.

Total Extractable Hydrocarbons: No analytical problems were encountered.

Volatile Organic Compounds: No analytical problems were encountered.

Polyaromatic Hydrocarbons: No analytical problems were encountered.

PCBs: No analytical problems were encountered.

Metals: The matrix spike recoveries for zinc were not meaningful. The concentration of analyte in the spiked sample rendered the spike amount insignificant. The associated blank spike recoveries were acceptable for all target elements and the spiked sample was not from this site. No other analytical problems were encountered.

General Chemistry: Insufficient sample volume was available to perform a matrix spike for oil and grease on a sample from this site. The associated blank spike recoveries were acceptable. No other analytical problems were encountered.

Chain-of Custody Record

017116

Date: 03/04/04 | Page 1 of 1

Project No.: 8367.001

Samplers (Signature:)
Sarah Mearon

Date	Time	Sample Number
03/04/04	0850	SW-S-030404

ANALYSES

Date	Time	Sample Number	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	LUFTS Metals	PCBs
03/04/04	0850	SW-S-030404				X		X		X	X	X	X	X

REMARKS

Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers	Additional Comments
S			X	1	6"x2" brass sleeve

Preservation Correct?
☐ Yes ☐ No ☐ N/A

Received ☐ On ice
☒ Cold ☐ Ambient ☒ Intact

Laboratory: Curtis & Tompkins

Turnaround Time: ~~48~~ 24 hour

Results to: Jennifer Patterson

Total No. of Containers: 1

Relinquished by (Signature): Sarah Mearon	Date: 3/4/04	Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:	Method of Shipment:	
Printed Name: Sarah Mearon	Time: 1250	Printed Name:	Time:	Printed Name:	Time:	Laboratory Comments and Log No.: 170969	
Company: Geomatrix		Company:		Company:			
Received by: Pat Flynn	Date: 3/4/04	Received by:	Date:	Received by:	Date:		
Printed Name: Pat Flynn	Time: 1250	Printed Name:	Time:	Printed Name:	Time:		
Company: C&T		Company:		Company:			

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	170969	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	SW-S-30404	Batch#:	89057
Matrix:	Soil	Sampled:	03/04/04
Units:	mg/Kg	Received:	03/04/04
Basis:	as received	Prepared:	03/04/04

Type:	SAMPLE	Analyzed:	03/08/04
Lab ID:	170969-001	Cleanup Method:	EPA 3630C
Diln Fac:	3.000		

Analyte	Result	RL
Diesel C10-C24	58 H Y	3.0
Motor Oil C24-C36	380	15

Surrogate	%REC	Limits
Hexacosane	108	52-131

Type:	BLANK	Analyzed:	03/07/04
Lab ID:	QC243202	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	85	52-131

H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	170969	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC243203	Batch#:	89057
Matrix:	Soil	Prepared:	03/04/04
Units:	mg/Kg	Analyzed:	03/06/04
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.31	51.32	102	56-129

Surrogate	%REC	Limits
Hexacosane	98	52-131

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	170969	Prep:	SHAKER TABLE
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	170926-040	Batch#:	89057
Matrix:	Soil	Sampled:	03/02/04
Units:	mg/Kg	Received:	03/02/04
Basis:	as received	Prepared:	03/04/04

Type: MS Analyzed: 03/06/04
Lab ID: QC243204

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.4797	50.29	51.44	101	27-146

Surrogate	%REC	Limits
Hexacosane	103	52-131

Type: MSD Analyzed: 03/08/04
Lab ID: QC243205

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.00	46.63	92	27-146	9	50

Surrogate	%REC	Limits
Hexacosane	92	52-131

RPD= Relative Percent Difference

17.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170969	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SW-S-30404	Diln Fac:	0.9434
Lab ID:	170969-001	Batch#:	89067
Matrix:	Soil	Sampled:	03/04/04
Units:	ug/Kg	Received:	03/04/04
Basis:	as received	Analyzed:	03/05/04

Analyte	Result	RL
Freon 12	ND	9.4
Chloromethane	ND	9.4
Vinyl Chloride	ND	9.4
Bromomethane	ND	9.4
Chloroethane	ND	9.4
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	41	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.4
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.4
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.4
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170969	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SW-S-30404	Diln Fac:	0.9434
Lab ID:	170969-001	Batch#:	89067
Matrix:	Soil	Sampled:	03/04/04
Units:	ug/Kg	Received:	03/04/04
Basis:	as received	Analyzed:	03/05/04

Analyte	Result	RL
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	115	80-120
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170969	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Basis:	as received
Lab ID:	QC243253	Diln Fac:	1.000
Matrix:	Soil	Batch#:	89067
Units:	ug/Kg	Analyzed:	03/05/04

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170969	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Basis:	as received
Lab ID:	QC243253	Diln Fac:	1.000
Matrix:	Soil	Batch#:	89067
Units:	ug/Kg	Analyzed:	03/05/04

Analyte	Result	RL
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-120
1,2-Dichloroethane-d4	110	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170969	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	LCS	Basis:	as received
Lab ID:	QC243251	Diln Fac:	1.000
Matrix:	Soil	Batch#:	89067
Units:	ug/Kg	Analyzed:	03/05/04

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	48.63	97	78-120
Benzene	50.00	46.84	94	80-120
Trichloroethene	50.00	48.28	97	80-120
Toluene	50.00	49.45	99	80-120
Chlorobenzene	50.00	45.66	91	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-120
1,2-Dichloroethane-d4	95	80-120
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-123

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	170969	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	SW-S-30404	Diln Fac:	0.9434
MSS Lab ID:	170969-001	Batch#:	89067
Matrix:	Soil	Sampled:	03/04/04
Units:	ug/Kg	Received:	03/04/04
Basis:	as received	Analyzed:	03/06/04

Type: MS Lab ID: QC243337

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4300	47.17	40.09	85	69-120
Benzene	<0.05200	47.17	38.03	81	67-120
Trichloroethene	<0.1000	47.17	40.99	87	62-131
Toluene	<0.1300	47.17	40.10	85	61-120
Chlorobenzene	<0.07200	47.17	34.78	74	58-120

Surrogate	%REC	Limits
Dibromofluoromethane	85	80-120
1,2-Dichloroethane-d4	88	80-120
Toluene-d8	102	80-120
Bromofluorobenzene	98	80-123

Type: MSD Lab ID: QC243338

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	47.17	39.31	83	69-120	2	20
Benzene	47.17	35.58	75	67-120	7	20
Trichloroethene	47.17	38.57	82	62-131	6	20
Toluene	47.17	35.01	74	61-120	14	20
Chlorobenzene	47.17	30.99	66	58-120	12	20

Surrogate	%REC	Limits
Dibromofluoromethane	87	80-120
1,2-Dichloroethane-d4	89	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170969	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Field ID:	SW-S-30404	Diln Fac:	1.000
Lab ID:	170969-001	Batch#:	89088
Matrix:	Soil	Sampled:	03/04/04
Units:	ug/Kg	Received:	03/04/04
Basis:	as received	Prepared:	03/05/04

Analyte	Result	RL	Analyzed
Naphthalene	ND	5.0	03/05/04
Acenaphthylene	ND	5.0	03/05/04
Acenaphthene	ND	5.0	03/05/04
Fluorene	ND	5.0	03/05/04
Phenanthrene	14	5.0	03/05/04
Anthracene	ND	5.0	03/05/04
Fluoranthene	16	5.0	03/08/04
Pyrene	22	5.0	03/05/04
Benzo(a)anthracene	11	5.0	03/05/04
Chrysene	16	5.0	03/05/04
Benzo(b)fluoranthene	16	5.0	03/05/04
Benzo(k)fluoranthene	10	5.0	03/05/04
Benzo(a)pyrene	12	5.0	03/05/04
Indeno(1,2,3-cd)pyrene	11	5.0	03/05/04
Dibenz(a,h)anthracene	ND	5.0	03/05/04
Benzo(g,h,i)perylene	14	5.0	03/08/04

Surrogate	%REC	Limits	Analyzed
Nitrobenzene-d5	76	34-139	03/05/04
2-Fluorobiphenyl	70	34-125	03/05/04
Terphenyl-d14	77	37-131	03/05/04

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170969	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243329	Batch#:	89088
Matrix:	Soil	Prepared:	03/05/04
Units:	ug/Kg	Analyzed:	03/05/04
Basis:	as received		

Analyte	Result	RL
Naphthalene	ND	5.1
Acenaphthylene	ND	5.1
Acenaphthene	ND	5.1
Fluorene	ND	5.1
Phenanthrene	ND	5.1
Anthracene	ND	5.1
Fluoranthene	ND	5.1
Pyrene	ND	5.1
Benzo(a)anthracene	ND	5.1
Chrysene	ND	5.1
Benzo(b)fluoranthene	ND	5.1
Benzo(k)fluoranthene	ND	5.1
Benzo(a)pyrene	ND	5.1
Indeno(1,2,3-cd)pyrene	ND	5.1
Dibenz(a,h)anthracene	ND	5.1
Benzo(g,h,i)perylene	ND	5.1

Surrogate	%REC	Limits
Nitrobenzene-d5	47	34-139
2-Fluorobiphenyl	65	34-125
Terphenyl-d14	67	37-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170969	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC243330	Batch#:	89088
Matrix:	Soil	Prepared:	03/05/04
Units:	ug/Kg	Analyzed:	03/05/04
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.68	34.76	103	46-120
Pyrene	33.68	31.88	95	37-120

Surrogate	%REC	Limits
Nitrobenzene-d5	71	34-139
2-Fluorobiphenyl	72	34-125
Terphenyl-d14	70	37-131

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	170969	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Field ID:	SW-S-30404	Batch#:	89088
MSS Lab ID:	170969-001	Sampled:	03/04/04
Matrix:	Soil	Received:	03/04/04
Units:	ug/Kg	Prepared:	03/05/04
Basis:	as received	Analyzed:	03/05/04
Diln Fac:	1.000		

Type: MS Lab ID: QC243331

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	<2.000	33.80	39.98	118	38-130
Pyrene	22.24	33.80	73.85	153	8-164

Surrogate	%REC	Limits
Nitrobenzene-d5	89	34-139
2-Fluorobiphenyl	80	34-125
Terphenyl-d14	89	37-131

Type: MSD Lab ID: QC243332

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	33.67	34.00	101	38-130	16	55
Pyrene	33.67	55.39	98	8-164	28	77

Surrogate	%REC	Limits
Nitrobenzene-d5	74	34-139
2-Fluorobiphenyl	65	34-125
Terphenyl-d14	77	37-131

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	170969	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Field ID:	SW-S-30404	Batch#:	89089
Matrix:	Soil	Sampled:	03/04/04
Units:	ug/Kg	Received:	03/04/04
Basis:	as received	Prepared:	03/05/04
Diln Fac:	1.000		

Type:	SAMPLE	Analyzed:	03/06/04
Lab ID:	170969-001	Cleanup Method:	EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	101	63-140
Decachlorobiphenyl	86	46-151

Type:	BLANK	Analyzed:	03/05/04
Lab ID:	QC243333	Cleanup Method:	EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	93	63-140
Decachlorobiphenyl	91	46-151

ND= Not Detected
RL= Reporting Limit

10.0

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	170969	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC243334	Batch#:	89089
Matrix:	Soil	Prepared:	03/05/04
Units:	ug/Kg	Analyzed:	03/06/04
Basis:	as received		

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits
Aroclor-1242	167.3	234.5	140	77-155

Surrogate	%REC	Limits
TCMX	114	63-140
Decachlorobiphenyl	105	46-151

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	170969	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8082
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	89089
MSS Lab ID:	170935-001	Sampled:	03/03/04
Matrix:	Soil	Received:	03/03/04
Units:	ug/Kg	Prepared:	03/05/04
Basis:	as received	Analyzed:	03/06/04
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3665A
Lab ID: QC243335

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1242	<3.200	166.3	185.0	111	71-148

Surrogate	%REC	Limits
TCMX	92	63-140
Decachlorobiphenyl	68	46-151

Type: MSD Cleanup Method: EPA 3665A
Lab ID: QC243336

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1242	166.4	192.7	116	71-148	4	31

Surrogate	%REC	Limits
TCMX	92	63-140
Decachlorobiphenyl	59	46-151

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California LUFT Metals

Lab #:	170969	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Field ID:	SW-S-30404	Sampled:	03/04/04
Matrix:	Soil	Received:	03/04/04
Units:	mg/Kg	Prepared:	03/05/04
Basis:	as received	Analyzed:	03/05/04
Batch#:	89060		

Type: SAMPLE Lab ID: 170969-001

Analyte	Result	RL	Diln Fac
Cadmium	0.56	0.21	1.000
Chromium	30	0.43	1.000
Lead	71	0.13	1.000
Nickel	32	0.85	1.000
Zinc	250	4.3	5.000

Type: BLANK Diln Fac: 1.000
Lab ID: QC243215

Analyte	Result	RL
Cadmium	ND	0.25
Chromium	ND	0.50
Lead	ND	0.15
Nickel	ND	1.0
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

1.0

Curtis & Tompkins, Ltd.

California LUFT Metals

Lab #:	170969	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Matrix:	Soil	Batch#:	89060
Units:	mg/Kg	Prepared:	03/05/04
Basis:	as received	Analyzed:	03/05/04
Diln Fac:	1.000		

Type: BS Lab ID: QC243216

Analyte	Spiked	Result	%REC	Limits
Cadmium	10.00	9.400	94	79-120
Chromium	100.0	92.00	92	80-120
Lead	100.0	91.00	91	78-120
Nickel	25.00	22.95	92	79-120
Zinc	25.00	23.35	93	76-120

Type: BSD Lab ID: QC243217

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	10.00	10.30	103	79-120	9	20
Chromium	100.0	100.5	101	80-120	9	20
Lead	100.0	99.00	99	78-120	8	20
Nickel	25.00	25.15	101	79-120	9	20
Zinc	25.00	25.50	102	76-120	9	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California LUFT Metals

Lab #:	170969	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	89060
MSS Lab ID:	170979-005	Sampled:	03/04/04
Matrix:	Soil	Received:	03/04/04
Units:	mg/Kg	Prepared:	03/05/04
Basis:	as received	Analyzed:	03/05/04
Diln Fac:	1.000		

Type: MS Lab ID: QC243218

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	0.7278	10.53	9.474	83	57-120
Chromium	67.22	105.3	151.6	80	55-120
Lead	34.78	105.3	118.9	80	42-125
Nickel	62.78	26.32	86.84	91	36-138
Zinc	117.8	26.32	142.1	92 NM	34-139

Type: MSD Lab ID: QC243219

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	10.64	9.468	82	57-120	1	20
Chromium	106.4	151.1	79	55-120	1	20
Lead	106.4	120.7	81	42-125	1	30
Nickel	26.60	88.83	98	36-138	2	24
Zinc	26.60	141.5	89 NM	34-139	1	24

NM= Not Meaningful
RPD= Relative Percent Difference

3.0

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Geomatrix Consultants
2101 Webster Street
12th Floor
Oakland, CA 94612

Date: 24-MAR-04
Lab Job Number: 171077
Project ID: 8367.001
Location:

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

171077 018495

Chain-of Custody Record

Date: 3/10/04 | Page 1 of 1

Project No.: 8257.001

Samplers (Signature:) Sarah Meaney

Date	Time	Sample Number	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	Total Lead		TPH-D				Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers	Additional Comments
-1 3/10/04	1230	SW-N-2-4.0						X					X						S				1	1.5"x2" sleeve
-2 3/10/04	1235	STOCKPILE-N-2													X				S				1	↓

Laboratory: Curtis & Tompkins

Turnaround Time: 48 hour

Results to: Jennifer Patterson

Total No. of Containers: 2

Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:
Sarah Meaney	3/10	Anna Pegurillo	3/10		
Printed Name: Sarah Meaney	Time:	Printed Name: Anna Pegurillo	Time:	Printed Name:	Time:
Company: Geomatrix	1305	Company: Curtis & Tompkins	1305	Company:	
Received by:	Date:	Received by:	Date:	Received by:	Date:
Printed Name:	Time:	Printed Name:	Time:	Printed Name:	Time:
Company:		Company:		Company:	

Method of Shipment: drop-off

Laboratory Comments and Log No.:

Lead = 24TAT

SM = 48TAT AB 3/10/04

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

RUSH

CURTIS & TOMPKINS, LTD. BERKELEY LOGIN CHANGE FORM

Reason for change: __*__ Client Request: By: R. Cheng Date/Time: 3/10/4 404p Initials: AP
____ Login Review ____ Data Review Client/Acct: Geomatrix

Current Lab ID	Previous Lab ID	Client ID	Matrix	Add/Cancel	Analysis	Holddate	Duedate
171077-002		STOCKPILE-N-2	Soil	Add	Total Pb		3/12
⊥		⊥	⊥	⊥	STLC Pb		3/15
					TCLP Pb		

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	171077	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Field ID:	SW-N-2-4.0	Batch#:	89222
Lab ID:	171077-001	Sampled:	03/10/04
Matrix:	Soil	Received:	03/10/04
Units:	ug/Kg	Prepared:	03/10/04
Basis:	as received	Analyzed:	03/10/04
Diln Fac:	1.000		

Analyte	Result	RL
Naphthalene	ND	5.0
Acenaphthylene	ND	5.0
Acenaphthene	ND	5.0
Fluorene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenz(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	97	34-139
2-Fluorobiphenyl	75	34-125
Terphenyl-d14	72	37-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	171077	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC243836	Batch#:	89222
Matrix:	Soil	Prepared:	03/10/04
Units:	ug/Kg	Analyzed:	03/10/04
Basis:	as received		

Analyte	Result	RL
Naphthalene	ND	5.1
Acenaphthylene	ND	5.1
Acenaphthene	ND	5.1
Fluorene	ND	5.1
Phenanthrene	ND	5.1
Anthracene	ND	5.1
Fluoranthene	ND	5.1
Pyrene	ND	5.1
Benzo(a)anthracene	ND	5.1
Chrysene	ND	5.1
Benzo(b)fluoranthene	ND	5.1
Benzo(k)fluoranthene	ND	5.1
Benzo(a)pyrene	ND	5.1
Indeno(1,2,3-cd)pyrene	ND	5.1
Dibenz(a,h)anthracene	ND	5.1
Benzo(g,h,i)perylene	ND	5.1

Surrogate	%REC	Limits
Nitrobenzene-d5	58	34-139
2-Fluorobiphenyl	72	34-125
Terphenyl-d14	79	37-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	171077	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC243837	Batch#:	89222
Matrix:	Soil	Prepared:	03/10/04
Units:	ug/Kg	Analyzed:	03/10/04
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.80	35.29	104	46-120
Pyrene	33.80	27.52	81	37-120

Surrogate	%REC	Limits
Nitrobenzene-d5	95	34-139
2-Fluorobiphenyl	60	34-125
Terphenyl-d14	70	37-131

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	171077	Prep:	EPA 3550
Client:	Geomatrix Consultants	Analysis:	EPA 8270C-SIM
Project#:	8367.001		
Field ID:	SW-N-2-4.0	Batch#:	89222
MSS Lab ID:	171077-001	Sampled:	03/10/04
Matrix:	Soil	Received:	03/10/04
Units:	ug/Kg	Prepared:	03/10/04
Basis:	as received	Analyzed:	03/10/04
Diln Fac:	1.000		

Type: MS Lab ID: QC243838

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	<0.9800	33.34	33.81	101	38-130
Pyrene	0.9875	33.34	22.92	66	8-164

Surrogate	%REC	Limits
Nitrobenzene-d5	102	34-139
2-Fluorobiphenyl	53	34-125
Terphenyl-d14	56	37-131

Type: MSD Lab ID: QC243839

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	33.04	31.82	96	38-130	5	55
Pyrene	33.04	21.80	63	8-164	4	77

Surrogate	%REC	Limits
Nitrobenzene-d5	68	34-139
2-Fluorobiphenyl	45	34-125
Terphenyl-d14	54	37-131

RPD= Relative Percent Difference

Lead

Lab #:	171077	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Sampled:	03/10/04
Units:	mg/Kg	Received:	03/10/04
Basis:	as received		

Field ID	Type	Lab ID	Result	RL	Batch#	Prepared	Analyzed
SW-N-2-4.0	SAMPLE	171077-001	5.0	0.15	89215	03/10/04	03/10/04
STOCKPILE-N-2	SAMPLE	171077-002	36	11	89246	03/11/04	03/11/04
	BLANK	QC243812	ND	0.15	89215	03/10/04	03/10/04
	BLANK	QC243928	ND	15	89246	03/11/04	03/11/04

ND= Not Detected
RL= Reporting Limit

1.1

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Batch QC Report

Lead

Lab #:	171077	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Batch#:	89246
Units:	mg/Kg	Prepared:	03/11/04
Basis:	as received	Analyzed:	03/11/04

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC243929	100.0	106.0	106	78-120		
BSD	QC243930	100.0	106.4	106	78-120	0	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	171077	Prep:	EPA 3050
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Diln Fac:	1.000
Field ID:	STOCKPILE-N-2	Batch#:	89246
MSS Lab ID:	171077-002	Sampled:	03/10/04
Matrix:	Soil	Received:	03/10/04
Units:	mg/Kg	Prepared:	03/11/04
Basis:	as received	Analyzed:	03/11/04

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC243931	36.25	74.07	92.00	75	42-125		
MSD	QC243932		87.72	97.15	69	42-125	6	30

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Lead

Lab #:	171077	Prep:	EPA 3010
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Batch#:	89277
Field ID:	STOCKPILE-N-2	Sampled:	03/10/04
Matrix:	TCLP Leachate	Received:	03/10/04
Units:	ug/L	Prepared:	03/12/04
Diln Fac:	1.000	Analyzed:	03/12/04

Type	Lab ID	Result	RL
SAMPLE	171077-002	ND	300
BLANK	QC244042	ND	300

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	171077	Prep:	EPA 3010
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Batch#:	89277
Field ID:	STOCKPILE-N-2	Sampled:	03/10/04
MSS Lab ID:	171077-002	Received:	03/10/04
Matrix:	TCLP Leachate	Prepared:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	RL	%REC	Limits	RPD	Lim
BS	QC244043		2,000	1,951		98	61-131		
BSD	QC244044		2,000	1,944		97	61-131	0	29
SDUP	QC244045	<300.0		ND	300			NC	34
SSPIKE	QC244046	<100.0	2,000	2,007		100	40-143		

NC= Not Calculated
ND= Not Detected
RL= Reporting Limit
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Lead

Lab #:	171077	Prep:	WET
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Batch#:	89309
Field ID:	STOCKPILE-N-2	Sampled:	03/10/04
Matrix:	WET Leachate	Received:	03/10/04
Units:	ug/L	Prepared:	03/15/04
Diln Fac:	1.000	Analyzed:	03/15/04

Type	Lab ID	Result	RL
SAMPLE	171077-002	2,200	1,500
BLANK	QC244180	ND	1,500

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Lead

Lab #:	171077	Prep:	WET
Client:	Geomatrix Consultants	Analysis:	EPA 6010B
Project#:	8367.001		
Analyte:	Lead	Batch#:	89309
Field ID:	ZZZZZZZZZZ	Sampled:	03/08/04
MSS Lab ID:	171115-001	Received:	03/08/04
Matrix:	WET Leachate	Prepared:	03/15/04
Units:	ug/L	Analyzed:	03/15/04
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	RL	%REC	Limits	RPD	Lim
BS	QC244181		2,000	1,985		99	61-131		
BSD	QC244182		2,000	2,017		101	61-131	2	29
SDUP	QC244183	13,420		12,790	1,500			5	34
SSPIKE	QC244184	13,420	10,000	22,360		89	40-143		

RL= Reporting Limit
RPD= Relative Percent Difference

8367.001.0530

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Geomatrix Consultants
2101 Webster Street
12th Floor
Oakland, CA 94612

Date: 24-MAR-04
Lab Job Number: 171132
Project ID: 8367.001
Location:

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Chain-of Custody Record

1249 67TH ST. EMERYVILLE

Date: 3 / 12 / 04 | Page 1 of 1

Project No.: 8367.001

Samplers (Signature:) Tim Kingsley

Date	Time	Sample Number	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved VOAs	Cooled	No. of Containers	Additional Comments
-1 031204	0715	S-4				X				X	X	X	W		Y	Y	5	
-2	0735	S-2													Y	Y	5	
-3	0750	S-3													Y	Y	4	
-4	0800	S-1													Y	Y	5	
031204	07:15	TEMP BLANK															1	TEMP BLANK

Laboratory: CAT.

Turnaround Time: 24 TAT

Results to: N PATTERSON R CHEUNG

Total No. of Containers: 20

Relinquished by (Signature):	Date: / Time:	Relinquished by (Signature):	Date: / Time:	Relinquished by (Signature): Tim Kingsley	Date: 3/12/04 Time: 11:40	Method of Shipment: LAB COURIER	
Printed Name:		Printed Name:		Printed Name: Tim Kingsley		Laboratory Comments and Log No.: 171132	
Company:		Company:		Company: GMX			
Received by:	Date: / Time:	Received by:	Date: / Time:	Received by:	Date: / Time:		
Printed Name:		Printed Name:		Printed Name: PETER PETRICKS			
Company:		Company:		Company: CAT			

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

SOP Volume: Client Services
Section: 1.1.2
Page: 1 of 1
Effective Date: 10-May-99
Revision: 1 Number 3 of 3
Filename: F:\QC\Forms\QC\Cooler.wpd

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COOLER RECEIPT CHECKLIST

Login#: 17132 Date Received: 3/12/04 Number of Coolers: 1
Client: GeoMatrix Project: 8367.001

A. Preliminary Examination Phase
Date Opened: 3/12/04 By (print): Peter P. (sign)

1. Did cooler come with a shipping slip (airbill, etc.)? YES NO
If YES, enter carrier name and airbill number:
2. Were custody seals on outside of cooler? YES NO
How many and where? Seal date: Seal name:
3. Were custody seals unbroken and intact at the date and time of arrival? YES NO N/A
4. Were custody papers dry and intact when received? YES NO
5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
6. Did you sign the custody papers in the appropriate place? YES NO
7. Was project identifiable from custody papers? YES NO
If YES, enter project name at the top of this form.
8. If required, was sufficient ice used? Samples should be 2-6 degrees C. YES NO
Type of ice: WET Temperature: 13.5°

B. Login Phase
Date Logged In: 3/12/04 By (print): Peter P. (sign)

1. Describe type of packing in cooler: Ziploc bag
2. Did all bottles arrive unbroken? YES NO
3. Were labels in good condition and complete (ID, date, time, signature, etc.)? YES NO
4. Did bottle labels agree with custody papers? YES NO
5. Were appropriate containers used for the tests indicated? YES NO
6. Were correct preservatives added to samples? YES NO
7. Was sufficient amount of sample sent for tests indicated? YES NO
8. Were bubbles absent in VOA samples? If NO, list sample Ids below. YES NO
9. Was the client contacted concerning this sample delivery? YES NO
If YES, give details below.
Who was called? By whom? Date:

Additional Comments:
B.8 - Samples Delivered from field, cooling had begun.

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	171132	Prep:	EPA 3520C
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Water	Sampled:	03/12/04
Units:	ug/L	Received:	03/12/04
Diln Fac:	1.000	Prepared:	03/13/04
Batch#:	89300		

Field ID:	S-4	Analyzed:	03/15/04
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	171132-001		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	80	53-142

Field ID:	S-2	Analyzed:	03/14/04
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	171132-002		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	73	53-142

Field ID:	S-3	Analyzed:	03/15/04
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	171132-003		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	93	53-142

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	171132	Prep:	EPA 3520C
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Water	Sampled:	03/12/04
Units:	ug/L	Received:	03/12/04
Diln Fac:	1.000	Prepared:	03/13/04
Batch#:	89300		

Field ID:	S-1	Analyzed:	03/14/04
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	171132-004		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	60	53-142

Type:	BLANK	Analyzed:	03/14/04
Lab ID:	QC244143	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	78	53-142

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	171132	Prep:	EPA 3520C
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Water	Batch#:	89300
Units:	ug/L	Prepared:	03/13/04
Diln Fac:	1.000	Analyzed:	03/14/04

Type: BS
Lab ID: QC244144
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,988	80	57-128

Surrogate	%REC	Limits
Hexacosane	57	53-142

Type: BSD
Lab ID: QC244145
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,373	95	57-128	18	38

Surrogate	%REC	Limits
Hexacosane	71	53-142

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	S-4	Batch#:	89280
Lab ID:	171132-001	Sampled:	03/12/04
Matrix:	Water	Received:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

1.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	S-4	Batch#:	89280
Lab ID:	171132-001	Sampled:	03/12/04
Matrix:	Water	Received:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-120
1,2-Dichloroethane-d4	101	80-124
Toluene-d8	100	80-120
Bromofluorobenzene	115	80-120

ND= Not Detected
RL= Reporting Limit

1.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	S-2	Batch#:	89280
Lab ID:	171132-002	Sampled:	03/12/04
Matrix:	Water	Received:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	67	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	0.6	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	S-2	Batch#:	89280
Lab ID:	171132-002	Sampled:	03/12/04
Matrix:	Water	Received:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-120
1,2-Dichloroethane-d4	102	80-124
Toluene-d8	101	80-120
Bromofluorobenzene	116	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	S-3	Batch#:	89280
Lab ID:	171132-003	Sampled:	03/12/04
Matrix:	Water	Received:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	2.0	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	8.9	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	26	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	4.0	0.5

ND= Not Detected
RL= Reporting Limit

3.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	S-3	Batch#:	89280
Lab ID:	171132-003	Sampled:	03/12/04
Matrix:	Water	Received:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	102	80-124
Toluene-d8	98	80-120
Bromofluorobenzene	115	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	S-1	Batch#:	89280
Lab ID:	171132-004	Sampled:	03/12/04
Matrix:	Water	Received:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	130	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	S-1	Batch#:	89280
Lab ID:	171132-004	Sampled:	03/12/04
Matrix:	Water	Received:	03/12/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	1.1	0.5
m,p-Xylenes	3.4	0.5
o-Xylene	1.0	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-120
1,2-Dichloroethane-d4	103	80-124
Toluene-d8	101	80-120
Bromofluorobenzene	115	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC244059	Batch#:	89280
Matrix:	Water	Analyzed:	03/12/04
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC244059	Batch#:	89280
Matrix:	Water	Analyzed:	03/12/04
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	98	80-124
Toluene-d8	100	80-120
Bromofluorobenzene	117	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC244064	Batch#:	89280
Matrix:	Water	Analyzed:	03/12/04
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	49.43	99	76-120
Benzene	50.00	46.24	92	80-120
Trichloroethene	50.00	47.17	94	80-120
Toluene	50.00	47.54	95	80-120
Chlorobenzene	50.00	47.04	94	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	96	80-124
Toluene-d8	100	80-120
Bromofluorobenzene	105	80-120

6.0

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	171132	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	ZZZZZZZZZZ	Batch#:	89280
MSS Lab ID:	171117-016	Sampled:	03/10/04
Matrix:	Water	Received:	03/11/04
Units:	ug/L	Analyzed:	03/12/04
Diln Fac:	1.000		

Type: MS Lab ID: QC244065

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1300	50.00	56.09	112	77-120
Benzene	<0.1900	50.00	49.31	99	80-120
Trichloroethene	2.658	50.00	52.04	99	74-121
Toluene	0.1815	50.00	50.15	100	80-120
Chlorobenzene	<0.1700	50.00	49.86	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-120
1,2-Dichloroethane-d4	103	80-124
Toluene-d8	99	80-120
Bromofluorobenzene	110	80-120

Type: MSD Lab ID: QC244066

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	51.31	103	77-120	9	20
Benzene	50.00	43.82	88	80-120	12	20
Trichloroethene	50.00	46.52	88	74-121	11	20
Toluene	50.00	44.64	89	80-120	12	20
Chlorobenzene	50.00	44.39	89	80-120	12	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	98	80-124
Toluene-d8	99	80-120
Bromofluorobenzene	109	80-120

RPD= Relative Percent Difference

8367.001. 0740

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Geomatrix Consultants
2101 Webster Street
12th Floor
Oakland, CA 94612

Date: 05-APR-04
Lab Job Number: 171363
Project ID: 8367.001
Location:

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

171363 U11641

Chain-of Custody Record

Date: 3/25/04 Page 1 of 1

Project No.: 8367.001

Samplers (Signature:) Sarah Mearon

ANALYSES

Date	Time	Sample Number	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved * VOAs only	Cooled	No. of Containers	Additional Comments
1	3/25/04	0940	CPT-1-44			X				X	X	X	W		X	X	5	3 VOAs, 2 1-L jars
2	3/26/04	1030	CPT-2-42			X				X		X	W		X	X	4	3 VOAs, 1-L jar *limited sample volume*
3	3/26/04	1100	CPT-3-48			X							W		X	X	3	3 VOAs
																	12	

Laboratory: Curtis & Tompkins

Turnaround Time: 24-hour

Results to: Robert Cheung

Total No. of Containers: 12

Relinquished by (Signature): Sarah Mearon	Date: 3/26/04	Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:
Printed Name: Sarah Mearon	Time: 1200	Printed Name:	Time:	Printed Name:	Time:
Company: Geomatrix		Company:		Company:	
Received by:	Date: 3/26/04	Received by:	Date:	Received by:	Date:
Printed Name: Steven Stanley	Time: 1200	Printed Name:	Time:	Printed Name:	Time:
Company: C&T		Company:		Company:	

Method of Shipment: drop-off at lab

Laboratory Comments and Log No.: 171363

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

SOP Volume: Client Services
Section: 1.1.2
Page: 1 of 1
Effective Date: 10-May-99
Revision: 1 Number 1 of 3
Filename: F:\QC\Forms\QC\Cooler.wpd

Curtis & Tompkins, Ltd.

COOLER RECEIPT CHECKLIST

Login#: 171363 Date Received: 3/26/04 Number of Coolers: 1
Client: GEOMATRIX Project: 8367.001

A. Preliminary Examination Phase
Date Opened: 3/26/04 By (print): Rhox P. (sign)

1. Did cooler come with a shipping slip (airbill, etc.)? ... YES NO
   If YES, enter carrier name and airbill number:
2. Were custody seals on outside of cooler? ... YES NO
   How many and where? Seal date: Seal name:
3. Were custody seals unbroken and intact at the date and time of arrival? ... YES NO N/A
4. Were custody papers dry and intact when received? ... YES NO
5. Were custody papers filled out properly (ink, signed, etc.)? ... YES NO
6. Did you sign the custody papers in the appropriate place? ... YES NO
7. Was project identifiable from custody papers? ... YES NO
   If YES, enter project name at the top of this form.
8. If required, was sufficient ice used? Samples should be 2-6 degrees C. ... YES NO
   Type of ice: WET Temperature: 4°

B. Login Phase
Date Logged In: 3/26/04 By (print): Rhox P. (sign)

1. Describe type of packing in cooler: Zip loc bag
2. Did all bottles arrive unbroken? ... YES NO
3. Were labels in good condition and complete (ID, date, time, signature, etc.)? ... YES NO
4. Did bottle labels agree with custody papers? ... YES NO
5. Were appropriate containers used for the tests indicated? ... YES NO
6. Were correct preservatives added to samples? ... YES NO
7. Was sufficient amount of sample sent for tests indicated? ... YES NO
8. Were bubbles absent in VOA samples? If NO, list sample Ids below ... YES NO
9. Was the client contacted concerning this sample delivery? ... YES NO
   If YES, give details below.
   Who was called? By whom? Date:

Additional Comments:

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	171363	Prep:	EPA 3520C
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Water	Received:	03/26/04
Units:	ug/L	Prepared:	03/26/04
Diln Fac:	1.000	Analyzed:	03/29/04
Batch#:	89708		

Field ID: CPT-1-44 Sampled: 03/25/04
Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 171363-001

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	79	53-142

Field ID: CPT-2-42 Sampled: 03/26/04
Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 171363-002

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	81	53-142

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC245749

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	84	53-142

ND= Not Detected
RL= Reporting Limit

7.1

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	171363	Prep:	EPA 3520C
Client:	Geomatrix Consultants	Analysis:	EPA 8015B
Project#:	8367.001		
Matrix:	Water	Batch#:	89708
Units:	ug/L	Prepared:	03/26/04
Diln Fac:	1.000	Analyzed:	03/29/04

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC245750

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,847	74	57-128

Surrogate	%REC	Limits
Hexacosane	70	53-142

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC245751

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,293	92	57-128	22	38

Surrogate	%REC	Limits
Hexacosane	81	53-142

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	CPT-1-44	Batch#:	89692
Lab ID:	171363-001	Sampled:	03/25/04
Matrix:	Water	Received:	03/26/04
Units:	ug/L	Analyzed:	03/26/04
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	CPT-1-44	Batch#:	89692
Lab ID:	171363-001	Sampled:	03/25/04
Matrix:	Water	Received:	03/26/04
Units:	ug/L	Analyzed:	03/26/04
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	109	80-124
Toluene-d8	104	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	CPT-2-42	Batch#:	89692
Lab ID:	171363-002	Sampled:	03/26/04
Matrix:	Water	Received:	03/26/04
Units:	ug/L	Analyzed:	03/26/04
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	CPT-2-42	Batch#:	89692
Lab ID:	171363-002	Sampled:	03/26/04
Matrix:	Water	Received:	03/26/04
Units:	ug/L	Analyzed:	03/26/04
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	108	80-124
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

3.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	CPT-3-48	Batch#:	89692
Lab ID:	171363-003	Sampled:	03/26/04
Matrix:	Water	Received:	03/26/04
Units:	ug/L	Analyzed:	03/26/04
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Field ID:	CPT-3-48	Batch#:	89692
Lab ID:	171363-003	Sampled:	03/26/04
Matrix:	Water	Received:	03/26/04
Units:	ug/L	Analyzed:	03/26/04
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	107	80-124
Toluene-d8	103	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

4.0

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC245689	Batch#:	89692
Matrix:	Water	Analyzed:	03/26/04
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

5.0

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC245689	Batch#:	89692
Matrix:	Water	Analyzed:	03/26/04
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	107	80-124
Toluene-d8	103	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	171363	Prep:	EPA 5030B
Client:	Geomatrix Consultants	Analysis:	EPA 8260B
Project#:	8367.001		
Matrix:	Water	Batch#:	89692
Units:	ug/L	Analyzed:	03/26/04
Diln Fac:	1.000		

Type: BS Lab ID: QC245687

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	50.31	101	76-120
Benzene	50.00	51.72	103	80-120
Trichloroethene	50.00	54.49	109	80-120
Toluene	50.00	52.71	105	80-120
Chlorobenzene	50.00	49.76	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-120
1,2-Dichloroethane-d4	106	80-124
Toluene-d8	103	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC245688

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	49.09	98	76-120	2	20
Benzene	50.00	48.74	97	80-120	6	20
Trichloroethene	50.00	50.72	101	80-120	7	20
Toluene	50.00	50.19	100	80-120	5	20
Chlorobenzene	50.00	48.38	97	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-120
1,2-Dichloroethane-d4	104	80-124
Toluene-d8	102	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

6.0